



**NASA**

**PATENT  
ABSTRACTS  
BIBLIOGRAPHY**

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**A CONTINUING BIBLIOGRAPHY**

**Section 2 • Indexes**

**JANUARY 1990**

**NATIONAL AERONAUTICS AND SPACE ADMINISTRATION**

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NASA SP-7039(04) SEC 1	N69-20701 - N73-33931
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NASA SP-7039(14) SEC 1	N78-22019 - N78-34034
NASA SP-7039(15) SEC 1	N79-10001 - N79-21993
NASA SP-7039(16) SEC 1	N79-21994 - N79-34158
NASA SP-7039(17) SEC 1	N80-10001 - N80-22254
NASA SP-7039(18) SEC 1	N80-22255 - N80-34339
NASA SP-7039(19) SEC 1	N81-10001 - N81-21997
NASA SP-7039(20) SEC 1	N81-21998 - N81-34139
NASA SP-7039(21) SEC 1	N82-10001 - N82-22140
NASA SP-7039(22) SEC 1	N82-22141 - N82-34341
NASA SP-7039(23) SEC 1	N83-10001 - N83-23266
NASA SP-7039(24) SEC 1	N83-23267 - N83-37053
NASA SP-7039(25) SEC 1	N84-10001 - N84-22526
NASA SP-7039(26) SEC 1	N84-22527 - N84-35284
NASA SP-7039(27) SEC 1	N85-10001 - N85-22341
NASA SP-7039(28) SEC 1	N85-22342 - N85-36162
NASA SP-7039(29) SEC 1	N86-10001 - N86-22536
NASA SP-7039(30) SEC 1	N86-22537 - N86-33262
NASA SP-7039(31) SEC 1	N87-10001 - N87-20170
NASA SP-7039(32) SEC 1	N87-20171 - N87-30248
NASA SP-7039(33) SEC 1	N88-10001 - N88-20253
NASA SP-7039(34) SEC 1	N88-20254 - N88-30583
NASA SP-7039(35) SEC 1	N89-10001 - N89-20085
NASA SP-7039(36) SEC 1	N89-20086 - N89-30155

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**NASA**

**PATENT  
ABSTRACTS  
BIBLIOGRAPHY**

**A CONTINUING BIBLIOGRAPHY**

**Section 2 • Indexes**

Indexes for the annotated references to NASA-owned inventions covered by U.S. patents and applications for patent that were announced in *Scientific and Technical Aerospace Reports (STAR)* between May 1969 and December 1989. This issue supersedes all previous Index Sections



National Aeronautics and Space Administration  
Office of Management  
Scientific and Technical Information Division  
Washington, DC  
1990

This supplement is available from the National Technical Information Service (NTIS), Springfield, Virginia 22161, price code A21.

# INTRODUCTION

Several thousand inventions result each year from the aeronautical and space research supported by the National Aeronautics and Space Administration. The inventions having important use in government programs or significant commercial potential are usually patented by NASA. These inventions cover practically all fields of technology and include many that have useful and valuable commercial application.

NASA inventions best serve the interests of the United States when their benefits are available to the public. In many instances, the granting of nonexclusive or exclusive licenses for the practice of these inventions may assist in the accomplishment of this objective. This bibliography is published as a service to companies, firms, and individuals seeking new, licensable products for the commercial market.

The *NASA Patent Abstracts Bibliography (NASA PAB)* is a semiannual NASA publication containing comprehensive abstracts and indexes of NASA-owned inventions covered by U.S. patents and applications for patent. The citations included in *NASA PAB* were originally published in NASA's *Scientific and Technical Aerospace Reports (STAR)* and cover *STAR* announcements made since May 1969.

For the convenience of the user, each issue of *NASA PAB* has a separately bound Abstract Section (Section 1) and Index Section (Section 2). Although each Abstract Section covers only the indicated six-month period, the Index Section is cumulative covering all NASA-owned inventions announced in *STAR* since 1969. Thus a complete set of *NASA PAB* would consist of the Abstract Sections of Issue 04 (January 1974) and Issue 12 (January 1978) and the Abstract Section for all subsequent issues and the Index Section for the most recent issue.

The 63 citations published in this issue of the Abstract Section cover the period July 1989 through December 1989. The Index Section references over 4600 citations covering the period May 1969 through December 1989.

## ABSTRACT SECTION (SECTION 1)

This *PAB* issue includes 10 major subject divisions separated into 76 specific categories and one general category/division. (See Table of Contents for the scope note of each category, under which are grouped appropriate NASA inventions.) This scheme was devised in 1975 and revised in 1987 in lieu of the 34 category divisions which were utilized in *PAB* supplements (01) through (06) covering *STAR* abstracts from May 1969 through January 1974. Each entry in the Abstract Section consists of a *STAR* citation accompanied by an abstract and, when appropriate, a key illustration taken from the patent or application for patent. Entries are arranged by subject category in order of the ascending NASA Accession Number originally assigned for *STAR* to the invention. The range of NASA Accession Numbers within each issue is printed on the inside front cover.

*Abstract Citation Data Elements:* Each of the abstract citations has several data elements useful for identification and indexing purposes, as follows:

- NASA Accession Number
- NASA Case Number
- Inventor's Name
- Title of Invention
- U.S. Patent Application Serial Number
- U.S. Patent Number (for issued patents only)
- U.S. Patent Office Classification Number(s)  
(for issued patents only)

These data elements are identified in the Typical Citation and Abstract and in the indexes.

## INDEX SECTION (SECTION 2)

The Index Section is divided into five indexes. These indexes are cross-indexed and are used to locate a single invention or groups of inventions.

**Subject Index:** Lists all inventions according to appropriate alphabetized technical term and indicates the related NASA Case Number, the Subject Category Number, and the Accession Number.

**Inventor Index:** Lists all inventions according to alphabetized names of inventors and indicates the related NASA Case Number, the Subject Category Number, and the Accession Number.

**Source Index:** Lists all inventions according to alphabetized source of invention (i.e., name of contractor or government installation where invention was made) and indicates the related NASA Case Number, the Subject Category Number, and the Accession Number.

**Number Index:** Lists inventions in order of ascending (1) NASA Case Number, (2) U.S. Patent Application Serial Number, (3) U.S. Patent Classification Number, and (4) U.S. Patent Number and indicates the related Subject Category Number and the Accession Number.

**Accession Number Index:** Lists all inventions in order of ascending Accession Number and indicates the related Subject Category Number, the NASA Case Number, the U.S. Patent Application Serial Number, the U.S. Patent Classification Number, and the U.S. Patent Number.

## HOW TO USE THIS PUBLICATION TO IDENTIFY NASA INVENTIONS

To identify one or more NASA inventions within a specific technical field or subject, several techniques are possible with the flexibility incorporated into the *NASA PAB*.

(1) *Using Subject Category:* To identify all NASA inventions in any one of the subject categories in this issue of *NASA PAB*, select the desired Subject Category in the Abstract Section (Section 1) and find the inventions abstracted thereunder.

(2) *Using Subject Index:* To identify all NASA inventions listed under a desired technical subject index term, (A) turn to the cumulative Subject Index in the Index Section and find the invention(s) listed under the desired technical subject term. (B) Note the indicated Accession Number and the Subject Category Number. (C) Using the indicated Accession Number, turn to the inside front cover of the Index Section to determine which issue of the Abstract Section includes the Accession Number desired. (D) To find the abstract of the particular invention in the issue of the Abstract Section selected, (1) use the Subject Category Number to locate the Subject Category and (2) use the Accession Number to locate the desired invention within the Subject Category listing.

(3) *Using Patent Classification Index:* To identify all inventions covered by issued NASA patents (not including applications for patent) within a desired Patent Classification, (A) turn to the Patent Classification Number in the Number Index of Section 2 and find the associated invention(s), and (B) follow the instructions outlined in (2)(B), and (D) above.

# TYPICAL CITATION AND ABSTRACT

**NASA SPONSORED**

↓

**ACCESSION NUMBER** → **N89-12621\*** National Aeronautics and Space Administration.  
Lyndon B. Johnson Space Center, Houston, TX. ← **CORPORATE SOURCE**

**TITLE** → **SPACE STATION ERECTABLE MANIPULATOR PLACEMENT  
SYSTEM Patent**

**INVENTOR** → **MARGARET E. GRIMALDI**, inventor (to NASA) 20 Sep. 1988  
7 p Filed 13 Nov. 1986 Supersedes N87-18596 (25 - 11, p 1446)

**NASA CASE NUMBER** → (NASA-CASE-MS-21096-1; US-PATENT-4,772,175;

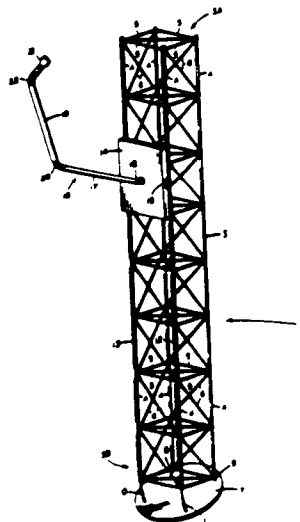
**US PATENT APPLICATIONS  
SERIAL NUMBERS** → US-PATENT-APPL-SN-929865; US-PATENT-CLASS-414-689;  
US-PATENT-CLASS-414-718; US-PATENT-CLASS-414-735;  
US-PATENT-CLASS-212-225; US-PATENT-CLASS-212-257;  
US-PATENT-CLASS-182-103) Avail: US Patent and Trademark Office ← **AVAILABILITY SOURCE**

**COSATI CODE** → CSCL 22A

A habitable space station was proposed for low earth orbit, to be constructed from components which will be separately carried up from the earth and thereafter assembled. A suitable manipulating system having extraordinary manipulative capability is required. The invention is an erectable manipulator placement system for use on a space station and comprises an elongate, lattice-like boom having guide tracks attached thereto, a carriage-like assembly pivotally mounted on and extending from said dolly. The system further includes a turntable base pivotally interconnected with the proximal end of the boom and positioned either on a part of a transferring vehicle, or on another payload component being carried by the said transferring vehicle, or on the space station. Novelty resides in the use of a turntable base having a hinged boom with a dolly translatable therealong to carry the arm-like assembly, thus providing an additional 3 degrees of freedom to the arm.

← **ABSTRACT**

Official Gazette of the U.S. Patent and Trademark Office



← **KEY ILLUSTRATION**

# Subject Categories

(1969 – 1973)

## 01 Aerodynamics

Includes aerodynamics of bodies, combinations, internal flow in ducts and turbomachinery; wings, rotors, and control surfaces. For applications see: 02 Aircraft and 32 Space Vehicles. For related information see also: 12 Fluid Mechanics; and 33 Thermodynamics and Combustion.

## 02 Aircraft

Includes fixed-wing airplanes, helicopters, gliders, balloons, ornithopters, etc.; and specific types of complete aircraft (e.g., ground effect machines, STOL, and VTOL); flight tests; operating problems (e.g., sonic boom); safety and safety devices; economics; and stability and control. For basic research see: 01 Aerodynamics. For related information see also: 31 Space Vehicles; and 32 Structural Mechanics.

## 03 Auxiliary Systems

Includes fuel cells, energy conversion cells, and solar cells; auxiliary gas turbines; hydraulic, pneumatic and electrical systems; actuators; and inverters. For related information see also: 09 Electronic Equipment; 22 Nuclear Engineering; and 28 Propulsion Systems.

## 04 Biosciences

Includes aerospace medicine, exobiology, radiation effects on biological systems; physiological and psychological factors. For related information see also: 05 Biotechnology.

## 05 Biotechnology

Includes life support systems, human engineering; protective clothing and equipment; crew training and evaluation, and piloting. For related information see also: 04 Biosciences.

## 06 Chemistry

Includes chemical analysis and identification (e.g., spectroscopy). For applications see: 17 Materials, Metallic; 18 Materials, Nonmetallic; and 27 Propellants.

## 07 Communications

Includes communications equipment and techniques; noise; radio and communications blackout; modulation telemetry; tracking radar and optical observation; and wave propagation. For basic research see: 23 Physics, General; and 21 Navigation.

## 08 Computers

Includes computer operation and programming; and data processing. For applications, see specific categories. For related information see also: 19 Mathematics.

## 09 Electronic Equipment

Includes electronic test equipment and maintainability; component parts, e.g., electron tubes, tunnel diodes, transistors, integrated circuitry; microminiaturization. For basic research see: 10 Electronics. For related information see also: 07 Communications and 21 Navigation.

## 10 Electronics

Includes circuit theory; and feedback and control theory. For applications see: 09 Electronic Equipment. For related information see specific Physics categories.

## 11 Facilities, Research and Support

Includes airports; lunar and planetary bases including associated vehicles; ground support systems; related logistics; simulators; test facilities (e.g., rocket engine test stands, shock tubes, and wind tunnels); test ranges; and tracking stations.

## 12 Fluid Mechanics

Includes boundary-layer flow; compressible flow; gas dynamics; hydrodynamics; and turbulence. For related information see also: 01 Aerodynamics; and 33 Thermodynamics and Combustion.

## 13 Geophysics

Includes aeronomy; upper and lower atmosphere studies; oceanography; cartography; and geodesy. For related information see also: 20 Meteorology; 29 Space Radiation; and 30 Space Sciences.

## 14 Instrumentation and Photography

Includes design, installation, and testing of instrumentation systems; gyroscopes; measuring instruments and gages; recorders, transducers; aerial photography; and telescopes and cameras.

## 15 Machine Elements and Processes

Includes bearings, seals, pumps, and other mechanical equipment; lubrication, friction, and wear; manufacturing processes and quality control; reliability; drafting; and materials fabrication, handling, and inspection.

## 16 Masers

Includes applications of masers and lasers. For basic research see: 26 Physics, Solid-State.

## 17 Materials, Metallic

Includes cermets; corrosion; physical and mechanical properties of materials; metallurgy; and applications as structural materials. For basic research see: 06 Chemistry. For related information see also: 18 Materials, Nonmetallic; and 32 Structural Mechanics.

## 18 Materials, Nonmetallic

Includes corrosion; physical and mechanical properties of materials (e.g., plastics); and elastomers, hydraulic fluids, etc. For basic research see: 06 Chemistry. For related information see also: 17 Materials, Metallic; 27 Propellants; and 32 Structural Mechanics.

**19 Mathematics**

Includes calculation methods and theory; and numerical analysis. For applications see specific categories. For related information see also: 08 Computers.

**20 Meteorology**

Includes climatology; weather forecasting; and visibility studies. For related information see also: 13 Geophysics; and 30 Space Sciences.

**21 Navigation**

Includes guidance; autopilots; star and planet tracking; inertial platforms; and air traffic control. For related information see also: 07 Communications.

**22 Nuclear Engineering**

Includes nuclear reactors and nuclear heat sources used for propulsion and auxiliary power. For basic research see: 24 Physics, Atomic, Molecular, and Nuclear. For related information see also: 03 Auxiliary Systems; and 28 Propulsion Systems.

**23 Physics, General**

Includes acoustics, cryogenics, mechanics, and optics. For astrophysics see: 30 Space Sciences. For geophysics and related information see also: 13 Geophysics, 20 Meteorology, and 29 Space Radiation.

**24 Physics, Atomic, Molecular, and Nuclear**

Includes atomic, molecular and nuclear physics. For applications see: 22 Nuclear Engineering. For related information see also: 29 Space Radiation.

**25 Physics, Plasma**

Includes magnetohydrodynamics. For applications see: 28 Propulsion Systems.

**26 Physics, Solid-State**

Includes semiconductor theory; and superconductivity. For applications see: 16 Masers. For related information see also: 10 Electronics.

**27 Propellants**

Includes fuels; igniters; and oxidizers. For basic research see: 06 Chemistry; and 33 Thermodynamics and Combustion. For related information see also 28 Propulsion Systems.

**28 Propulsion Systems**

Includes air breathing, electric, liquid, solid, and magnetohydrodynamic propulsion. For nuclear propulsion see: 22 Nuclear Engineering. For basic research see: 23 Physics, General; and 33 Thermodynamics and Combustion. For applications see: 31 Space Vehicles. For related information see also: 27 Propellants.

**29 Space Radiation**

Includes cosmic radiation; solar flares; solar radiation; and Van Allen radiation belts. For related information see also: 13 Geophysics, and 24 Physics, Atomic, Molecular, and Nuclear.

**30 Space Sciences**

Includes astronomy and astrophysics; cosmology; lunar and planetary flight and exploration; and theoretical analysis of orbits and trajectories. For related information see also: 11 Facilities, Research and Support; and 31 Space Vehicles.

**31 Space Vehicles**

Includes launch vehicles; manned space capsules; clustered and multistage rockets; satellites; sounding rockets and probes; and operating problems. For basic research see: 30 Space Sciences. For related information see also: 28 Propulsion Systems; and 32 Structural Mechanics.

**32 Structural Mechanics**

Includes structural element design and weight analysis; fatigue; thermal stress; impact phenomena; vibration; flutter; inflatable structures; and structural tests. For related information see also: 17 Materials, Metallic; and 18 Materials, Nonmetallic.

**33 Thermodynamics and Combustion**

Includes ablation, cooling, heating, heat transfer, thermal balance, and other thermal effects; and combustion theory. For related information see also: 12 Fluid Mechanics; and 27 Propellants.

**34 General**

Includes information of a broad nature related to industrial applications and technology, and to basic research; defense aspects; information retrieval; management; law and related legal matters; and legislative hearings and documents.

# TABLE OF CONTENTS

Revised Subject Categories  
(Includes 1974 and 1987 revisions)

## AERONAUTICS

Includes aeronautics (general); aerodynamics; air transportation and safety; aircraft communications and navigation; aircraft design, testing and performance; aircraft instrumentation; aircraft propulsion and power; aircraft stability and control; and research and support facilities (air).

For related information see also *Astronautics*.

### 01 AERONAUTICS (GENERAL)

### 02 AERODYNAMICS

Includes aerodynamics of bodies, combinations, wings, rotors, and control surfaces; and internal flow in ducts and turbomachinery.

For related information see also *34 Fluid Mechanics and Heat Transfer*.

### 03 AIR TRANSPORTATION AND SAFETY

Includes passenger and cargo air transport operations; and aircraft accidents.

For related information see also *16 Space Transportation* and *85 Urban Technology and Transportation*.

### 04 AIRCRAFT COMMUNICATIONS AND NAVIGATION

Includes digital and voice communication with aircraft; air navigation systems (satellite and ground based); and air traffic control.

For related information see also *17 Space Communications, Spacecraft Communications, Command and Tracking* and *32 Communications and Radar*.

### 05 AIRCRAFT DESIGN, TESTING AND PERFORMANCE

Includes aircraft simulation technology.

For related information see also *18 Spacecraft Design, Testing and Performance* and *39 Structural Mechanics*. For land transportation vehicles see *85 Urban Technology and Transportation*.

### 06 AIRCRAFT INSTRUMENTATION

Includes cockpit and cabin display devices; and flight instruments.

For related information see also *19 Spacecraft Instrumentation* and *35 Instrumentation and Photography*.

### 07 AIRCRAFT PROPULSION AND POWER

Includes prime propulsion systems and systems components, e.g., gas turbine engines and compressors; and onboard auxiliary power plants for aircraft.

For related information see also *20 Spacecraft Propulsion and Power, 28 Propellants and Fuels*, and *44 Energy Production and Conversion*.

### 08 AIRCRAFT STABILITY AND CONTROL

Includes aircraft handling qualities; piloting; flight controls; and autopilots.

For related information see also *05 Aircraft Design, Testing and Performance*.

## 09 RESEARCH AND SUPPORT FACILITIES (AIR)

Includes airports, hangars and runways; aircraft repair and overhaul facilities; wind tunnels; shock tubes; and aircraft engine test stands.

For related information see also *14 Ground Support Systems and Facilities (Space)*.

## ASTRONAUTICS

Includes astronautics (general); astrodynamics; ground support systems and facilities (space); launch vehicles and space vehicles; space transportation; space communications, spacecraft communications, command and tracking; spacecraft design, testing and performance; spacecraft instrumentation; and spacecraft propulsion and power.

For related information see also *Aeronautics*.

### 12 ASTRONAUTICS (GENERAL)

For extraterrestrial exploration see *91 Lunar and Planetary Exploration*.

### 13 ASTRODYNAMICS

Includes powered and free-flight trajectories; and orbital and launching dynamics.

### 14 GROUND SUPPORT SYSTEMS AND FACILITIES (SPACE)

Includes launch complexes, research and production facilities; ground support equipment, e.g., mobile transporters; and simulators.

For related information see also *09 Research and Support Facilities (Air)*.

### 15 LAUNCH VEHICLES AND SPACE VEHICLES

Includes boosters; operating problems of launch/space vehicle systems; and reusable vehicles.

For related information see also *20 Spacecraft Propulsion and Power*.

### 16 SPACE TRANSPORTATION

Includes passenger and cargo space transportation, e.g., shuttle operations; and space rescue techniques.

For related information see also *03 Air Transportation and Safety* and *18 Spacecraft Design, Testing and Performance*. For space suits see *54 Man/System Technology and Life Support*.

### 17 SPACE COMMUNICATIONS, SPACECRAFT COMMUNICATIONS, COMMAND AND TRACKING

Includes telemetry; space communications networks; astronavigation and guidance; and radio blackout.

For related information see also *04 Aircraft Communications and Navigation* and *32 Communications and Radar*.



## **18 SPACECRAFT DESIGN, TESTING AND PERFORMANCE**

Includes satellites; space platforms; space stations; spacecraft systems and components such as thermal and environmental controls; and attitude controls.

For life support systems see *54 Man/System Technology and Life Support*. For related information see also *05 Aircraft Design, Testing and Performance*, *39 Structural Mechanics*, and *16 Space Transportation*.

## **19 SPACECRAFT INSTRUMENTATION**

For related information see also *06 Aircraft Instrumentation* and *35 Instrumentation and Photography*.

## **20 SPACECRAFT PROPULSION AND POWER**

Includes main propulsion systems and components, e.g. rocket engines; and spacecraft auxiliary power sources.

For related information see also *07 Aircraft Propulsion and Power*, *28 Propellants and Fuels*, *44 Energy Production and Conversion*, and *15 Launch Vehicles and Space Vehicles*.

## **CHEMISTRY AND MATERIALS**

Includes chemistry and materials (general); composite materials; inorganic and physical chemistry; metallic materials; nonmetallic materials; propellants and fuels; and materials processing.

## **23 CHEMISTRY AND MATERIALS (GENERAL)**

## **24 COMPOSITE MATERIALS**

Includes physical, chemical, and mechanical properties of laminates and other composite materials.

For ceramic materials see *27 Nonmetallic Materials*.

## **25 INORGANIC AND PHYSICAL CHEMISTRY**

Includes chemical analysis, e.g., chromatography; combustion theory; electrochemistry; and photochemistry.

For related information see also *77 Thermodynamics and Statistical Physics*.

## **26 METALLIC MATERIALS**

Includes physical, chemical, and mechanical properties of metals, e.g., corrosion; and metallurgy.

## **27 NONMETALLIC MATERIALS**

Includes physical, chemical, and mechanical properties of plastics, elastomers, lubricants, polymers, textiles, adhesives, and ceramic materials.

For composite materials see *24 Composite Materials*.

## **28 PROPELLANTS AND FUELS**

Includes rocket propellants, igniters and oxidizers; their storage and handling procedures; and aircraft fuels.

For related information see also *07 Aircraft Propulsion and Power*, *20 Spacecraft Propulsion and Power*, and *44 Energy Production and Conversion*.

## **29 MATERIALS PROCESSING**

Includes space-based development of products and processes for commercial application.

For biological materials see *55 Space Biology*.

## **ENGINEERING**

Includes engineering (general); communications and radar; electronics and electrical engineering; fluid mechanics and heat transfer; instrumentation and photography; lasers and masers; mechanical engineering; quality assurance and reliability; and structural mechanics.

For related information see also *Physics*.

## **31 ENGINEERING (GENERAL)**

Includes vacuum technology; control engineering; display engineering; cryogenics; and fire prevention.

## **32 COMMUNICATIONS AND RADAR**

Includes radar; land and global communications; communications theory; and optical communications.

For related information see also *04 Aircraft Communications and Navigation* and *17 Space Communications, Spacecraft Communications, Command and Tracking*. For search and rescue see *03 Air Transportation and Safety*, and *16 Space Transportation*.

## **33 ELECTRONICS AND ELECTRICAL ENGINEERING**

Includes test equipment and maintainability; components, e.g., tunnel diodes and transistors; microminiaturization; and integrated circuitry.

For related information see also *60 Computer Operations and Hardware* and *76 Solid-State Physics*.

## **34 FLUID MECHANICS AND HEAT TRANSFER**

Includes boundary layers; hydrodynamics; fluidics; mass transfer and ablation cooling.

For related information see also *02 Aerodynamics* and *77 Thermodynamics and Statistical Physics*.

## **35 INSTRUMENTATION AND PHOTOGRAPHY**

Includes remote sensors; measuring instruments and gauges; detectors; cameras and photographic supplies; and holography.

For aerial photography see *43 Earth Resources and Remote Sensing*. For related information see also *06 Aircraft Instrumentation* and *19 Spacecraft Instrumentation*.

## **36 LASERS AND MASERS**

Includes parametric amplifiers.

For related information see also *76 Solid-State Physics*.

## **37 MECHANICAL ENGINEERING**

Includes auxiliary systems (nonpower); machine elements and processes; and mechanical equipment.

## **38 QUALITY ASSURANCE AND RELIABILITY**

Includes product sampling procedures and techniques; and quality control.

## **39 STRUCTURAL MECHANICS**

Includes structural element design and weight analysis; fatigue; and thermal stress.

For applications see *05 Aircraft Design, Testing and Performance* and *18 Spacecraft Design, Testing and Performance*.

## **GEOSCIENCES**

Includes geosciences (general); earth resources and remote sensing; energy production and conversion; environment pollution; geophysics; meteorology and climatology; and oceanography.

For related information see also *Space Sciences*.

### **42 GEOSCIENCES (GENERAL)**

#### **43 EARTH RESOURCES AND REMOTE SENSING**

Includes remote sensing of earth resources by aircraft and spacecraft; photogrammetry; and aerial photography.

For instrumentation see *35 Instrumentation and Photography*.

#### **44 ENERGY PRODUCTION AND CONVERSION**

Includes specific energy conversion systems, e.g., fuel cells; global sources of energy; geophysical conversion; and windpower.

For related information see also *07 Aircraft Propulsion and Power*, *20 Spacecraft Propulsion and Power*, and *28 Propellants and Fuels*.

#### **45 ENVIRONMENT POLLUTION**

Includes atmospheric, noise, thermal, and water pollution.

#### **46 GEOPHYSICS**

Includes aeronomy; upper and lower atmosphere studies; ionospheric and magnetospheric physics; and geomagnetism.

For space radiation see *93 Space Radiation*.

#### **47 METEOROLOGY AND CLIMATOLOGY**

Includes weather forecasting and modification.

#### **48 OCEANOGRAPHY**

Includes biological, dynamic, and physical oceanography; and marine resources.

For related information see also *43 Earth Resources and Remote Sensing*.

## **LIFE SCIENCES**

Includes life sciences (general); aerospace medicine; behavioral sciences; man/system technology and life support; and space biology.

### **51 LIFE SCIENCES (GENERAL)**

#### **52 AEROSPACE MEDICINE**

Includes physiological factors; biological effects of radiation; and effects of weightlessness on man and animals.

#### **53 BEHAVIORAL SCIENCES**

Includes psychological factors; individual and group behavior; crew training and evaluation; and psychiatric research.

#### **54 MAN/SYSTEM TECHNOLOGY AND LIFE SUPPORT**

Includes human engineering; biotechnology; and space suits and protective clothing.

For related information see also *16 Space Transportation*.

## **55 SPACE BIOLOGY**

Includes exobiology; planetary biology; and extraterrestrial life.

## **MATHEMATICAL AND COMPUTER SCIENCES**

Includes mathematical and computer sciences (general); computer operations and hardware; computer programming and software; computer systems; cybernetics; numerical analysis; statistics and probability; systems analysis; and theoretical mathematics.

### **59 MATHEMATICAL AND COMPUTER SCIENCES (GENERAL)**

#### **60 COMPUTER OPERATIONS AND HARDWARE**

Includes hardware for computer graphics, firmware, and data processing.

For components see *33 Electronics and Electrical Engineering*.

#### **61 COMPUTER PROGRAMMING AND SOFTWARE**

Includes computer programs, routines, algorithms, and specific applications, e.g., CAD/CAM.

#### **62 COMPUTER SYSTEMS**

Includes computer networks and special application computer systems.

#### **63 CYBERNETICS**

Includes feedback and control theory, artificial intelligence, robotics and expert systems.

For related information see also *54 Man/System Technology and Life Support*.

#### **64 NUMERICAL ANALYSIS**

Includes iteration, difference equations, and numerical approximation.

#### **65 STATISTICS AND PROBABILITY**

Includes data sampling and smoothing; Monte Carlo method; and stochastic processes.

#### **66 SYSTEMS ANALYSIS**

Includes mathematical modeling; network analysis; and operations research.

#### **67 THEORETICAL MATHEMATICS**

Includes topology and number theory.

## **PHYSICS**

Includes physics (general); acoustics; atomic and molecular physics; nuclear and high-energy physics; optics; plasma physics; solid-state physics; and thermodynamics and statistical physics.

For related information see also *Engineering*.

### **70 PHYSICS (GENERAL)**

For precision time and time interval (PTTI) see *35 Instrumentation and Photography*; for geophysics, astrophysics or solar physics see *46 Geophysics*, *90 Astrophysics*, or *92 Solar Physics*.

## 71 ACOUSTICS

Includes sound generation, transmission, and attenuation.

For noise pollution see *45 Environment Pollution*.

## 72 ATOMIC AND MOLECULAR PHYSICS

Includes atomic structure, electron properties, and molecular spectra.

## 73 NUCLEAR AND HIGH-ENERGY PHYSICS

Includes elementary and nuclear particles; and reactor theory.

For space radiation see *93 Space Radiation*.

## 74 OPTICS

Includes light phenomena and optical devices.

For lasers see *36 Lasers and Masers*.

## 75 PLASMA PHYSICS

Includes magnetohydrodynamics and plasma fusion.

For ionospheric plasmas see *46 Geophysics*. For space plasmas see *90 Astrophysics*.

## 76 SOLID-STATE PHYSICS

Includes superconductivity.

For related information see also *33 Electronics and Electrical Engineering* and *36 Lasers and Masers*.

## 77 THERMODYNAMICS AND STATISTICAL PHYSICS

Includes quantum mechanics; theoretical physics; and Bose and Fermi statistics.

For related information see also *25 Inorganic and Physical Chemistry* and *34 Fluid Mechanics and Heat Transfer*.

## SOCIAL SCIENCES

Includes social sciences (general); administration and management; documentation and information science; economics and cost analysis; law, political science, and space policy; and urban technology and transportation.

## 80 SOCIAL SCIENCES (GENERAL)

Includes educational matters.

## 81 ADMINISTRATION AND MANAGEMENT

Includes management planning and research.

## 82 DOCUMENTATION AND INFORMATION SCIENCE

Includes information management; information storage and retrieval technology; technical writing; graphic arts; and micrography.

For computer documentation see *61 Computer Programming and Software*.

## 83 ECONOMICS AND COST ANALYSIS

Includes cost effectiveness studies.

## 84 LAW, POLITICAL SCIENCE AND SPACE POLICY

Includes NASA appropriation hearings; aviation law; space law and policy; international law; international cooperation; and patent policy.

## 85 URBAN TECHNOLOGY AND TRANSPORTATION

Includes applications of space technology to urban problems; technology transfer; technology assessment; and surface and mass transportation.

For related information see *03 Air Transportation and Safety*, *16 Space Transportation*, and *44 Energy Production and Conversion*.

## SPACE SCIENCES

Includes space sciences (general); astronomy; astrophysics; lunar and planetary exploration; solar physics; and space radiation.

For related information see also *Geosciences*.

## 88 SPACE SCIENCES (GENERAL)

## 89 ASTRONOMY

Includes radio, gamma-ray, and infrared astronomy; and astrometry.

## 90 ASTROPHYSICS

Includes cosmology; celestial mechanics; space plasmas; and interstellar and interplanetary gases and dust.

For related information see also *75 Plasma Physics*.

## 91 LUNAR AND PLANETARY EXPLORATION

Includes planetology; and manned and unmanned flights.

For spacecraft design or space stations see *18 Spacecraft Design, Testing and Performance*.

## 92 SOLAR PHYSICS

Includes solar activity, solar flares, solar radiation and sunspots.

For related information see *93 Space Radiation*.

## 93 SPACE RADIATION

Includes cosmic radiation; and inner and outer earth's radiation belts.

For biological effects of radiation see *52 Aerospace Medicine*. For theory see *73 Nuclear and High-Energy Physics*.

## GENERAL

Includes aeronautical, astronautical, and space science related histories, biographies, and pertinent reports too broad for categorization; histories or broad overviews of NASA programs.

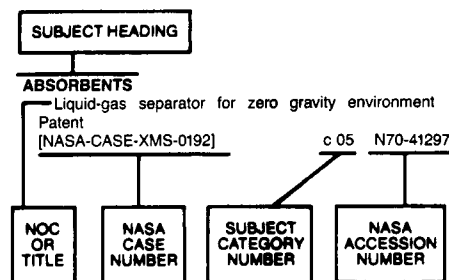
## 99 GENERAL

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### Typical Subject Index Listing



The subject heading is a key to the subject content of the document. A brief description of the document, e.g., title, title plus a title extension, or Notation of Content (NOC), is included for each subject entry to indicate the subject heading context; these descriptions are arranged under each subject heading in ascending accession number order. The NASA Case Number serves as the prime access number to the patent documents. The Subject Category Number indicates the category in Section 1 (Abstracts) in which the patent citation and abstract are located. The NASA accession number denotes the number by which the citation is identified within the subject category.

## A

### ABERRATION

High speed multi focal plane optical system  
[NASA-CASE-GSC-12683-1] c 74 N83-36898

### ABILITIES

Kinesimetric method and apparatus  
[NASA-CASE-MSC-18929-1] c 39 N83-20280

### ABLATION

Transpirationally cooled heat ablation system Patent  
[NASA-CASE-XMS-02677] c 31 N70-42075  
Hypersonic test facility Patent  
[NASA-CASE-XLA-00378] c 11 N71-15925  
Hypersonic test facility Patent  
[NASA-CASE-XLA-05378] c 11 N71-21475  
Ablation sensor Patent  
[NASA-CASE-XLA-01794] c 33 N71-21586  
Ablation sensor Patent  
[NASA-CASE-XLA-01791] c 14 N71-22991  
Ablative system  
[NASA-CASE-LEW-10359] c 33 N72-25911

### ABLATIVE MATERIALS

Method for making a heat insulating and ablative structure  
[NASA-CASE-XMS-01108] c 15 N69-24322  
Ablation sensor  
[NASA-CASE-XLA-01781] c 14 N69-39975  
Method for molding compounds Patent  
[NASA-CASE-XLA-01091] c 15 N71-10672  
Ablative resin Patent  
[NASA-CASE-XLE-05913] c 33 N71-14032  
Ablation structures Patent  
[NASA-CASE-XMS-01816] c 33 N71-15623  
Method and apparatus for making a heat insulating and ablative structure Patent  
[NASA-CASE-XMS-02009] c 33 N71-20834  
Thermal protection ablation spray system Patent  
[NASA-CASE-XLA-04251] c 18 N71-26100  
Stand-off type ablative heat shield  
[NASA-CASE-MSC-12143-1] c 33 N72-17947

Ablative system  
[NASA-CASE-LEW-10359] c 33 N72-25911  
Ablative system  
[NASA-CASE-LEW-10359-2] c 33 N73-25952  
Ablation article and method  
[NASA-CASE-LAR-10439-1] c 33 N73-27796  
Dual measurement ablation sensor  
[NASA-CASE-LAR-10105-1] c 34 N74-15652  
Sprayable low density ablator and application process  
[NASA-CASE-MFS-23506-1] c 24 N78-24290  
Intumescent-ablator coatings using endothermic fillers  
[NASA-CASE-ARC-11043-1] c 24 N78-27180  
Cork-resin ablative insulation for complex surfaces and method for applying the same  
[NASA-CASE-MFS-23626-1] c 24 N80-26388  
Controlled overspray spray nozzle  
[NASA-CASE-MFS-25139-1] c 34 N82-13376

### ABORT APPARATUS

Coupling for linear shaped charge Patent  
[NASA-CASE-XLA-00189] c 33 N70-36846

### ABRASION

Composite seal for turbomachinery  
[NASA-CASE-LEW-12131-3] c 37 N82-19540

### ABRASION RESISTANCE

Potassium silicate zinc coatings  
[NASA-CASE-GSC-10361-1] c 18 N72-23581  
Process for producing a well-adhered durable optical coating on an optical plastic substrate --- abrasion resistant polymethyl methacrylate lenses  
[NASA-CASE-ARC-11039-1] c 74 N78-32854  
Sandblasting nozzle  
[NASA-CASE-NPO-13823-1] c 37 N81-25371  
Heat sealable, flame and abrasion resistant coated fabric --- clothing and containers for space exploration  
[NASA-CASE-MSC-18382-1] c 27 N82-16238  
Heat sealable, flame and abrasion resistant coated fabric  
[NASA-CASE-MSC-18382-2] c 27 N84-14324

### ABRASIVES

Method for machining holes in composite materials  
[NASA-CASE-MFS-28044-1] c 31 N87-25491

### ABSORBENTS

Liquid-gas separator for zero gravity environment Patent  
[NASA-CASE-XMS-01492] c 05 N70-41297  
Fluid flow control valve Patent  
[NASA-CASE-XLE-00703] c 15 N71-15967  
Noncontaminating swabs  
[NASA-CASE-MFS-18100] c 15 N72-11390  
Protein sterilization method of firefly luciferase using reduced pressure and molecular sieves  
[NASA-CASE-GSC-10225-1] c 06 N73-27086  
Oil and fat absorbing polymers  
[NASA-CASE-NPO-11609-2] c 27 N77-31308  
Absorbent product and articles made therefrom  
[NASA-CASE-MSC-18223-2] c 54 N84-11758

### ABSORBERS (EQUIPMENT)

Absorbent product to absorb fluids --- for collection of human wastes  
[NASA-CASE-MSC-18223-1] c 24 N82-29362  
Variable response load limiting device  
[NASA-CASE-LAR-12801-1] c 37 N88-23982

### ABSORBERS (MATERIALS)

Broadband choke for antenna structure  
[NASA-CASE-XMS-05303] c 07 N69-27462  
Analytical photoionization mass spectrometer with an argon gas filter between the light source and monochromator Patent  
[NASA-CASE-LAR-10180-1] c 06 N71-13461  
Filter system for control of outgas contamination in vacuum Patent  
[NASA-CASE-MFS-14711] c 15 N71-26185  
Constant temperature heat sink for calorimeters Patent  
[NASA-CASE-XMF-04208] c 33 N71-29051  
Aldehyde-containing urea-absorbing polysaccharides  
[NASA-CASE-NPO-13620-1] c 27 N77-30236  
Electromagnetic power absorber  
[NASA-CASE-NPO-13830-1] c 32 N80-14281  
Water-absorbing capacitor system for measuring relative humidity  
[NASA-CASE-NPO-16544-1-CU] c 35 N87-22953

### ABSORPTION

Differential optoacoustic absorption detector  
[NASA-CASE-NPO-13759-1] c 74 N78-17867  
Nebulization reflux concentrator  
[NASA-CASE-LAR-13254-1CU] c 35 N86-29174

### ABSORPTION COOLING

Ten degree Kelvin hydride refrigerator  
[NASA-CASE-NPO-16393-1-CU] c 31 N87-21159

### ABSORPTION CROSS SECTIONS

Penetrating radiation system for detecting the amount of liquid in a tank Patent  
[NASA-CASE-MSC-12280] c 27 N71-16348

### ABSORPTION SPECTRA

Stark effect spectrophone for continuous absorption spectra monitoring --- a technique for gas analysis  
[NASA-CASE-NPO-15102-1] c 25 N81-25159  
Method and apparatus for enhancing laser absorption sensitivity  
[NASA-CASE-NPO-16567-1-CU] c 36 N87-28006

### ABSORPTION SPECTROSCOPY

Digital control of diode laser for atmospheric spectroscopy  
[NASA-CASE-NPO-16000-1] c 36 N85-29264

### ABSORPTIVITY

Detector absorptivity measuring method and apparatus  
[NASA-CASE-LAR-10907-1] c 35 N76-29551  
Heat exchanger for electrothermal devices  
[NASA-CASE-LEW-14037-1] c 20 N87-16875

### AC GENERATORS

Signal generator  
[NASA-CASE-XNP-05612] c 09 N69-21468  
Superconducting alternator  
[NASA-CASE-XLE-02824] c 03 N69-39890  
Superconducting alternator Patent  
[NASA-CASE-XLE-02823] c 09 N71-23443  
Electrical power generating system  
[NASA-CASE-MFS-25302-1] c 33 N83-28319  
Coupling an induction motor type generator to ac power lines --- making windmill generators compatible with public power lines  
[NASA-CASE-MFS-25302-2] c 33 N84-33660

### ACCELERATION

Single grid accelerator for an ion thruster  
[NASA-CASE-XLE-10453-2] c 28 N73-27699

### ACCELERATION (PHYSICS)

Centrifuge mounted motion simulator Patent  
[NASA-CASE-XAC-00399] c 11 N70-34815  
Gravity device Patent  
[NASA-CASE-XMF-00424] c 11 N70-38196  
Artificial gravity spin deployment system Patent  
[NASA-CASE-XNP-02595] c 31 N71-21881  
Active vibration isolator for flexible bodies Patent  
[NASA-CASE-LAR-10106-1] c 15 N71-27169  
Apparatus for applying simulator g-forces to an arm of an aircraft simulator pilot  
[NASA-CASE-LAR-10550-1] c 09 N74-30597  
G-load measuring and indicator apparatus  
[NASA-CASE-ARC-10806-1] c 35 N75-29381  
Helmet weight simulator  
[NASA-CASE-LAR-12320-1] c 54 N81-27806

### ACCELERATION PROTECTION

Universal pilot restraint suit and body support therefor Patent  
[NASA-CASE-XAC-00405] c 05 N70-41819  
G conditioning suit Patent  
[NASA-CASE-XLA-02898] c 05 N71-20268

### ACCELERATION STRESSES (PHYSIOLOGY)

Artificial gravity spin deployment system Patent  
[NASA-CASE-XNP-02595] c 31 N71-21881

### ACCELERATION TOLERANCE

Peak acceleration limiter for vibrational tester Patent  
[NASA-CASE-NPO-10556] c 14 N71-27185

### ACCELERATORS

Annular arc accelerator shock tube  
[NASA-CASE-NPO-13528-1] c 09 N77-10071  
Spring operated accelerator and constant force spring mechanism therefor  
[NASA-CASE-ARC-10898-1] c 35 N77-18417

### ACCELEROMETERS

Superconductive accelerometer Patent  
[NASA-CASE-XMF-01099] c 14 N71-15969

- Apparatus for controlling the velocity of an electromechanical drive for interferometers and the like Patent  
[NASA-CASE-XGS-03532] c 14 N71-17627
- Omnidirectional acceleration device Patent  
[NASA-CASE-HQN-10780] c 14 N71-30265
- Angular velocity and acceleration measuring apparatus  
[NASA-CASE-ERC-10292] c 14 N72-25410
- Temperature compensated digital inertial sensor --- circuit for maintaining inertial element of gyroscope or accelerometer at constant position  
[NASA-CASE-NPO-13044-1] c 35 N74-15094
- Accelerometer telemetry system  
[NASA-CASE-ARC-10849-1] c 17 N76-29347
- ACCEPTABILITY**  
Cross correlation anomaly detection system  
[NASA-CASE-NPO-13283] c 38 N78-17395
- ACCEPTOR MATERIALS**  
III-V photocathode with nitrogen doping for increased quantum efficiency  
[NASA-CASE-NPO-12134-1] c 33 N76-31409
- ACCESS CONTROL**  
Computer access security code system  
[NASA-CASE-NPO-17525-1-CU] c 60 N89-29955
- ACCIDENT PREVENTION**  
CAT altitude avoidance system  
[NASA-CASE-NPO-15351-1] c 06 N83-10040
- ACCOMMODATION**  
Visual accommodation trainer-tester  
[NASA-CASE-ARC-11426-1] c 09 N84-12193
- Visual accommodation trainer-tester  
[NASA-CASE-ARC-11426-2] c 52 N89-16256
- ACCUMULATORS**  
Direct radiation cooling of the collector of linear beam tubes  
[NASA-CASE-XNP-09227] c 15 N69-24319
- Small rocket engine Patent  
[NASA-CASE-XLE-00685] c 28 N70-41992
- Small plasma probe Patent  
[NASA-CASE-XLE-02578] c 25 N71-20747
- Electrostatic collector for charged particles  
[NASA-CASE-LEW-11192-1] c 09 N73-13208
- Accumulator  
[NASA-CASE-MFS-19287-1] c 34 N77-30399
- Method for fabricating solar cells having integrated collector grits  
[NASA-CASE-LEW-12819-2] c 44 N79-18444
- Urine collection device  
[NASA-CASE-MSC-16433-1] c 52 N81-24711
- Urine collection apparatus --- feminine hygiene  
[NASA-CASE-MSC-18381-1] c 52 N81-28740
- Sweat collection capsule  
[NASA-CASE-ARC-11031-1] c 52 N81-29763
- Multistage depressed collector for dual mode operation --- for microwave transmitting tubes  
[NASA-CASE-LEW-13282-1] c 33 N82-24415
- Multistage spent particle collector and a method for making same  
[NASA-CASE-LEW-13914-1] c 37 N85-33489
- ACETALS**  
Synthesis of polymeric schiff bases by reaction of acetals and amine compounds Patent  
[NASA-CASE-XMF-08652] c 06 N71-11243
- ACETATES**  
Thermoplastic rubber comprising ethylene-vinyl acetate copolymer, asphalt and fluxing oil  
[NASA-CASE-NPO-08835-1] c 27 N78-33228
- ACETYL COMPOUNDS**  
Phenoxy resins containing pendent ethynyl groups and cured resins obtained therefrom  
[NASA-CASE-LAR-13262-1] c 23 N85-28973
- ACETYLENE**  
Dicyanoacetylene polymers Patent  
[NASA-CASE-XNP-03250] c 06 N71-23500
- Polyphenylquinoxalines containing pendant phenylethynyl and ethynyl groups --- for thermoplastic resins  
[NASA-CASE-LAR-12838-1] c 27 N83-34040
- Acetylene (ethynyl) terminated polyimide siloxane and process for preparation thereof  
[NASA-CASE-LAR-13318-1] c 27 N87-14516
- Ethynyl terminated ester oligomers and polymers therefrom  
[NASA-CASE-LAR-13118-2] c 27 N87-16907
- ACOUSTIC ATTENUATION**  
Ultrasonic calibration device --- for producing changes in acoustic attenuation and phase velocity  
[NASA-CASE-LAR-11435-1] c 35 N76-15432
- Acoustic guide for noise-transmission testing of aircraft  
[NASA-CASE-LAR-13111-1-CU] c 71 N87-21652
- ACOUSTIC DUCTS**  
Noise suppressor --- for turbofan engine by incorporating annular acoustically porous elements in exhaust and inlet ducts  
[NASA-CASE-LAR-11141-1] c 07 N74-32418

**ACOUSTIC EMISSION**

- Acoustic emission frequency discrimination  
[NASA-CASE-MSC-20467-1] c 35 N88-23966

**ACOUSTIC EXCITATION**

- Acoustic agglomeration methods and apparatus  
[NASA-CASE-NPO-15466-1] c 71 N85-22104

**ACOUSTIC IMPEDANCE**

- Method for detecting hydrogen gas  
[NASA-CASE-XMF-03873] c 06 N69-39733
- Acoustic ground impedance meter  
[NASA-CASE-LAR-12995-1] c 35 N84-22933
- Reactanceless synthesized impedance bandpass amplifier  
[NASA-CASE-GSC-12788-1] c 33 N85-29145
- Method for thermal monitoring subcutaneous tissue  
[NASA-CASE-LAR-13028-1] c 52 N85-30618

**ACOUSTIC LEVITATION**

- Method and apparatus for shaping and enhancing acoustical levitation forces  
[NASA-CASE-MFS-25050-1] c 71 N81-15767
- Acoustic levitation methods and apparatus  
[NASA-CASE-NPO-15562-1] c 71 N82-27086
- Acoustic system for material transport  
[NASA-CASE-NPO-15453-1] c 71 N83-32515
- System for controlled acoustic rotation of objects  
[NASA-CASE-NPO-15522-1] c 71 N83-32516
- Acoustic suspension system  
[NASA-CASE-NPO-15435-1] c 71 N83-36846
- Contactless pellet fabrication  
[NASA-CASE-NPO-15592-1] c 71 N84-16940
- Acoustic rotation control  
[NASA-CASE-NPO-15689-1] c 71 N84-23233
- Sonic levitation apparatus  
[NASA-CASE-MFS-25828-1] c 71 N84-28568
- High temperature acoustic levitator  
[NASA-CASE-NPO-16022-1] c 71 N85-22105
- Gravity enhanced acoustic levitation method and apparatus  
[NASA-CASE-NPO-16147-1-CU] c 71 N85-29693
- Vibrating-chamber levitation systems  
[NASA-CASE-NPO-16142-1-CU] c 35 N86-20752
- Containerless high purity pulling process and apparatus for glass fiber  
[NASA-CASE-MFS-25905-2] c 31 N86-21718
- Apparatus for production of ultrapure amorphous metals utilizing acoustic cooling  
[NASA-CASE-NPO-15658-1] c 26 N86-32551
- Single mode levitation and translation  
[NASA-CASE-NPO-16675-1-CU] c 71 N88-24241
- Stabilization and oscillation of an acoustically levitated object  
[NASA-CASE-NPO-16896-1-CU] c 71 N89-13236
- Controlled sample orientation and rotation in an acoustic levitator  
[NASA-CASE-NPO-17086-1-CU] c 35 N89-14422

**ACOUSTIC MEASUREMENT**

- Instrumentation for measuring aircraft noise and sonic boom  
[NASA-CASE-LAR-11476-1] c 07 N76-27232
- Differential sound level meter  
[NASA-CASE-LAR-12106-1] c 71 N78-14867
- Pseudo continuous wave instrument --- ultrasonics  
[NASA-CASE-LAR-12260-1] c 35 N79-10390
- System for monitoring physical characteristics of fluids  
[NASA-CASE-NPO-15400-1] c 34 N83-31993
- Acoustic ground impedance meter  
[NASA-CASE-LAR-12995-1] c 35 N84-22933
- Rapid quantification of an internal property --- ultrasonic determination of bladder urine quantity  
[NASA-CASE-LAR-13689-1-NP] c 35 N87-23941
- Ultrasonic depth gauge for liquids under high pressure  
[NASA-CASE-LAR-13300-1-CU] c 35 N89-14407

**ACOUSTIC PROPAGATION**

- Material suspension within an acoustically excited resonant chamber --- at near weightless conditions  
[NASA-CASE-NPO-13263-1] c 12 N75-24774
- Resolution enhanced sound detecting apparatus  
[NASA-CASE-NPO-14134-1] c 71 N79-23753

**ACOUSTIC PROPERTIES**

- Wind tunnel microphone structure Patent  
[NASA-CASE-XNP-00250] c 11 N71-28779
- Acoustical transducer calibrating system and apparatus  
[NASA-CASE-FRC-10060-1] c 14 N73-27379
- Pseudo continuous wave instrument --- ultrasonics  
[NASA-CASE-LAR-12260-1] c 35 N79-10390
- Acoustic radiation stress measurement  
[NASA-CASE-LAR-13440-1] c 71 N87-21653

**ACOUSTICAL HOLOGRAPHY**

- Hybrid holographic non-destructive test system  
[NASA-CASE-MFS-23114-1] c 38 N78-32447

**ACOUSTICS**

- Image readout device with electronically variable spatial resolution  
[NASA-CASE-LAR-12633-1] c 33 N82-24416

- Acoustic rotation control  
[NASA-CASE-NPO-15689-1] c 71 N84-23233
- Acoustic particle separation  
[NASA-CASE-NPO-15559-1] c 71 N85-30765
- Acoustic convective system  
[NASA-CASE-NPO-17278-1-CU] c 31 N88-24818

**ACOUSTO-OPTICS**

- Apparatus for testing wiring harness by vibration generating means  
[NASA-CASE-MSC-15158-1] c 14 N72-17325
- Method and apparatus for background signal reduction in opto-acoustic absorption measurement  
[NASA-CASE-NPO-13683-1] c 35 N77-14411
- Differential optoacoustic absorption detector  
[NASA-CASE-NPO-13759-1] c 74 N78-17867
- Stark cell optoacoustic detection of constituent gases in sample  
[NASA-CASE-NPO-14143-1] c 25 N81-14015
- Stark effect spectrophone for continuous absorption spectra monitoring --- a technique for gas analysis  
[NASA-CASE-NPO-15102-1] c 25 N81-25159
- Coherently pulsed laser source  
[NASA-CASE-NPO-15111-1] c 36 N82-29589

**ACRYLATES**

- Ablative resin Patent  
[NASA-CASE-XLE-05913] c 33 N71-14032

**ACRYLONITRILES**

- Method of carbonizing polyacrylonitrile fibers  
[NASA-CASE-ARC-11261-1] c 24 N83-25789

**ACTIVATED CARBON**

- Sewage sludge additive  
[NASA-CASE-NPO-13877-1] c 45 N82-11634

**ACTIVATION ENERGY**

- Heat activated cell Patent  
[NASA-CASE-LEW-11359] c 03 N71-28579
- Method of making emf cell  
[NASA-CASE-LEW-11359-2] c 03 N72-20034

**ACTIVE CONTROL**

- Smart tunnel: Docking mechanism  
[NASA-CASE-MSC-21360-1] c 18 N89-25263

**ACTUATION**

- Magetically actuated compressor  
[NASA-CASE-GSC-12799-1] c 31 N85-21404

**ACTUATOR DISKS**

- Cryogenic gyroscope housing --- with annular disks for gas spin-up  
[NASA-CASE-MFS-21136-1] c 35 N74-18323

**ACTUATORS**

- Electromechanical actuator  
[NASA-CASE-XNP-05975] c 15 N69-23185
- Bimetallic power controlled actuator  
[NASA-CASE-XNP-09776] c 09 N69-39929
- Gas actuated bolt disconnect Patent  
[NASA-CASE-XLA-00326] c 03 N70-34667
- Hermetically sealed explosive release mechanism Patent  
[NASA-CASE-XGS-00824] c 15 N71-16078
- Burst diaphragm flow initiator Patent  
[NASA-CASE-MFS-12915] c 11 N71-17600
- Controllers Patent  
[NASA-CASE-XMS-07487] c 15 N71-23255
- Mechanical actuator Patent  
[NASA-CASE-XGS-04548] c 15 N71-24045
- Radiator deployment actuator Patent  
[NASA-CASE-MSC-11817-1] c 15 N71-26611
- Electromechanical control actuator system Patent  
[NASA-CASE-ERC-10022] c 15 N71-26635
- Energy limiter for hydraulic actuators Patent  
[NASA-CASE-ARC-10131-1] c 15 N71-27754
- Telemetry actuated switch  
[NASA-CASE-ARC-10105] c 09 N72-17153
- Mechanically actuated triggered hand  
[NASA-CASE-MFS-20413] c 15 N72-21463
- Hermetically sealed elbow actuator  
[NASA-CASE-MFS-14710] c 09 N72-22195
- Ball screw linear actuator  
[NASA-CASE-NPO-11222] c 15 N72-25456
- Rotary actuator  
[NASA-CASE-NPO-10244] c 15 N72-26371
- Gas operated actuator  
[NASA-CASE-NPO-11340] c 15 N72-33477
- Redundant hydraulic control system for actuators  
[NASA-CASE-MFS-20944] c 15 N73-13466
- Electrolytic gas operated actuator  
[NASA-CASE-NPO-11369] c 15 N73-13467
- Manual actuator --- for spacecraft exercising machines  
[NASA-CASE-MFS-21481-1] c 37 N74-18127
- Optically actuated two position mechanical mover  
[NASA-CASE-NPO-13105-1] c 37 N74-21060
- Dual output variable pitch turbofan actuation system  
[NASA-CASE-LEW-12419-1] c 07 N77-14025
- Actuator device for artificial leg  
[NASA-CASE-MFS-23225-1] c 52 N77-14735
- Cyclical bi-directional rotary actuator  
[NASA-CASE-GSC-11883-1] c 37 N77-19458

Actuator mechanism  
[NASA-CASE-GSC-11883-2] c 37 N78-31426

Pressure limiting propellant actuating system  
[NASA-CASE-MSC-18179-1] c 20 N80-18097

Phase-angle controller for Stirling engines  
[NASA-CASE-NPO-14388-1] c 37 N81-17432

Electrical servo actuator bracket --- fuel control valves on jet engines  
[NASA-CASE-FRC-11044-1] c 37 N81-33483

Hydraulic actuator mechanism to control aircraft spoiler movements through dual input commands  
[NASA-CASE-LAR-12412-1] c 08 N82-24205

Tubing and cable cutting tool  
[NASA-CASE-LAR-12786-1] c 37 N84-28085

Slow opening valve --- valve design for shuttle portable oxygen system  
[NASA-CASE-MSC-20112-1] c 37 N85-20338

Solar powered actuator with continuously variable auxiliary power control  
[NASA-CASE-MFS-25637-1] c 44 N85-21769

Memory metal actuator  
[NASA-CASE-NPO-15960-1] c 37 N86-19604

Thumb-actuated two-axis controller  
[NASA-CASE-ARC-11372-1] c 08 N86-27288

Rotary stepping device with memory metal actuator  
[NASA-CASE-NPO-15482-1] c 37 N87-23970

Fully redundant mechanical release actuator  
[NASA-CASE-LAR-13198-1] c 37 N87-23983

Linear force device  
[NASA-CASE-MSC-20549-2] c 35 N88-24927

Toggle release  
[NASA-CASE-MSC-21354-1] c 37 N88-24969

Thermocouple for heating and cooling of memory metal actuators  
[NASA-CASE-NPO-17068-1-CU] c 35 N88-29151

Control surface actuator  
[NASA-CASE-LAR-12852-1] c 05 N89-11738

Antenna surface contour control system  
[NASA-CASE-LAR-13798-1] c 32 N89-25363

**ADAPTATION**  
Method and apparatus for telemetry adaptive bandwidth compression  
[NASA-CASE-MSC-20821-1] c 17 N87-25348

**ADAPTERS**  
Image magnification adapter for cameras Patent  
[NASA-CASE-XMF-03844-1] c 14 N71-26474

Self indexing latch system  
[NASA-CASE-MFS-25956-1] c 37 N87-21333

**ADAPTIVE CONTROL**  
Self-testing and repairing computer Patent  
[NASA-CASE-NPO-10567] c 08 N71-24633

Synchronous dc direct drive system Patent  
[NASA-CASE-GSC-10065-1] c 10 N71-27136

Ergometer  
[NASA-CASE-MFS-21109-1] c 05 N73-27941

Adaptive voting computer system  
[NASA-CASE-MSC-13932-1] c 62 N74-14920

Adaptive polarization separation  
[NASA-CASE-LAR-12196-1] c 33 N81-26358

Apparatus for damping operator induced oscillations of a controlled system --- flight control  
[NASA-CASE-FRC-11041-1] c 33 N82-18493

Adaptive reference voltage generator for firing angle control of line-commutated inverters  
[NASA-CASE-MFS-25215-1] c 33 N83-31953

Adaptive control system for line-commutated inverters  
[NASA-CASE-MFS-25209-1] c 33 N83-35227

**ADAPTIVE FILTERS**  
Adaptive tracking notch filter system Patent  
[NASA-CASE-XMF-01892] c 10 N71-22986

Apparatus for damping operator induced oscillations of a controlled system --- flight control  
[NASA-CASE-FRC-11041-1] c 33 N82-18493

**ADAPTIVE OPTICS**  
Fluorescent radiation converter  
[NASA-CASE-GSC-12528-1] c 74 N81-24900

**ADDING CIRCUITS**  
Full binary adder Patent  
[NASA-CASE-XGS-00689] c 08 N70-34787

Automatic fault correction system for parallel signal channels Patent  
[NASA-CASE-XNP-03263] c 09 N71-18843

**ADDITION RESINS**  
Tackifier for addition polyimides containing monoethylphthalate  
[NASA-CASE-LAR-12642-1] c 27 N81-29229

**ADDITIVES**  
Ammonium perchlorate composite propellant containing an organic transitional metal chelate catalytic additive Patent  
[NASA-CASE-LAR-10173-1] c 27 N71-14090

Sewage sludge additive  
[NASA-CASE-NPO-13877-1] c 45 N82-11634

Toughening reinforced epoxy composites with brominated polymeric additives  
[NASA-CASE-ARC-11427-2] c 27 N86-27451

Improved properties of SiGe/GaP alloys  
[NASA-CASE-NPO-17259-1-CU] c 76 N88-25358

**ADDRESSING**  
Automatic multi-banking of memory for microprocessors  
[NASA-CASE-NPO-15295-1] c 60 N85-21992

**ADENOSINE TRIPHOSPHATE**  
Use of the enzyme hexokinase for the reduction of inherent light levels  
[NASA-CASE-XGS-05533] c 04 N69-27487

Light detection instrument Patent  
[NASA-CASE-XGS-05534] c 23 N71-16355

Lyophilized reaction mixtures Patent  
[NASA-CASE-XGS-05532] c 06 N71-17705

Automatic instrument for chemical processing to detect microorganism in biological samples by measuring light reactions  
[NASA-CASE-GSC-11169-2] c 05 N73-32011

Application of luciferase assay for ATP to antimicrobial drug susceptibility  
[NASA-CASE-GSC-12039-1] c 51 N77-22794

Rapid, quantitative determination of bacteria in water --- adenosine triphosphate  
[NASA-CASE-GSC-12158-1] c 51 N83-27569

**ADHESION**  
Stud-bonding gun  
[NASA-CASE-MFS-20299] c 15 N72-11392

Improved refractory coatings --- sputtered coatings on substrates that form stable nitrides  
[NASA-CASE-LEW-23169-2] c 26 N81-16209

Refractory coatings  
[NASA-CASE-LEW-13169-2] c 26 N82-30371

**ADHESION TESTS**  
Apparatus for the determination of the existence or non-existence of a bonding between two members Patent  
[NASA-CASE-MFS-13686] c 15 N71-18132

**ADHESIVE BONDING**  
Solar cell mounting Patent  
[NASA-CASE-XNP-00826] c 03 N71-20895

Honeycomb panel and method of making same Patent  
[NASA-CASE-XMF-01402] c 18 N71-21651

Etching of aluminum for bonding Patent  
[NASA-CASE-XMF-02303] c 17 N71-23828

Method and apparatus for attaching physiological monitoring electrodes Patent  
[NASA-CASE-XFR-07658-1] c 05 N71-26293

Bonding of sapphire to sapphire by eutectic mixture of aluminum oxide and zirconium oxide  
[NASA-CASE-GSC-11577-1] c 37 N75-15992

Weld-bonded titanium structures  
[NASA-CASE-LAR-11549-1] c 37 N77-11397

Method of adhering bone to a rigid substrate using a graphite fiber reinforced bone cement  
[NASA-CASE-NPO-13764-1] c 27 N78-17215

Thermal barrier coating system  
[NASA-CASE-LEW-12554-1] c 34 N78-18355

Thermal insulation attaching means --- adhesive bonding of felt vibration insulators under ceramic tiles  
[NASA-CASE-MSC-12619-2] c 27 N79-12221

Surface finishing  
[NASA-CASE-MSC-12631-3] c 27 N81-14077

Method of bonding plasticized elastomer to metal and articles produced thereby  
[NASA-CASE-MFS-25181-1] c 27 N82-24340

Thermal barrier coating system having improved adhesion  
[NASA-CASE-LEW-1335901] c 27 N83-31855

Impacting device for testing insulation  
[NASA-CASE-MFS-25862-2] c 37 N84-33807

Hot melt adhesive attachment pad  
[NASA-CASE-LAR-12894-1] c 27 N85-20125

High temperature polyimide film laminates and process for preparation thereof  
[NASA-CASE-LAR-13384-1] c 27 N86-20561

Method of attaching strain gauges to various materials  
[NASA-CASE-LAR-13797-1] c 35 N88-30108

**ADHESIVES**  
Polyimide adhesives  
[NASA-CASE-LAR-11397-1] c 27 N75-29263

Polyimide adhesives  
[NASA-CASE-LAR-12181-1] c 27 N78-17205

Crystalline polyimides --- reinforcing fibers for high temperature composites and adhesives as well as flame retardation  
[NASA-CASE-LAR-12099-1] c 27 N80-16158

Aluminum ion-containing polyimide adhesives  
[NASA-CASE-LAR-12640-1] c 27 N82-11206

Elastomer toughened polyimide adhesives  
[NASA-CASE-LAR-12775-1] c 27 N83-28240

Hot melt recharge system --- repairing damaged or missing tiles on space shuttle orbiter  
[NASA-CASE-LAR-12881-1] c 27 N84-14323

Elastomer toughened polyimide adhesives --- bonding metal and composite material structures for aircraft and spacecraft  
[NASA-CASE-LAR-12775-2] c 27 N85-21349

Processable polyimide adhesive and matrix composite resin  
[NASA-CASE-LAR-14101-1] c 27 N89-23692

**ADJUSTING**  
Instrument support with precise lateral adjustment Patent  
[NASA-CASE-XMF-00480] c 14 N70-39898

Fine adjustment mount  
[NASA-CASE-MFS-20249] c 15 N72-11386

Adjustable support  
[NASA-CASE-NPO-10721] c 15 N72-27484

Clock setter  
[NASA-CASE-LAR-11458-1] c 35 N76-16392

Adjustable mount for electro-optic transducers in an evacuated cryogenic system  
[NASA-CASE-LAR-13100-1] c 37 N87-23982

**AERIAL RUDDERS**  
Thrust augmented spin recovery device  
[NASA-CASE-LAR-11970-2] c 08 N81-19130

**AEROACOUSTICS**  
Acoustically swept rotor --- helicopter noise reduction  
[NASA-CASE-ARC-11106-1] c 05 N80-14107

**AERODYNAMIC BALANCE**  
Airplane automatic control force trimming device for asymmetric engine failures  
[NASA-CASE-LAR-13280-1] c 08 N87-20999

**AERODYNAMIC BRAKES**  
Annular supersonic decelerator or drogue Patent  
[NASA-CASE-XLE-00222] c 02 N70-37939

Lightweight, variable solidity knitted parachute fabric --- for aerodynamic decelerators  
[NASA-CASE-LAR-10776-1] c 02 N74-10034

**AERODYNAMIC CHARACTERISTICS**  
Variable sweep wing aircraft Patent  
[NASA-CASE-XLA-00221] c 02 N70-33266

Flight craft Patent  
[NASA-CASE-XAC-02058] c 02 N71-16087

Space shuttle vehicle and system  
[NASA-CASE-MSC-12433] c 31 N73-14854

Airfoil shape for flight at subsonic speeds --- design analysis and aerodynamic characteristics of the GAW-1 airfoil  
[NASA-CASE-LAR-10585-1] c 02 N76-22154

Curved centerline air intake for a gas turbine engine  
[NASA-CASE-LEW-13201-1] c 07 N81-14999

**AERODYNAMIC CONFIGURATIONS**  
Variable-span aircraft Patent  
[NASA-CASE-XLA-00166] c 02 N70-34178

Landing arrangement for aerial vehicle Patent  
[NASA-CASE-XLA-00806] c 02 N70-34858

Space capsule Patent  
[NASA-CASE-XLA-00149] c 31 N70-37938

Hypersonic reentry vehicle Patent  
[NASA-CASE-XMS-04142] c 31 N70-41631

Translating horizontal tail Patent  
[NASA-CASE-XLA-08801-1] c 02 N71-11043

Variable geometry manned orbital vehicle Patent  
[NASA-CASE-XLA-03691] c 31 N71-15674

Nacelle afterbody for jet engines Patent  
[NASA-CASE-XLA-10450] c 28 N71-21493

Variable geometry rotor system  
[NASA-CASE-LAR-10557] c 02 N72-11018

Ferry system  
[NASA-CASE-LAR-10574-1] c 11 N73-13257

Multistage aerospace craft --- perspective drawings of conceptual design  
[NASA-CASE-XMF-02263] c 05 N74-10907

Supersonic fan blading --- noise reduction in turbofan engines  
[NASA-CASE-LEW-11402-1] c 07 N74-28226

Free wing assembly for an aircraft  
[NASA-CASE-FRC-10092-1] c 05 N79-12061

Multi-body aircraft with an all-movable center fuselage actively controlling fuselage pressure drag  
[NASA-CASE-LAR-13511-1] c 05 N88-23765

Actuated forebody strakes  
[NASA-CASE-LAR-13983-1] c 05 N88-24628

**AERODYNAMIC DRAG**  
Skin friction measuring device for aircraft  
[NASA-CASE-FRC-11029-1] c 06 N81-17057

**AERODYNAMIC HEATING**  
Heat protection apparatus Patent  
[NASA-CASE-XLA-00892] c 33 N71-17897

Heat flux measuring system Patent  
[NASA-CASE-XFR-03802] c 33 N71-23085

Stand-off type ablative heat shield  
[NASA-CASE-MSC-12143-1] c 33 N72-17947

**AERODYNAMIC INTERFERENCE**  
Over-the-wing propeller  
[NASA-CASE-LAR-13134-2] c 07 N87-16828

Multi-body aircraft with an all-movable center fuselage actively controlling fuselage pressure drag  
[NASA-CASE-LAR-13511-1] c 05 N88-23765

**AERODYNAMIC LOADS**  
Propeller blade loading control Patent  
[NASA-CASE-XAC-00139] c 02 N70-34856  
Means for controlling aerodynamically induced twist  
[NASA-CASE-LAR-12175-1] c 05 N82-28279  
Over-the-wing propeller  
[NASA-CASE-LAR-13134-2] c 07 N87-16828

**AERODYNAMIC NOISE**  
Apparatus for reducing aerodynamic noise in a wind tunnel  
[NASA-CASE-MFS-23099-1] c 09 N76-23273  
Acoustically swept rotor --- helicopter noise reduction  
[NASA-CASE-ARC-11106-1] c 05 N80-14107  
Curved centerline air intake for a gas turbine engine  
[NASA-CASE-LEW-13201-1] c 07 N81-14999

**AERODYNAMIC STABILITY**  
Meteorological balloon Patent  
[NASA-CASE-XMF-04163] c 02 N71-23007  
Instrument for measuring the dynamic behavior of liquids Patent  
[NASA-CASE-XLA-05541] c 12 N71-26387  
Emergency earth orbital escape device  
[NASA-CASE-MSC-13281] c 31 N72-18859  
High lift aircraft --- with improved stability, control, performance, and noise characteristics  
[NASA-CASE-LAR-11252-1] c 05 N75-25914  
Hingeless helicopter rotor with improved stability  
[NASA-CASE-ARC-10807-1] c 05 N77-17029  
Annular wing  
[NASA-CASE-FRC-11007-2] c 05 N82-26277  
Aeroelastic instability stoppers for wind tunnel models  
[NASA-CASE-LAR-12720-1] c 44 N83-21504  
Over-the-wing propeller  
[NASA-CASE-LAR-13134-2] c 07 N87-16828  
Actuated forebody strakes  
[NASA-CASE-LAR-13983-1] c 05 N88-24628

**AERODYNAMIC STALLING**  
Aerodynamic side-force alleviator means  
[NASA-CASE-LAR-12326-1] c 02 N81-14968

**AEROELASTICITY**  
Aeroelastic instability stoppers for wind tunnel models  
[NASA-CASE-LAR-12458-1] c 44 N83-21503  
Aeroelastic instability stoppers for wind tunnel models  
[NASA-CASE-LAR-12720-1] c 44 N83-21504

**AERONAUTICAL ENGINEERING**  
Differential pressure cell Patent  
[NASA-CASE-XAC-00042] c 14 N70-34816

**AEROSOLS**  
Liquid aerosol dispenser  
[NASA-CASE-MFS-20829] c 12 N72-21310  
Particulate and aerosol detector  
[NASA-CASE-LAR-11434-1] c 35 N76-22509  
Thermoluminescent aerosol analysis  
[NASA-CASE-LAR-12046-1] c 25 N78-15210  
Particle analyzing method and apparatus  
[NASA-CASE-NPO-15292-1] c 35 N83-27184  
Liquid seeding atomizer  
[NASA-CASE-ARC-11631-1] c 34 N87-21255

**AEROSPACE ENGINEERING**  
Solar cell including second surface mirrors Patent  
[NASA-CASE-NPO-10109] c 03 N71-11049  
Metallic film diffusion for boundary lubrication Patent  
[NASA-CASE-XLE-10337] c 15 N71-24046  
Soldering device Patent  
[NASA-CASE-XLA-08911] c 15 N71-27214  
Installing fiber insulation  
[NASA-CASE-MSC-16973-1] c 37 N81-14317

**AEROSPACE ENVIRONMENTS**  
Electrostatic thruster with improved insulators Patent  
[NASA-CASE-XLE-01902] c 28 N71-10574  
Metallic film diffusion for boundary lubrication Patent  
[NASA-CASE-XLE-01765] c 18 N71-10772  
Inorganic solid film lubricants Patent  
[NASA-CASE-XMF-03988] c 15 N71-21403  
Particle detection apparatus including a ballistic pendulum Patent  
[NASA-CASE-XMS-04201] c 14 N71-22990  
Alloys for bearings Patent  
[NASA-CASE-XLE-05033] c 15 N71-23810  
Method and apparatus for varying thermal conductivity Patent  
[NASA-CASE-XNP-05524] c 33 N71-24876  
Space simulator Patent  
[NASA-CASE-NPO-10141] c 11 N71-24964  
Cyclic switch Patent  
[NASA-CASE-LEW-10155-1] c 09 N71-29035  
Automatic biowaste sampling  
[NASA-CASE-MSC-14640-1] c 54 N76-14804  
Wabble gear drive mechanism --- for aerospace environments  
[NASA-CASE-WOO-00625] c 37 N78-17385

Plasma cleaning device --- designed for high vacuum environments  
[NASA-CASE-MFS-22906-1] c 75 N78-27913  
Process for spinning flame retardant elastomeric compositions --- fabricating synthetic fibers for high oxygen environments  
[NASA-CASE-MSC-14331-3] c 27 N78-32262  
General purpose rocket furnace  
[NASA-CASE-MFS-23460-1] c 12 N79-26075  
Spray applicator for spraying coatings and other fluids in space  
[NASA-CASE-MSC-18852-1] c 37 N85-29283  
Space ultra-vacuum facility and method of operation  
[NASA-CASE-MFS-28139-1] c 29 N87-18679  
Method of making a flexible diaphragm  
[NASA-CASE-MSC-20797-1] c 37 N87-23981  
Space spider crane  
[NASA-CASE-LAR-13411-1-SB] c 18 N88-23828  
Gas particle radiator  
[NASA-CASE-LEW-12497-1] c 35 N89-12048  
Tank gauging apparatus and method  
[NASA-CASE-MSC-21059-1] c 35 N89-12843

**AEROSPACE MEDICINE**  
Instrument for use in performing a controlled Valsalva maneuver Patent  
[NASA-CASE-XMS-01615] c 05 N70-41329  
Cooling system for removing metabolic heat from an hermetically sealed spacesuit  
[NASA-CASE-ARC-11059-1] c 54 N78-32721

**AEROSPACE PLANES**  
Multistage aerospace craft --- perspective drawings of conceptual design  
[NASA-CASE-XMF-02263] c 05 N74-10907

**AEROSPACE VEHICLES**  
Landing arrangement for aerial vehicles Patent  
[NASA-CASE-XLA-00142] c 02 N70-33286  
Landing pad assembly for aerospace vehicles Patent  
[NASA-CASE-XMF-02853] c 31 N70-36654  
Landing arrangement for aerospace vehicle Patent  
[NASA-CASE-XLA-00805] c 31 N70-38010  
Flexibly connected support and skin Patent  
[NASA-CASE-XLA-01027] c 31 N71-24035  
Nondestructive spot test method for titanium and titanium alloys  
[NASA-CASE-LAR-10539-1] c 17 N73-12547  
Aerospace vehicle  
[NASA-CASE-LAR-13155-1] c 05 N86-19310

**AFTERBODIES**  
Nacelle afterbody for jet engines Patent  
[NASA-CASE-XLA-10450] c 28 N71-21493  
Missile rolling tail brake torque system --- simulating bearing friction on canard controlled missiles  
[NASA-CASE-LAR-12751-1] c 15 N84-16231

**AFTERBURNING**  
Nozzle Patent  
[NASA-CASE-XLA-00154] c 28 N70-33374

**AGGLOMERATION**  
Acoustic agglomeration methods and apparatus  
[NASA-CASE-NPO-15466-1] c 71 N85-22104

**AGING (MATERIALS)**  
Method of heat treating age-hardenable alloys  
[NASA-CASE-XNP-01311] c 26 N75-29236

**AGRICULTURE**  
Solar-powered pump  
[NASA-CASE-NPO-13567-1] c 44 N76-29701

**AILERONS**  
Control device Patent  
[NASA-CASE-XAC-10019] c 15 N71-23809

**AIR**  
Gas purged dry box glove Patent  
[NASA-CASE-XLE-02531] c 05 N71-23080  
Superconductive magnetic-field-trapping device  
[NASA-CASE-XNP-01185] c 26 N73-28710  
Solid sorbent air sampler  
[NASA-CASE-MSC-20653-1] c 35 N86-26595

**AIR BREATHING DEVICES**  
Multiple pure tone elimination strut assembly --- air breathing engines  
[NASA-CASE-FRC-11062-1] c 71 N82-16800

**AIR CONDITIONING**  
Apparatus for supplying conditioned air at a substantially constant temperature and humidity  
[NASA-CASE-GSC-12191-1] c 31 N80-32583  
Automotive absorption air conditioner utilizing solar and motor waste heat  
[NASA-CASE-NPO-15183-1] c 44 N82-26776  
Air modulation apparatus  
[NASA-CASE-LEW-13524-1] c 07 N84-33410

**AIR CONDITIONING EQUIPMENT**  
Portable superclean air column device Patent  
[NASA-CASE-XMF-03212] c 15 N71-22721  
Air conditioning system and component therefore distributing air flow from opposite directions  
[NASA-CASE-GSC-11445-1] c 31 N74-27902

**AIR COOLING**

Modification and improvements to cooled blades Patent  
[NASA-CASE-XLE-00092] c 15 N70-33264  
Acoustic convective system  
[NASA-CASE-NPO-17278-1-CU] c 31 N88-24818

**AIR FILTERS**  
Gas filter mounting structure  
[NASA-CASE-MSC-12297] c 14 N72-23457

**AIR FLOW**  
Wind tunnel airstream oscillating apparatus Patent  
[NASA-CASE-XLA-00112] c 11 N70-33287  
Method of obtaining permanent record of surface flow phenomena Patent  
[NASA-CASE-XLA-01353] c 14 N70-41366  
Gas turbine combustor Patent  
[NASA-CASE-LEW-10286-1] c 28 N71-28915  
Apparatus and method for generating large mass flow of high temperature air at hypersonic speeds  
[NASA-CASE-LAR-10612-1] c 12 N73-28144  
Air conditioning system and component therefore distributing air flow from opposite directions  
[NASA-CASE-GSC-11445-1] c 31 N74-27902  
Controlled separation combustor --- airflow distribution in gas turbine engines  
[NASA-CASE-LEW-11593-1] c 20 N76-14190  
Method and apparatus for fluffing, separating, and cleaning fibers  
[NASA-CASE-LAR-11224-1] c 37 N76-18456  
Smoke generator  
[NASA-CASE-ARC-10905-1] c 37 N77-13418  
Variable cycle gas turbine engines  
[NASA-CASE-LEW-12916-1] c 37 N78-17384  
Gas turbine engine with recirculating bleed  
[NASA-CASE-LEW-12452-1] c 07 N78-25089  
Active clearance control system for a turbomachine  
[NASA-CASE-LEW-12938-1] c 07 N82-32366  
Vapor fragrances  
[NASA-CASE-LAR-13680-1] c 35 N87-25561  
Acoustic convective system  
[NASA-CASE-NPO-17278-1-CU] c 31 N88-24818  
Passive venting technique for shallow cavities  
[NASA-CASE-LAR-14031-1] c 05 N89-14232

**AIR INTAKES**  
Aeroflexible structures  
[NASA-CASE-XLA-06095] c 01 N69-39981  
Reversed cowl flap inlet thrust augmentor --- with adjustable airfoil  
[NASA-CASE-ARC-10754-1] c 07 N75-24736  
Self stabilizing sonic inlet  
[NASA-CASE-LEW-11890-1] c 05 N79-24976  
Curved centerline air intake for a gas turbine engine  
[NASA-CASE-LEW-13201-1] c 07 N81-14999  
Control means for a gas turbine engine  
[NASA-CASE-LEW-14586-1] c 07 N83-31603

**AIR LOCKS**  
Spacecraft airlock Patent  
[NASA-CASE-XLA-02050] c 31 N71-22968  
Thruster maintenance system Patent  
[NASA-CASE-MFS-20325] c 28 N71-27095  
An airlock  
[NASA-CASE-MFS-20922] c 31 N72-20840  
Airlock  
[NASA-CASE-MFS-20922-1] c 18 N74-22136  
Apparatus for inserting and removing specimens from high temperature vacuum furnaces  
[NASA-CASE-LAR-10841-1] c 31 N74-27900

**AIR NAVIGATION**  
Autonomous navigation system --- gyroscopic pendulum for air navigation  
[NASA-CASE-ARC-11257-1] c 04 N81-21047  
Magnetic heading reference  
[NASA-CASE-LAR-12638-1] c 04 N84-14132

**AIR POLLUTION**  
Analytical photoionization mass spectrometer with an argon gas filter between the light source and monochromator Patent  
[NASA-CASE-LAR-10180-1] c 06 N71-13461  
Separation nut Patent  
[NASA-CASE-XGS-01971] c 15 N71-15922  
Monitoring atmospheric pollutants with a heterodyne radiometer transmitter-receiver  
[NASA-CASE-NPO-11919-1] c 35 N74-11284  
Fluorescence detector for monitoring atmospheric pollutants  
[NASA-CASE-NPO-13231-1] c 45 N75-27585  
Stack plume visualization system  
[NASA-CASE-LAR-11675-1] c 45 N76-17656  
Indicator providing continuous indication of the presence of a specific pollutant in air  
[NASA-CASE-NPO-13474-1] c 45 N76-21742  
Method for detecting pollutants --- through chemical reactions and heat treatment  
[NASA-CASE-LAR-11405-1] c 45 N76-31714  
Combustion engine --- for air pollution control  
[NASA-CASE-NPO-13671-1] c 37 N77-31497



Coal desulfurization process  
[NASA-CASE-NPO-13937-1] c 44 N78-31527

A combined air and water pollution control system  
[NASA-CASE-NST-00007-1] c 45 N89-28967

**AIR PURIFICATION**  
High pressure gas filter system Patent  
[NASA-CASE-MFS-12806] c 14 N71-17588

Portable superclean air column device Patent  
[NASA-CASE-XMF-03212] c 15 N71-22721

Cell and method for electrolysis of water and anode  
[NASA-CASE-MSC-16394-1] c 28 N81-24280

**AIR QUALITY**  
Vapor fragrancier  
[NASA-CASE-LAR-13680-1] c 35 N87-25561

**AIR SAMPLING**  
Aerodynamic measuring device Patent  
[NASA-CASE-XLA-00481] c 14 N70-36824

Sampler of gas borne particles  
[NASA-CASE-NPO-13396-1] c 35 N76-18401

Automated syringe sampler --- remote sampling of air and water  
[NASA-CASE-LAR-12308-1] c 35 N81-29407

Mobile sampler for use in acquiring samples of terrestrial atmospheric gases  
[NASA-CASE-NPO-15220-1] c 45 N83-25217

**AIR START**  
Portable device for use in starting air-start-units for aircraft and having cable lead testing capability  
[NASA-CASE-FRC-10113-1] c 33 N80-26599

**AIR TRAFFIC CONTROL**  
Traffic control system and method Patent  
[NASA-CASE-GSC-10087-1] c 02 N71-19287

Satellite aided vehicle avoidance system Patent  
[NASA-CASE-ERC-10090] c 21 N71-24948

Position location system and method  
[NASA-CASE-GSC-10087-3] c 07 N72-12080

Video processor for air traffic control beacon system  
[NASA-CASE-KSC-11155-1] c 04 N86-19304

**AIR TRANSPORTATION**  
Segmented tubular cushion springs and spring assembly  
[NASA-CASE-ARC-11349-1] c 37 N86-20797

**AIRBORNE EQUIPMENT**  
Inflatable radar reflector unit Patent  
[NASA-CASE-XMS-00893] c 07 N70-40063

Airborne tracking sunphotometer apparatus and system  
[NASA-CASE-ARC-11622-1] c 44 N88-14492

**AIRBORNE/SPACEBORNE COMPUTERS**  
Ripple add and ripple subtract binary counters Patent  
[NASA-CASE-XGS-04766] c 08 N71-18602

Shared memory for a fault-tolerant computer  
[NASA-CASE-NPO-13139-1] c 60 N76-21914

**AIRCRAFT**  
System for indicating direction of intruder aircraft  
[NASA-CASE-ERC-10226-1] c 14 N73-16483

Thin conformal antenna array for microwave power conversions  
[NASA-CASE-NPO-13886-1] c 32 N78-24391

System for indicating fuel-efficient aircraft altitude  
[NASA-CASE-NPO-15351-2] c 06 N84-34443

**AIRCRAFT ACCIDENTS**  
Satellite aided vehicle avoidance system Patent  
[NASA-CASE-ERC-10090] c 21 N71-24948

**AIRCRAFT ANTENNAS**  
Spiral slotted phased antenna array  
[NASA-CASE-MSC-18532-1] c 32 N82-27558

**AIRCRAFT COMPARTMENTS**  
Low density bismaleimide-carbon microballoon composites --- aircraft and submarine compartment safety  
[NASA-CASE-ARC-11040-2] c 24 N78-27184

**AIRCRAFT CONFIGURATIONS**  
Variable sweep wing configuration Patent  
[NASA-CASE-XLA-00230] c 02 N70-33255

Television simulation for aircraft and space flight Patent  
[NASA-CASE-XFR-03107] c 09 N71-19449

Dual-fuselage aircraft having yawable wing and horizontal stabilizer  
[NASA-CASE-ARC-10470-1] c 02 N73-26005

Family of airfoil shapes for rotating blades --- for increased power efficiency and blade stability  
[NASA-CASE-LAR-12843-1] c 02 N84-11136

Actuated forebody strakes  
[NASA-CASE-LAR-13983-1] c 05 N88-24628

**AIRCRAFT CONSTRUCTION MATERIALS**  
Fuselage structure using advanced technology fiber reinforced composites  
[NASA-CASE-LAR-11688-1] c 24 N82-26384

Curved cap corrugated sheet  
[NASA-CASE-LAR-12884-1] c 18 N84-33450

Aluminum alloy  
[NASA-CASE-LAR-13924-1-CU] c 26 N89-28621

**AIRCRAFT CONTROL**

Control for flexible parawing Patent  
[NASA-CASE-XLA-06958] c 02 N71-11038

Attitude controls for VTOL aircraft Patent  
[NASA-CASE-XAC-08972] c 02 N71-20570

Control device Patent  
[NASA-CASE-XAC-10019] c 15 N71-23809

Direct lift control system Patent  
[NASA-CASE-LAR-10249-1] c 02 N71-26110

High speed flight vehicle control Patent  
[NASA-CASE-XLA-08967] c 02 N71-27088

Mechanically limited, electrically operated hydraulic valve system for aircraft controls Patent  
[NASA-CASE-XAC-00048] c 02 N71-29128

Flight control system  
[NASA-CASE-MSC-13397-1] c 21 N72-25595

Aircraft control system  
[NASA-CASE-ERC-10439] c 02 N73-19004

Display system  
[NASA-CASE-ERC-10350] c 14 N73-20474

Suppression of flutter  
[NASA-CASE-LAR-10682-1] c 02 N73-26004

Integrated lift/drag controller for aircraft  
[NASA-CASE-ARC-10456-1] c 05 N75-12930

High lift aircraft --- with improved stability, control, performance, and noise characteristics  
[NASA-CASE-LAR-11252-1] c 05 N75-25914

Filtering technique based on high-frequency plant modeling for high-gain control  
[NASA-CASE-LAR-12215-1] c 08 N79-23097

Velocity vector control system augmented with direct lift control  
[NASA-CASE-LAR-12268-1] c 08 N81-24106

Pitch attitude stabilization system utilizing engine pressure ratio feedback signals  
[NASA-CASE-LAR-12562-1] c 08 N81-26152

Leading edge flap system for aircraft control augmentation  
[NASA-CASE-LAR-12787-2] c 08 N85-19985

Airplane automatic control force trimming device for asymmetric engine failures  
[NASA-CASE-LAR-13280-1] c 08 N87-20999

Aircraft control position indicator  
[NASA-CASE-LAR-12984-1] c 06 N87-22678

Actuated forebody strakes  
[NASA-CASE-LAR-13983-1] c 05 N88-24628

High performance forward swept wing aircraft  
[NASA-CASE-ARC-11636-1] c 05 N88-28914

**AIRCRAFT DESIGN**

Supersonic aircraft Patent  
[NASA-CASE-XLA-04451] c 02 N71-12243

Dual-fuselage aircraft having yawable wing and horizontal stabilizer  
[NASA-CASE-ARC-10470-1] c 02 N73-26005

Multi-stage aerospace craft --- perspective drawings of conceptual design  
[NASA-CASE-XMF-02263] c 05 N74-10907

High lift aircraft --- with improved stability, control, performance, and noise characteristics  
[NASA-CASE-LAR-11252-1] c 05 N75-25914

Oblique-wing supersonic aircraft  
[NASA-CASE-ARC-10470-3] c 05 N76-29217

Supersonic transport --- using canard surfaces  
[NASA-CASE-LAR-11932-1] c 05 N78-32086

Shapes for rotating airfoils  
[NASA-CASE-LAR-12396-1] c 02 N84-28732

Geometries for roughness shapes in laminar flow  
[NASA-CASE-LAR-13255-1] c 02 N87-16793

Multi-body aircraft with an all-movable center fuselage actively controlling fuselage pressure drag  
[NASA-CASE-LAR-13511-1] c 05 N88-23765

Compression pylon  
[NASA-CASE-LAR-13777-1] c 05 N88-29789

**AIRCRAFT DETECTION**

Altitude measuring system  
[NASA-CASE-ERC-10412-1] c 09 N73-12211

Apparatus for measuring an aircraft's speed and height  
[NASA-CASE-LAR-12275-1] c 35 N79-18296

**AIRCRAFT ENGINES**

Noise suppressor --- for turbofan engine by incorporating annular acoustically porous elements in exhaust and inlet ducts  
[NASA-CASE-LAR-11141-1] c 07 N74-32418

Dual cycle aircraft turbine engine  
[NASA-CASE-LAR-11310-1] c 07 N77-28118

Portable device for use in starting air-start-units for aircraft and having cable lead testing capability  
[NASA-CASE-FRC-10113-1] c 33 N80-26599

Aircraft engine nozzle  
[NASA-CASE-ARC-10977-1] c 07 N80-32392

Diesel engine catalytic combustor system --- aircraft engines  
[NASA-CASE-LEW-12995-1] c 37 N84-33808

Elevated temperature aluminum alloys  
[NASA-CASE-LAR-13632-1] c 26 N87-29650

**AIRCRAFT EQUIPMENT**

Clear air turbulence detector  
[NASA-CASE-ERC-10081] c 14 N72-28437

Air speed and attitude probe  
[NASA-CASE-FRC-11009-1] c 06 N80-18036

Cooling system for high speed aircraft  
[NASA-CASE-LAR-12406-1] c 05 N81-26114

System for providing an integrated display of instantaneous information relative to aircraft attitude, heading, altitude, and horizontal situation  
[NASA-CASE-FRC-11005-1] c 06 N82-16075

Piezoelectric deicing device  
[NASA-CASE-LEW-13773-2] c 33 N86-20671

Fire resistant polyamide based on 1-(diorganooxyphosphonyl)methyl-2,4- and -2,6diamino benzene  
[NASA-CASE-ARC-11512-2] c 27 N86-32568

Lightning discharge protection rod  
[NASA-CASE-LAR-13470-1] c 03 N88-14083

Control surface actuator  
[NASA-CASE-LAR-12852-1] c 05 N89-11738

**AIRCRAFT FUEL SYSTEMS**  
Oil cooling system for a gas turbine engine  
[NASA-CASE-LEW-12321-1] c 37 N78-10467

**AIRCRAFT GUIDANCE**  
Terminal guidance system --- for guiding aircraft into preselected altitude and/or heading at terminal point  
[NASA-CASE-FRC-10049-1] c 04 N74-13420

Sun sensing guidance system for high altitude aircraft  
[NASA-CASE-FRC-11052-1] c 04 N82-3231

**AIRCRAFT HAZARDS**

Inlet deflector for jet engines Patent  
[NASA-CASE-XLE-00388] c 28 N70-34788

**AIRCRAFT HYDRAULIC SYSTEMS**

Gas turbine engine fuel control  
[NASA-CASE-LEW-11187-1] c 28 N73-19793

Hydraulic actuator mechanism to control aircraft spoiler movements through dual input commands  
[NASA-CASE-LAR-12412-1] c 08 N82-24205

Control surface actuator  
[NASA-CASE-LAR-12852-1] c 05 N89-11738

**AIRCRAFT INSTRUMENTS**

Airplane take-off performance indicator Patent  
[NASA-CASE-XLA-00100] c 14 N70-36807

Aerodynamic measuring device Patent  
[NASA-CASE-XLA-00481] c 14 N70-36824

Aircraft instrument Patent  
[NASA-CASE-XLA-00487] c 14 N70-40157

Optical projector system Patent  
[NASA-CASE-XNP-03853] c 23 N71-21882

Combined optical attitude and altitude indicating instrument Patent  
[NASA-CASE-XLA-01907] c 14 N71-23268

Head-up attitude display  
[NASA-CASE-ERC-10392] c 21 N73-14692

G-load measuring and indicator apparatus  
[NASA-CASE-ARC-10806-1] c 35 N75-29381

Magnetic heading reference  
[NASA-CASE-LAR-11387-1] c 04 N76-20114

Aircraft-mounted crash-activated transmitter device  
[NASA-CASE-MFS-16609-3] c 03 N76-32140

Heads up display  
[NASA-CASE-LAR-12630-1] c 06 N84-27733

System for indicating fuel-efficient aircraft altitude  
[NASA-CASE-NPO-15351-2] c 06 N84-34443

**AIRCRAFT LANDING**

Landing arrangement for aerial vehicle Patent  
[NASA-CASE-XLA-00806] c 02 N70-34858

Magnetic position detection method and apparatus  
[NASA-CASE-ARC-10179-1] c 21 N72-22619

Integrated lift/drag controller for aircraft  
[NASA-CASE-ARC-10456-1] c 05 N75-12930

Vehicle simulator binocular multiplanar visual display system  
[NASA-CASE-ARC-10808-1] c 09 N76-24280

Full color hybrid display for aircraft simulators --- landing aids  
[NASA-CASE-ARC-10903-1] c 09 N78-18083

Environmental fog/rain visual display system for aircraft simulators  
[NASA-CASE-ARC-11158-1] c 09 N82-24212

**AIRCRAFT LAUNCHING DEVICES**

Rotating launch device for a remotely piloted aircraft  
[NASA-CASE-ARC-10979-1] c 09 N77-19076

**AIRCRAFT MANEUVERS**

G-load measuring and indicator apparatus  
[NASA-CASE-ARC-10806-1] c 35 N75-29381

**AIRCRAFT MODELS**

Test unit free-flight suspension system Patent  
[NASA-CASE-XLA-00939] c 11 N71-15926

Variable geometry wind tunnels  
[NASA-CASE-XLA-07430] c 11 N72-22246

Deploy/release system --- model aircraft flight control  
[NASA-CASE-LAR-11575-1] c 02 N76-16014



## AIRCRAFT NOISE

- Instrumentation for measuring aircraft noise and sonic boom  
[NASA-CASE-LAR-11476-1] c 07 N76-27232  
Acoustic guide for noise-transmission testing of aircraft  
[NASA-CASE-LAR-13111-1-CU] c 71 N87-21652

## AIRCRAFT PERFORMANCE

- Ferry system  
[NASA-CASE-LAR-10574-1] c 11 N73-13257  
Airplane runway performance monitoring system  
[NASA-CASE-LAR-13854-1-CU] c 04 N88-24621  
High performance forward swept wing aircraft  
[NASA-CASE-ARC-11636-1] c 05 N88-28914  
Method and system for monitoring and displaying engine performance parameters  
[NASA-CASE-LAR-14049-1] c 07 N89-23466

## AIRCRAFT PILOTS

- Apparatus for applying simulator g-forces to an arm of an aircraft simulator pilot  
[NASA-CASE-LAR-10550-1] c 09 N74-30597

## AIRCRAFT SAFETY

- Airplane take-off performance indicator Patent  
[NASA-CASE-XLA-00100] c 14 N70-36807  
Display research collision warning system  
[NASA-CASE-HQN-10703] c 21 N73-13643  
Deployable flexible ventral fins for use as an emergency spin recovery device in aircraft  
[NASA-CASE-LAR-10753-1] c 08 N74-30421  
Fire blocking systems for aircraft seat cushions  
[NASA-CASE-ARC-11423-1] c 03 N84-33394  
Variable response load limiting device  
[NASA-CASE-LAR-12801-1] c 37 N88-23982

## AIRCRAFT SPIN

- Extended moment arm anti-spin device  
[NASA-CASE-LAR-12979-1] c 05 N85-21147  
Dual towline spin-recovery device  
[NASA-CASE-LAR-13076-1] c 08 N85-35200

## AIRCRAFT STABILITY

- Mechanical stability augmentation system Patent  
[NASA-CASE-XLA-06339] c 02 N71-13422  
Suppression of flutter  
[NASA-CASE-LAR-10682-1] c 02 N73-26004  
High performance forward swept wing aircraft  
[NASA-CASE-ARC-11636-1] c 05 N88-28914

## AIRCRAFT STRUCTURES

- Fatigue testing device Patent  
[NASA-CASE-XLA-02131] c 32 N70-42003  
Heat flux measuring system Patent  
[NASA-CASE-XFR-03802] c 33 N71-23085  
Three-axis adjustable loading structure  
[NASA-CASE-FRC-10051-1] c 35 N74-13129  
Transparent fire resistant polymeric structures  
[NASA-CASE-ARC-10813-1] c 27 N76-16230  
Wingtip vortex dissipator for aircraft  
[NASA-CASE-LAR-11645-1] c 02 N77-10001  
Aircraft canopy lock  
[NASA-CASE-FRC-11065-1] c 05 N83-19737  
Metal matrix composite structural panel construction  
[NASA-CASE-LAR-12807-1] c 24 N84-11214  
Elastomer toughened polyimide adhesives --- bonding metal and composite material structures for aircraft and spacecraft  
[NASA-CASE-LAR-12775-2] c 27 N85-21349  
Optimized bolted joint  
[NASA-CASE-LAR-13250-1] c 37 N86-27630  
Fire resistant polyamide based on 1-(diorganoxyphosphonyl)methyl-2,4- and -2,6-diamino benzene  
[NASA-CASE-ARC-11512-2] c 27 N86-32568  
The 1-((diorganoxy phosphonyl) methyl)-2,4- and -2,6-diamino benzenes and their derivatives  
[NASA-CASE-ARC-11425-2] c 23 N87-28605  
Elevated temperature aluminum alloys  
[NASA-CASE-LAR-13632-1] c 26 N87-29650

## AIRCRAFT TIRES

- Tire/wheel concept  
[NASA-CASE-LAR-11695-2] c 37 N81-24443

## AIRCRAFT WAKES

- System for use in conducting wake investigation for a wing in flight --- differential pressure measurements for drag investigations  
[NASA-CASE-FRC-11024-1] c 02 N80-28300

## AIRFOIL PROFILES

- Family of airfoil shapes for rotating blades --- for increased power efficiency and blade stability  
[NASA-CASE-LAR-12843-1] c 02 N84-11136

## AIRFOILS

- Minimum induced drag airfoil body Patent  
[NASA-CASE-XLA-00755] c 01 N71-13410  
Minimum induced drag airfoil body Patent  
[NASA-CASE-XLA-05828] c 01 N71-13411  
Wind tunnel  
[NASA-CASE-LAR-10135-1] c 09 N79-21083  
Surface finishing  
[NASA-CASE-MSC-12631-3] c 27 N81-14077

- Aircraft rotor blade with passive tuned tab  
[NASA-CASE-ARC-11444-1] c 05 N85-29947  
Airfoil flutter model suspension system  
[NASA-CASE-LAR-13522-1-SB] c 09 N87-25334  
Porous plug for reducing orifice induced pressure error in airfoils  
[NASA-CASE-LAR-13569-1] c 35 N89-12841  
High lift, low pitching moment airfoils  
[NASA-CASE-LAR-13215-1] c 02 N89-14224

## AIRFRAMES

- Dual-fuselage aircraft having yawable wing and horizontal stabilizer  
[NASA-CASE-ARC-10470-1] c 02 N73-26005  
Cooling system for high speed aircraft  
[NASA-CASE-LAR-12406-1] c 05 N81-26114  
Explosively activated egress area  
[NASA-CASE-LAR-12624-1] c 01 N83-35992

## AIRSPEED

- Landing arrangement for aerial vehicle Patent  
[NASA-CASE-XLA-00806] c 02 N70-34858  
Apparatus for measuring an aircraft's speed and height  
[NASA-CASE-LAR-12275-1] c 35 N79-18296  
Air speed and attitude probe  
[NASA-CASE-FRC-11009-1] c 06 N80-18036  
Miniature electrooptical air flow sensor  
[NASA-CASE-LAR-13065-1] c 35 N85-20295

## ALCOHOLS

- Trifunctional alcohol  
[NASA-CASE-NPO-10714] c 06 N69-31244  
Laser coolant and ultraviolet filter  
[NASA-CASE-MFS-20180] c 16 N72-12440  
Alkaline battery containing a separator of a cross-linked copolymer of vinyl alcohol and unsaturated carboxylic acid  
[NASA-CASE-LEW-13102-1] c 33 N85-29144

## ALDEHYDES

- Direct synthesis of polymeric schiff bases from two amines and two aldehydes Patent  
[NASA-CASE-XMF-08655] c 06 N71-11239  
Azine polymers and process for preparing the same Patent  
[NASA-CASE-XMF-08656] c 06 N71-11242  
Aromatic diamine-aromatic dialdehyde high molecular weight Schiff base polymers prepared in a monofunctional Schiff base Patent  
[NASA-CASE-XMF-03074] c 06 N71-24740  
Nuclear alkylated pyridine aldehyde polymers and conductive compositions thereof  
[NASA-CASE-NPO-10557] c 27 N78-17214  
Polyvinyl alcohol cross-linked with two aldehydes  
[NASA-CASE-LEW-13504-1] c 25 N83-13188

## ALGORITHMS

- Systolic VLSI array for implementing the Kalman filter algorithm  
[NASA-CASE-NPO-17108-1-CU] c 33 N89-28713

## ALIGNMENT

- Instrument support with precise lateral adjustment Patent  
[NASA-CASE-XMF-00480] c 14 N70-39898  
Portable alignment tool Patent  
[NASA-CASE-XMF-01452] c 15 N70-41371  
Optical alignment system Patent  
[NASA-CASE-XNP-02029] c 14 N70-41955  
Trigonometric vehicle guidance assembly which aligns the three perpendicular axes of two three-axes systems Patent  
[NASA-CASE-XMF-00684] c 21 N71-21688  
Aligning and positioning device Patent  
[NASA-CASE-XMS-04178] c 15 N71-22798  
Method and apparatus for aligning a laser beam projector Patent  
[NASA-CASE-NPO-11087] c 23 N71-29125  
Roll alignment detector  
[NASA-CASE-GSC-10514-1] c 14 N72-20379  
Zero gravity shadow shield aligner  
[NASA-CASE-KSC-10622-1] c 31 N72-21893  
Alignment apparatus using a laser having a gravitationally sensitive cavity reflector  
[NASA-CASE-ARC-10444-1] c 16 N73-33397  
Spacecraft docking and alignment system --- using television camera system  
[NASA-CASE-MSC-12559-1] c 18 N76-14186  
Method of constructing dish ion thruster grids to provide hole array spacing compensation  
[NASA-CASE-LEW-11876-1] c 20 N76-21276  
Optical alignment device  
[NASA-CASE-ARC-10932-1] c 74 N76-22993  
Precision alignment apparatus for cutting a workpiece  
[NASA-CASE-LAR-11658-1] c 37 N77-14478  
Guide for a typewriter  
[NASA-CASE-MFS-15218-1] c 37 N77-19457  
Rotary target V-block  
[NASA-CASE-LAR-12007-3] c 35 N84-16523  
Ingot slicing machine and method  
[NASA-CASE-NPO-15483-1] c 37 N85-21650

- X-ray determination of parts alignment  
[NASA-CASE-MSC-20418-1] c 74 N86-20126  
Simulator scene display evaluation device  
[NASA-CASE-ARC-11504-1] c 09 N86-32447  
Adjustable mount for electro-optic transducers in an evacuated cryogenic system  
[NASA-CASE-LAR-13100-1] c 37 N87-23982  
Alignment and assembly tool for very large diameter cylinders  
[NASA-CASE-MFS-28001-2] c 37 N88-14360  
Improved docking alignment system  
[NASA-CASE-MSC-21372-1] c 35 N89-12842  
Tensile film clamps and mounting block for the rheovibron and autovibron viscoelastometer  
[NASA-CASE-LAR-13696-1] c 37 N89-23880  
Space module assembly apparatus with docking alignment flexibility and restraint  
[NASA-CASE-MSC-21211-1] c 18 N89-28553

## ALKALI HALIDES

- Fire extinguishant materials  
[NASA-CASE-ARC-11252-1] c 25 N83-36118

## ALKALI METALS

- Alkali-metal silicate protective coating  
[NASA-CASE-XGS-04119] c 18 N69-39979  
Analytical test apparatus and method for determining oxide content of alkali metal Patent  
[NASA-CASE-XLE-01997] c 06 N71-23527  
Alkali metal silicate protective coating Patent  
[NASA-CASE-XGS-04799] c 18 N71-24183  
Heat activated cell with alkali anode and alkali salt electrolyte Patent  
[NASA-CASE-LEW-11358] c 03 N71-26084  
Preparation of alkali metal dispersions  
[NASA-CASE-XNP-08876] c 17 N73-28573  
Process for preparing higher oxides of the alkali and alkaline earth metals  
[NASA-CASE-ARC-10992-1] c 26 N78-32229  
Alkali-metal silicate binders and methods of manufacture  
[NASA-CASE-GSC-12303-1] c 24 N79-31347  
Heat pipes containing alkali metal working fluid  
[NASA-CASE-LEW-12253-1] c 74 N83-19596  
Fire extinguishant materials  
[NASA-CASE-ARC-11252-1] c 25 N83-36118

## ALKALINE BATTERIES

- Method for determining the state of charge of batteries by the use of tracers Patent  
[NASA-CASE-XNP-01464] c 03 N71-10728  
Electrochemical coulometer and method of forming same Patent  
[NASA-CASE-XGS-05434] c 03 N71-20491  
Electrocatalyst for oxygen reduction  
[NASA-CASE-HQN-10537-1] c 06 N72-10138  
Inorganic-organic separators for alkaline batteries  
[NASA-CASE-LEW-12649-1] c 44 N78-25530  
Polyvinyl alcohol battery separator containing inert filler --- alkaline batteries  
[NASA-CASE-LEW-13556-1] c 44 N81-27615  
Process of treating cellulosic membrane and alkaline with membrane separator  
[NASA-CASE-GSC-10019-1] c 44 N82-24641  
Separator for alkaline batteries and method of making same  
[NASA-CASE-GSC-10350-1] c 44 N82-24642  
Separator for alkaline electric cells and method of making  
[NASA-CASE-GSC-10017-1] c 44 N82-24643  
Separator for alkaline electric batteries and method of making  
[NASA-CASE-GSC-10018-1] c 44 N82-24644  
Aqueous alkali metal hydroxide insoluble cellulose ether membrane  
[NASA-CASE-XGS-05584-1] c 25 N82-29370  
Advanced inorganic separators for alkaline batteries  
[NASA-CASE-LEW-13171-1] c 44 N82-29708  
Advanced inorganic separators for alkaline batteries and method of making the same  
[NASA-CASE-LEW-13171-2] c 44 N83-32176  
Additive for zinc electrodes --- electric automobiles  
[NASA-CASE-LEW-13286-1] c 33 N84-14422  
Alkaline battery containing a separator of a cross-linked copolymer of vinyl alcohol and unsaturated carboxylic acid  
[NASA-CASE-LEW-13102-1] c 33 N85-29144

## ALKALINE EARTH OXIDES

- Process for preparing higher oxides of the alkali and alkaline earth metals  
[NASA-CASE-ARC-10992-1] c 26 N78-32229

## ALKYL COMPOUNDS

- Fluorohydroxy ethers  
[NASA-CASE-MFS-10507] c 06 N73-30101  
Process for preparing perfluorotriazine elastomers and precursors thereof  
[NASA-CASE-ARC-11402-1] c 27 N84-22744

## ALKYNES

- High performance channel injection sealant invention abstract  
[NASA-CASE-ARC-14408-1] c 27 N82-33523

## ALLOYS

- Brazing alloy Patent  
[NASA-CASE-XNP-03063] c 17 N71-23365  
Alloys for bearings Patent  
[NASA-CASE-XLE-05033] c 15 N71-23810  
Process for applying black coating to metals Patent  
[NASA-CASE-XLA-06199] c 15 N71-24875  
Adjustable mount for a trihedral mirror Patent  
[NASA-CASE-XNP-08907] c 23 N71-29123  
Enhanced diffusion welding  
[NASA-CASE-LEW-11388-1] c 15 N73-32358  
Brazing alloy binder  
[NASA-CASE-XMF-05868] c 26 N75-27125  
Brazing alloy  
[NASA-CASE-XNP-03878] c 26 N75-27127  
Castable hot corrosion resistant alloy  
[NASA-CASE-LEW-14134-2] c 26 N89-14303

## ALPHA PARTICLES

- Method and means for helium/hydrogen ratio measurement by alpha scattering  
[NASA-CASE-NPO-14079-1] c 25 N80-20334

## ALPHANUMERIC CHARACTERS

- X-Y alphanumeric character generator for oscilloscopes  
[NASA-CASE-GSC-11582-1] c 33 N75-19517

## ALTERNATING CURRENT

- Ac power amplifier Patent Application  
[NASA-CASE-LAR-10218-1] c 09 N70-34559  
Frequency control network for a current feedback oscillator Patent  
[NASA-CASE-GSC-10041-1] c 10 N71-19418  
Blood pressure measuring system for separating and separately recording dc signal and an ac signal Patent  
[NASA-CASE-XMS-06061] c 05 N71-23317  
Switching circuit Patent  
[NASA-CASE-XNP-06505] c 10 N71-24799  
Pulse width inverter Patent  
[NASA-CASE-MFS-10068] c 10 N71-25139  
Inverter with means for base current shaping for sweeping charge carriers from base region Patent  
[NASA-CASE-XGS-06226] c 10 N71-25950  
A dc to ac to dc converter having transistor synchronous rectifiers  
[NASA-CASE-GSC-11126-1] c 09 N72-25253  
Phase protection system for ac power lines  
[NASA-CASE-MSC-17832-1] c 33 N74-14956  
Solar cell system having alternating current output  
[NASA-CASE-LEW-12806-2] c 44 N81-12542  
Power factor control system for ac induction motors  
[NASA-CASE-MFS-23988-1] c 33 N81-27395  
Non-contacting power transfer device  
[NASA-CASE-GSC-12595-1] c 33 N82-24422  
Motor power control circuit for ac induction motors  
[NASA-CASE-MFS-25323-1] c 33 N84-22886  
Coupling an induction motor type generator to ac power lines --- making windmill generators compatible with public power lines  
[NASA-CASE-MFS-25302-2] c 33 N84-33660  
Three-phase power factor controller with induced EMF sensing  
[NASA-CASE-MFS-25852-1] c 33 N84-33661  
Power control for ac motor  
[NASA-CASE-MFS-25861-1] c 33 N85-22877  
Induction heating gun  
[NASA-CASE-LAR-13181-1] c 31 N85-29083

## ALTIMETERS

- Echo tracker/range finder for radars and sonars  
[NASA-CASE-NPO-14361-1] c 32 N82-23376

## ALTITUDE

- Combined optical attitude and altitude indicating instrument Patent  
[NASA-CASE-XLA-01907] c 14 N71-23268

## ALTITUDE CONTROL

- Check valve assembly for a probe Patent  
[NASA-CASE-XLA-00128] c 15 N70-37925

## ALUMINUM

- Method of joining aluminum to stainless steel Patent  
[NASA-CASE-MFS-07369] c 15 N71-20443  
Thermal control coating Patent  
[NASA-CASE-XLA-01995] c 18 N71-23047  
Etching of aluminum for bonding Patent  
[NASA-CASE-XMF-02303] c 17 N71-23828  
Process for producing dispersion strengthened nickel with aluminum Patent  
[NASA-CASE-XLE-06969] c 17 N71-24142  
Plating nickel on aluminum castings Patent  
[NASA-CASE-XNP-04148] c 17 N71-24830  
Method of plating copper on aluminum Patent  
[NASA-CASE-XLA-08966-1] c 17 N71-25903  
Heat activated cell Patent  
[NASA-CASE-LEW-11359] c 03 N71-28579

- Method of making emf cell  
[NASA-CASE-LEW-11359-2] c 03 N72-20034  
Method of preparing graphite reinforced aluminum composite  
[NASA-CASE-MFS-21077-1] c 24 N75-28135  
Method of fluxless brazing and diffusion bonding of aluminum containing components  
[NASA-CASE-MSC-14435-1] c 37 N76-18455  
Method for making an aluminum or copper substrate panel for selective absorption of solar energy  
[NASA-CASE-MFS-23518-1] c 44 N79-11469  
Recovery of aluminum from composite propellants  
[NASA-CASE-NPO-14110-1] c 28 N81-15119  
Variable anodic thermal control coating  
[NASA-CASE-LAR-12719-1] c 44 N83-34449  
Oxygen diffusion barrier coating  
[NASA-CASE-LAR-13474-1-SB] c 26 N87-25455

## ALUMINUM ALLOYS

- Low temperature aluminum alloy Patent  
[NASA-CASE-XMF-02786] c 17 N71-20743  
Etching of aluminum for bonding Patent  
[NASA-CASE-XMF-02303] c 17 N71-23828  
Method of producing complex aluminum alloy parts of high temper, and products thereof  
[NASA-CASE-MSC-19693-1] c 26 N78-24333  
Nickel ternary alloy having improved cyclic oxidation resistance  
[NASA-CASE-LEW-13339-1] c 26 N82-31505  
Metal matrix composite structural panel construction  
[NASA-CASE-LAR-12807-1] c 24 N84-11214  
Elevated temperature aluminum alloys  
[NASA-CASE-LAR-13632-1] c 26 N87-29650  
Aluminum alloy  
[NASA-CASE-LAR-13924-1-CU] c 26 N89-28621

## ALUMINUM COATINGS

- Nickel aluminide coated low alloy stainless steel  
[NASA-CASE-LEW-11267-1] c 17 N73-32414  
Preparing oxidizer coated metal fuel particles  
[NASA-CASE-NPO-11975-1] c 28 N74-33209  
Method of protecting the surface of a substrate --- by applying aluminide coating  
[NASA-CASE-LEW-11696-1] c 37 N75-13261  
Duplex aluminized coatings  
[NASA-CASE-LEW-11696-2] c 26 N75-19408  
Meteoroid impact position locator aid for manned space station  
[NASA-CASE-LAR-10629-1] c 35 N75-33367  
Method of protecting a surface with a silicon-slurry/aluminide coating --- coatings for gas turbine engine blades and vanes  
[NASA-CASE-LEW-13343-1] c 27 N82-28441  
Silicon-slurry/aluminide coating --- protecting gas turbine engine vanes and blades  
[NASA-CASE-LEW-13343] c 26 N83-31795

## ALUMINUM COMPOUNDS

- Synthesis of dawsonites --- for use in fire extinguishing operations  
[NASA-CASE-ARC-11326-1] c 25 N83-33977  
Fire extinguishant materials  
[NASA-CASE-ARC-11252-1] c 25 N83-36118

## ALUMINUM OXIDES

- Bonding of sapphire to sapphire by eutectic mixture of aluminum oxide and zirconium oxide  
[NASA-CASE-GSC-11577-1] c 37 N75-15992  
Bonding of sapphire to sapphire by eutectic mixture of aluminum oxide and zirconium oxide  
[NASA-CASE-GSC-11577-3] c 24 N79-25143  
Method and technique for installing light-weight, fragile, high-temperature fiber insulation  
[NASA-CASE-MSC-16934-3] c 24 N84-16262

## ALUMINUM SILICATES

- Inorganic thermal control pigment Patent  
[NASA-CASE-XNP-02139] c 18 N71-24184

## AMBIENT TEMPERATURE

- High stability amplifier  
[NASA-CASE-GSC-12646-1] c 33 N83-34191

## AMIDES

- Preparation of heterocyclic block copolymer omega-diamidoximes  
[NASA-CASE-ARC-11060-1] c 27 N79-22300  
Method for preparing addition type polyimide prepreps  
[NASA-CASE-LAR-12054-2] c 27 N81-14078

## AMINES

- Direct synthesis of polymeric schiff bases from two amines and two aldehydes Patent  
[NASA-CASE-XMF-08655] c 06 N71-11239  
Synthesis of polymeric schiff bases by reaction of acetals and amine compounds Patent  
[NASA-CASE-XMF-08652] c 06 N71-11243  
Polyimide foam for the thermal insulation and fire protection  
[NASA-CASE-ARC-10464-1] c 27 N74-12812  
Automated analysis of oxidative metabolites  
[NASA-CASE-ARC-10469-1] c 25 N75-12086  
Preparation of perfluorinated 1,2,4-oxadiazoles  
[NASA-CASE-ARC-11267-2] c 23 N82-28353

- Method of neutralizing the corrosive surface of amine-cured epoxy resins  
[NASA-CASE-GSC-12686-1] c 27 N83-34039  
Metal (2,4,4',4'') phthalocyanine tetraamines as curing agents for epoxy resins  
[NASA-CASE-ARC-11424-1] c 27 N85-34281  
Laminate comprising fibers embedded in cured amine terminated bis-imide  
[NASA-CASE-ARC-11421-3] c 24 N86-25416  
Amine terminated bisaspartimide polymer  
[NASA-CASE-ARC-11421-2] c 27 N86-31726  
Aminophenoxycyclophosphazene cured epoxy resins and the composites, laminates, adhesives and structures thereof  
[NASA-CASE-ARC-11548-1] c 27 N87-25469  
Aromatic cyclophosphazenes  
[NASA-CASE-ARC-11428-3] c 23 N88-24692

## AMINO ACIDS

- Amino acid analysis  
[NASA-CASE-NPO-12130-1] c 25 N75-14844

## AMMONIA

- Solid state chemical source for ammonia beam maser Patent  
[NASA-CASE-XGS-01504] c 16 N70-41578

## AMMONIUM NITRATES

- High performance ammonium nitrate propellant  
[NASA-CASE-NPO-14260-1] c 28 N79-28342

## AMMONIUM PERCHLORATES

- Ammonium perchlorate composite propellant containing an organic transitional metal chelate catalytic additive Patent  
[NASA-CASE-LAR-10173-1] c 27 N71-14090  
Process for the leaching of AP from propellant  
[NASA-CASE-NPO-14109-1] c 28 N80-23471

## AMORPHOUS MATERIALS

- Corrosion resistant coating  
[NASA-CASE-NPO-15928-1] c 26 N85-29005  
Apparatus for production of ultrapure amorphous metals utilizing acoustic cooling  
[NASA-CASE-NPO-15658-1] c 26 N86-32551  
Oxygen diffusion barrier coating  
[NASA-CASE-LAR-13474-1-SB] c 26 N87-25455

## AMPLIFICATION

- Amplifier drift tester  
[NASA-CASE-XMS-05562-1] c 09 N69-39986  
Amplifier clamping circuit for horizon scanner Patent  
[NASA-CASE-XGS-01784] c 10 N71-20782  
Diversity receiving system with diversity phase lock Patent  
[NASA-CASE-XGS-01222] c 10 N71-20841  
Active RC networks  
[NASA-CASE-ARC-10042-2] c 10 N72-11256  
High voltage transistor amplifier with constant current load  
[NASA-CASE-NPO-11023] c 09 N72-17155  
Independent gain and bandwidth control of a traveling wave maser  
[NASA-CASE-NPO-13801-1] c 36 N78-18410  
Pseudonoise code tracking loop  
[NASA-CASE-MSC-18035-1] c 32 N81-15179  
Automatic level control circuit  
[NASA-CASE-KSC-11170-1] c 33 N83-36356

## AMPLIFIER DESIGN

- Automatic gain control system  
[NASA-CASE-XMS-05307] c 09 N69-24330  
Bio-isolated dc operational amplifier --- for bioelectric measurements  
[NASA-CASE-ARC-10596-1] c 33 N74-21851  
High power metallic halide laser --- amplifying a copper chloride laser  
[NASA-CASE-NPO-14782-1] c 36 N82-28616  
Reactanceless synthesized impedance bandpass amplifier  
[NASA-CASE-GSC-12788-1] c 33 N85-29145  
Amplifier for measuring low-level signals in the presence of high common mode voltage  
[NASA-CASE-MFS-25868-1] c 33 N86-20670  
Low phase noise oscillator using two parallel connected amplifiers  
[NASA-CASE-GSC-13018-1] c 33 N87-21232

## AMPLIFIERS

- Stable amplifier having a stable quiescent point Patent  
[NASA-CASE-XGS-02812] c 09 N71-19466  
Method and apparatus for continuously monitoring blood oxygenation, blood pressure, pulse rate and the pressure pulse curve utilizing an ear oximeter as transducer Patent  
[NASA-CASE-XAC-05422] c 04 N71-23185  
High-gain, broadband traveling wave maser Patent  
[NASA-CASE-NPO-10548] c 16 N71-24831  
Vibrophonocardiograph Patent  
[NASA-CASE-XFR-07172] c 05 N71-27234  
Transient augmentation circuit for pulse amplifiers Patent  
[NASA-CASE-XNP-01068] c 10 N71-28739

- RC networks and amplifiers employing the same  
[NASA-CASE-XAC-05462-2] c 10 N72-17171  
Full wave modulator-demodulator amplifier apparatus ---  
for generating rectified output signal  
[NASA-CASE-FRC-10072-1] c 33 N74-14939  
Automatic focus control for facsimile cameras  
[NASA-CASE-LAR-11213-1] c 35 N75-15014  
Reflected-wave maser --- low noise amplifier  
[NASA-CASE-NPO-13490-1] c 36 N76-31512  
High stability amplifier  
[NASA-CASE-GSC-12646-1] c 33 N83-34191  
Low noise tuned amplifier  
[NASA-CASE-GSC-12567-1] c 33 N84-22887  
Low phase noise oscillator using two parallel connected  
amplifiers  
[NASA-CASE-GSC-13018-1] c 33 N87-21232  
Programmable electronic synthesized capacitance  
[NASA-CASE-GSC-12961-1] c 33 N87-22895  
Integrated photo-responsive metal oxide semiconductor  
circuit  
[NASA-CASE-GSC-12782-1] c 33 N88-14271

**AMPLITUDE DISTRIBUTION ANALYSIS**

- System for monitoring signal amplitude ranges  
[NASA-CASE-XMS-04061-1] c 09 N69-39885  
Single or joint amplitude distribution analyzer Patent  
[NASA-CASE-XNP-01383] c 09 N71-10659  
Analog-to-digital converter  
[NASA-CASE-XNP-00477] c 08 N73-28045

**AMPLITUDE MODULATION**

- Signal generator  
[NASA-CASE-XNP-05612] c 09 N69-21468  
Demodulation system Patent  
[NASA-CASE-XAC-04030] c 10 N71-19472  
Amplitude modulated laser transmitter Patent  
[NASA-CASE-XMS-04269] c 16 N71-22895  
Vibrating element electrometer with output signal  
magnified over input signal by a function of the mechanical  
Q of the vibrating element Patent  
[NASA-CASE-XAC-02807] c 09 N71-23021  
Phase multiplying electronic scanning system Patent  
[NASA-CASE-NPO-10302] c 10 N71-26142  
Signal path series step biased multidevice high efficiency  
amplifier Patent  
[NASA-CASE-GSC-10668-1] c 07 N71-28430  
Gated compressor, distortionless signal limiter  
[NASA-CASE-NPO-11820-1] c 32 N74-19788  
Amplitude steered array  
[NASA-CASE-GSC-11446-1] c 33 N74-20860  
Stark-effect modulation of CO<sub>2</sub> laser with NH<sub>2</sub>D  
[NASA-CASE-NPO-11945-1] c 36 N76-18427  
Adaptive reference voltage generator for firing angle  
control of line-commutated inverters  
[NASA-CASE-MFS-25215-1] c 33 N83-31953

**AMPLITUDES**

- Noise limiter Patent  
[NASA-CASE-NPO-10169] c 10 N71-24844  
Acoustic rotation control  
[NASA-CASE-NPO-15689-1] c 71 N84-23233  
High voltage power supply  
[NASA-CASE-GSC-12818-1] c 33 N85-29147

**AMPOULES**

- Ampoule sealing apparatus and process --- for housing  
a semiconductor growth charge under vacuum  
[NASA-CASE-LAR-12847-1] c 33 N83-16633  
Apparatus and method for heating a material in a  
transparent ampoule --- crystal growth  
[NASA-CASE-MFS-25436-1] c 27 N83-36220  
Reusable thermal cycling clamp  
[NASA-CASE-LAR-12868-1] c 37 N85-21651

**ANALGESIA**

- Indomethacin-acin-antihistamine combination for gastric  
ulceration control  
[NASA-CASE-ARC-11118-2] c 52 N81-14613  
Indomethacin-antihistamine combination for gastric  
ulceration control  
[NASA-CASE-ARC-11118-1] c 52 N81-29764

**ANALOG CIRCUITS**

- Condition and condition duration indicator Patent  
[NASA-CASE-XMF-01097] c 10 N71-16058  
Automatic closed circuit television arc guidance control  
Patent  
[NASA-CASE-MFS-13046] c 07 N71-19433  
Electronic divider and multiplier using photocells  
Patent  
[NASA-CASE-XFR-05637] c 09 N71-19480  
Continuous Fourier transform method and apparatus ---  
for the analysis of simultaneous analog signal  
components  
[NASA-CASE-ARC-10466-1] c 60 N75-13539  
Electronic analog divider  
[NASA-CASE-LEW-11881-1] c 33 N77-17354  
Tuned analog network  
[NASA-CASE-GSC-12650-1] c 33 N84-14421

**ANALOG COMPUTERS**

- Analog spatial maneuver computer  
[NASA-CASE-GSC-10880-1] c 08 N72-11172

**ANALOG DATA**

- Data compression processor Patent  
[NASA-CASE-NPO-10068] c 08 N71-19288  
Wide range data compression system Patent  
[NASA-CASE-XGS-02612] c 08 N71-19435  
Analog Signal to Discrete Time Interval Converter  
(ASDTIC)  
[NASA-CASE-ERC-10048] c 09 N72-25251  
Digital plus analog output encoder  
[NASA-CASE-GSC-12115-1] c 62 N76-31946  
Velocity measurement system  
[NASA-CASE-MFS-23363-1] c 35 N78-32396

**ANALOG SIMULATION**

- Apparatus for simulating optical transmission links  
[NASA-CASE-GSC-11877-1] c 74 N76-18913

**ANALOG TO DIGITAL CONVERTERS**

- Analog-to-digital conversion system Patent  
[NASA-CASE-XAC-00404] c 08 N70-40125  
Analog to digital converter Patent  
[NASA-CASE-XLA-00670] c 08 N71-12501  
Nonlinear analog-to-digital converter Patent  
[NASA-CASE-XAC-04031] c 08 N71-18594  
Drift compensation circuit for analog to digital converter  
Patent  
[NASA-CASE-XNP-04780] c 08 N71-19687  
Pneumatic oscillator Patent  
[NASA-CASE-LEW-10345-1] c 10 N71-25899  
Analog signal integration and reconstruction system  
Patent  
[NASA-CASE-NPO-10344] c 10 N71-26544  
Analog to digital converter tester Patent  
[NASA-CASE-XLA-06713] c 14 N71-28991  
Wide range analog-to-digital converter with a variable  
gain amplifier  
[NASA-CASE-NPO-11018] c 08 N72-21200  
Analog-to-digital converter  
[NASA-CASE-MS-C-13110-1] c 08 N72-22163  
Analog-to-digital converter analyzing system  
[NASA-CASE-NPO-10560] c 08 N72-22166  
Digital control and information system  
[NASA-CASE-NPO-11016] c 08 N72-31226  
Counting digital filters  
[NASA-CASE-NPO-11821-1] c 08 N73-26175  
Analog-to-digital converter  
[NASA-CASE-XNP-00477] c 08 N73-28045  
Analog to digital converter  
[NASA-CASE-NPO-13385-1] c 33 N76-18345  
Analog to digital converter for two-dimensional radiant  
energy array computers  
[NASA-CASE-GSC-11839-3] c 60 N77-32731  
Electrochemical detection device --- for use in  
microbiology  
[NASA-CASE-LAR-11922-1] c 25 N79-24073  
Heads up display  
[NASA-CASE-LAR-12630-1] c 06 N84-27733  
Method of and apparatus for generating an interstitial  
point in a data stream having an even number of data  
points  
[NASA-CASE-MFS-25319-1] c 60 N85-33701  
A digitally controlled system for effecting and presenting  
a selected electrical resistance  
[NASA-CASE-MFS-29149-1] c 33 N87-29737  
Frequency domain laser velocimeter signal processor  
[NASA-CASE-LAR-13552-1-CU] c 33 N89-14385

**ANALYZERS**

- Fluid phase analyzer Patent  
[NASA-CASE-NPO-10691] c 14 N71-26199  
Automated fluid chemical analyzer Patent  
[NASA-CASE-XNP-09451] c 06 N71-26754  
Micrometeoroid analyzer  
[NASA-CASE-ARC-10443-1] c 14 N73-20477  
NDIR gas analyzer based on absorption modulation  
ratios for known and unknown samples  
[NASA-CASE-ARC-10802-1] c 35 N75-30502  
Cosmic dust analyzer  
[NASA-CASE-MS-C-13802-2] c 35 N76-15431  
Optically selective, acoustically resonant gas detecting  
transducer  
[NASA-CASE-ARC-10639-1] c 35 N78-13400

**ANCHORS (FASTENERS)**

- Daze fasteners  
[NASA-CASE-LAR-13009-2] c 37 N87-22976

**ANECHOIC CHAMBERS**

- Almond test body --- for microwave anechoic  
chambers  
[NASA-CASE-LAR-13747-1-CU] c 32 N89-28672

**ANEMOMETERS**

- Anemometer with braking mechanism Patent  
[NASA-CASE-XMF-05224] c 14 N71-23726  
Maxometers (peak wind speed anemometers)  
[NASA-CASE-MFS-20916] c 14 N73-25460  
Radionuclide counting technique for measuring wind  
velocity and direction  
[NASA-CASE-LAR-12971-1] c 47 N84-28292  
Thermal remote anemometer system  
[NASA-CASE-LAR-13508-1] c 35 N88-23962

**ANGIOGRAPHY**

- Contour detector and data acquisition system for the  
left ventricular outline  
[NASA-CASE-ARC-10985-1] c 52 N79-10724

**ANGLE OF ATTACK**

- Angle detector  
[NASA-CASE-ARC-11036-1] c 35 N78-32395  
Aerodynamic side-force alleviator means  
[NASA-CASE-LAR-12326-1] c 02 N81-14968

**ANGLES (GEOMETRY)**

- Internal flare angle gauge Patent  
[NASA-CASE-XMF-04415] c 14 N71-24693  
Method for generating ultra-precise angles Patent  
[NASA-CASE-XGS-04173] c 19 N71-26674  
Rotating raster generator  
[NASA-CASE-FRC-10071-1] c 32 N74-20813  
Angular measurement system  
[NASA-CASE-MFS-25825-1] c 31 N86-29055  
Universal precision sine bar attachment  
[NASA-CASE-MFS-28253-1] c 37 N89-28831

**ANGULAR ACCELERATION**

- Angular accelerometer Patent  
[NASA-CASE-XMS-05936] c 14 N70-41682

**ANGULAR CORRELATION**

- Device for determining relative angular position between  
a spacecraft and a radiation emitting celestial body  
[NASA-CASE-GSC-11444-1] c 14 N73-28490

**ANGULAR DISTRIBUTION**

- Noncontacting method for measuring angular  
deflection  
[NASA-CASE-LAR-12178-1] c 74 N80-21138

**ANGULAR MOMENTUM**

- Stretch de-spin mechanism Patent  
[NASA-CASE-XGS-00619] c 30 N70-40016  
Rim inertial measuring system  
[NASA-CASE-LAR-12052-1] c 18 N81-29152  
Fluidic momentum controller  
[NASA-CASE-MS-C-20906-2] c 35 N89-15379

**ANGULAR RESOLUTION**

- Angular measurement system Patent  
[NASA-CASE-XMF-00447] c 14 N70-33179

**ANGULAR VELOCITY**

- Angular position and velocity sensing apparatus  
Patent  
[NASA-CASE-XGS-05680] c 14 N71-17585  
Speed control device for a heavy duty shaft --- solar  
sails for spacecraft propulsion  
[NASA-CASE-NPO-14170-1] c 37 N81-15364  
Interferometric angle monitor  
[NASA-CASE-GSC-12614-1] c 74 N83-32577  
Fluidic angular velocity sensor  
[NASA-CASE-NPO-16479-1CU] c 35 N86-32695

**ANHYDRIDES**

- Perfluoro alkylene dioxy-bis-(4-phthalic anhydrides and  
oxy-bis-(perfluoroalkyleneoxyphthalic anhydrides  
[NASA-CASE-MFS-22356-1] c 23 N75-30256  
Catalysts for polyimide foams from aromatic isocyanates  
and aromatic dianhydrides --- flame retardant foams  
[NASA-CASE-ARC-11107-1] c 25 N80-16116  
Prepolymer dianhydrides  
[NASA-CASE-NPO-13899-1] c 27 N80-32515  
Maleimido substituted aromatic cyclotriphosphazenes  
[NASA-CASE-ARC-11428-1] c 23 N86-19376

**ANILINE**

- Process for preparation of dianilinosilanes Patent  
[NASA-CASE-XMF-06409] c 06 N71-23230

**ANIMALS**

- Automatic real-time pair-feeding system for animals  
[NASA-CASE-ARC-10302-1] c 51 N74-15778  
Tread drum for animals --- having an electrical shock  
station  
[NASA-CASE-ARC-10917-1] c 51 N78-27733

**ANISOTROPIC MEDIA**

- Hybrid composite laminate structures  
[NASA-CASE-LEW-12118-1] c 24 N77-27188

**ANNEALING**

- Recovery of radiation damaged solar cells through  
thermal annealing  
[NASA-CASE-XGS-04047-2] c 03 N72-11062  
CDS solid state phase insensitive ultrasonic transducer  
--- annealing dadium sulfide crystals  
[NASA-CASE-LAR-12304-1] c 35 N80-20559

**ANNULAR NOZZLES**

- Rocket thrust chamber Patent  
[NASA-CASE-XLE-00145] c 28 N70-36806  
Annular slit colloid thruster Patent  
[NASA-CASE-GSC-10709-1] c 28 N71-25213

**ANNULAR PLATES**

- Annular supersonic decelerator or drogue Patent  
[NASA-CASE-XLE-00222] c 02 N70-37939  
Multiple plate hydrostatic viscous damper  
[NASA-CASE-LEW-12445-1] c 37 N81-22360

**ANNULI**

- Shaft transducer having dc output proportional to angular  
velocity  
[NASA-CASE-NPO-15706-1] c 35 N84-28017

**ANODES**

- Heat activated cell with alkali anode and alkali salt electrolyte Patent  
[NASA-CASE-LEW-11358] c 03 N71-26084
- Storage battery comprising negative plates of a wedge shaped configuration --- for preventing shape change induced malfunctions  
[NASA-CASE-NPO-11806-1] c 44 N74-19693
- Resistive anode image converter  
[NASA-CASE-HQN-10876-1] c 33 N76-27473
- Rechargeable battery which combats shape change of the zinc anode  
[NASA-CASE-HQN-10862-1] c 44 N76-29699
- Arc control in compact arc lamps  
[NASA-CASE-NPO-10870-1] c 33 N77-22386
- Multiple anode arc lamp system  
[NASA-CASE-NPO-10857-1] c 33 N80-14330
- Ion sputter textured graphite --- anode collector plates in electron tube devices  
[NASA-CASE-LEW-12919-1] c 24 N83-10117
- Method and apparatus for rebalancing a REDOX flow cell system  
[NASA-CASE-LEW-14127-1] c 33 N86-20680
- ANODIC COATINGS**
- Temperature reducing coating for metals subject to flame exposure Patent  
[NASA-CASE-XLE-00035] c 33 N71-29151
- Anode for ion thruster  
[NASA-CASE-LEW-12048-1] c 20 N77-20162
- Variable anodic thermal control coating  
[NASA-CASE-LAR-12719-1] c 44 N83-34449

**ANOMALIES**

- Aircraft liftemeter  
[NASA-CASE-LAR-12518-1] c 06 N86-27280

**ANTENNA ARRAYS**

- Antenna system using parasitic elements and two driven elements at 90 deg angle fed 180 deg out of phase Patent  
[NASA-CASE-XLA-00414] c 07 N70-38200
- Multiple input radio receiver Patent  
[NASA-CASE-XLA-00901] c 07 N71-10775
- Horn feed having overlapping apertures Patent  
[NASA-CASE-GSC-10452] c 07 N71-12396
- Tracking antenna system Patent  
[NASA-CASE-GSC-10553-1] c 07 N71-19854
- Radar antenna system for acquisition and tracking Patent  
[NASA-CASE-XMS-09610] c 07 N71-24625
- Antenna array phase quadrature tracking system Patent  
[NASA-CASE-MS-12205-1] c 07 N71-27056
- Antenna array at focal plane of reflector with coupling network for beam switching Patent  
[NASA-CASE-GSC-10220-1] c 07 N71-27233
- Triaxial antenna Patent  
[NASA-CASE-XGS-02290] c 07 N71-28809
- Virtual wall slot circularly polarized planar array antenna  
[NASA-CASE-NPO-10301] c 07 N72-11148
- Stacked array of omnidirectional antennas  
[NASA-CASE-LAR-10545-1] c 09 N72-21244
- Circularly polarized antenna  
[NASA-CASE-ERC-10214] c 09 N72-31235
- Phase control circuits using frequency multiplications for phased array antennas  
[NASA-CASE-ERC-10285] c 10 N73-16206
- Plural beam antenna  
[NASA-CASE-GSC-11013-1] c 09 N73-19234
- Amplitude steered array  
[NASA-CASE-GSC-11446-1] c 33 N74-20860
- Position determination systems --- using orbital antenna scan of celestial bodies  
[NASA-CASE-MSC-12593-1] c 17 N76-21250
- Thin conformal antenna array for microwave power conversions  
[NASA-CASE-NPO-13886-1] c 32 N78-24391
- RF beam center location method and apparatus for power transmission system  
[NASA-CASE-NPO-13821-1] c 44 N78-28594
- Phased array antenna control  
[NASA-CASE-MS-14939-1] c 32 N79-11264
- Phase conjugation method and apparatus for an active retrodirective antenna array  
[NASA-CASE-NPO-13641-1] c 32 N79-24210
- Scannable beam forming interferometer antenna array system  
[NASA-CASE-GSC-12365-1] c 32 N80-28578
- Frequency translating phase conjugation circuit for active retrodirective antenna array --- microwave transmission  
[NASA-CASE-NPO-14536-1] c 32 N81-14185
- Coaxial phased array antenna  
[NASA-CASE-MS-16800-1] c 32 N81-14187
- Baseband signal combiner for large aperture antenna array  
[NASA-CASE-NPO-14641-1] c 32 N81-29308

- Cavity-backed, micro-strip dipole antenna array  
[NASA-CASE-MS-18606-1] c 32 N82-11336
- Spiral slotted phased antenna array  
[NASA-CASE-MS-18532-1] c 32 N82-27558
- Method and apparatus for self-calibration and phasing of array antenna  
[NASA-CASE-NPO-15920-1] c 33 N85-21493
- Ground plane interference elimination by passive element  
[NASA-CASE-NPO-16632-1-CU] c 32 N87-15390

**ANTENNA COMPONENTS**

- Digital servo controller --- for rotating antenna shaft  
[NASA-CASE-KSC-10769-1] c 33 N74-29556
- Faraday rotation measurement method and apparatus  
[NASA-CASE-NPO-14839-1] c 35 N82-15381
- Ground plane interference elimination by passive element  
[NASA-CASE-NPO-16632-1-CU] c 32 N87-15390

**ANTENNA COUPLERS**

- Dual band combiner for horn antenna  
[NASA-CASE-NPO-14519-1] c 32 N80-23524

**ANTENNA DESIGN**

- Low noise single aperture multimode monopulse antenna feed system Patent  
[NASA-CASE-XNP-01735] c 07 N71-22750
- Nose cone mounted heat resistant antenna Patent  
[NASA-CASE-XMS-04312] c 07 N71-22984
- Antenna array phase quadrature tracking system Patent  
[NASA-CASE-MS-12205-1] c 07 N71-27056
- Unfurlable structure including coiled strips thrust launched upon tension release Patent  
[NASA-CASE-HQN-00937] c 07 N71-28979
- Antenna design for surface wave suppression Patent  
[NASA-CASE-XLA-10772] c 07 N71-28980
- Target acquisition antenna  
[NASA-CASE-GSC-10064-1] c 10 N72-22235
- Collapsible high gain antenna  
[NASA-CASE-KSC-10392] c 07 N73-26117
- Dish antenna having switchable beamwidth --- with truncated concave ellipsoid subreflector  
[NASA-CASE-GSC-11760-1] c 33 N75-19516
- Horn antenna having V-shaped corrugated slots  
[NASA-CASE-LAR-11112-1] c 32 N76-15330
- Highly efficient antenna system using a corrugated horn and scanning hyperbolic reflector  
[NASA-CASE-NPO-13568-1] c 32 N76-21365
- Furlable antenna --- antenna design  
[NASA-CASE-NPO-13553-1] c 33 N76-32457
- Collapsible corrugated horn antenna  
[NASA-CASE-LAR-11745-1] c 32 N80-29539
- Multiple band circularly polarized microstrip antenna  
[NASA-CASE-MS-18334-1] c 32 N80-32604
- Spiral slotted phased antenna array  
[NASA-CASE-MS-18532-1] c 32 N82-27558
- Ground plane interference elimination by passive element  
[NASA-CASE-NPO-16632-1-CU] c 32 N87-15390
- Switched steerable multiple beam antenna system  
[NASA-CASE-MSC-20873-1-SB] c 32 N89-11961

**ANTENNA FEEDS**

- Multi-feed cone Cassegrain antenna Patent  
[NASA-CASE-NPO-10539] c 07 N71-11285
- Horn feed having overlapping apertures Patent  
[NASA-CASE-GSC-10452] c 07 N71-12396
- Target acquisition antenna  
[NASA-CASE-GSC-10064-1] c 10 N72-22235
- Composite antenna feed  
[NASA-CASE-GSC-11046-1] c 07 N73-28013
- Low loss dichroic plate  
[NASA-CASE-NPO-13171-1] c 32 N74-11000
- High efficiency multifrequency feed  
[NASA-CASE-GSC-11909] c 32 N74-20863
- Single frequency, two feed dish antenna having switchable beamwidth  
[NASA-CASE-GSC-11968-1] c 32 N76-15329
- Reflex feed system for dual frequency antenna with frequency cutoff means  
[NASA-CASE-NPO-14022-1] c 32 N78-31321
- Antenna feed system for receiving circular polarization and transmitting linear polarization  
[NASA-CASE-NPO-14362-1] c 32 N80-16261
- Multifrequency broadband polarized horn antenna  
[NASA-CASE-NPO-14588-1] c 32 N81-25278
- Microwave switching power divider --- antenna feeds  
[NASA-CASE-GSC-12420-1] c 33 N82-16340
- Focal axis resolver for offset reflector antennas  
[NASA-CASE-GSC-12630-1] c 33 N83-36355
- Beam forming network  
[NASA-CASE-NPO-15743-1] c 32 N85-29118

**ANTENNA RADIATION PATTERNS**

- Broadband choke for antenna structure  
[NASA-CASE-XMS-05303] c 07 N69-27462
- Dual mode horn antenna Patent  
[NASA-CASE-XNP-01057] c 07 N71-15907

- Electronic scanning of 2-channel monopulse patterns Patent  
[NASA-CASE-GSC-10299-1] c 09 N71-24804
- High impact antenna Patent  
[NASA-CASE-NPO-10231] c 07 N71-26101
- Triaxial antenna Patent  
[NASA-CASE-XGS-02290] c 07 N71-28809
- Lightning tracking system  
[NASA-CASE-KSC-10729-1] c 09 N73-32110
- Highly efficient antenna system using a corrugated horn and scanning hyperbolic reflector  
[NASA-CASE-NPO-13568-1] c 32 N76-21365
- Coaxial phased array antenna  
[NASA-CASE-MS-16800-1] c 32 N81-14187
- Ground plane interference elimination by passive element  
[NASA-CASE-NPO-16632-1-CU] c 32 N87-15390

**ANTENNAS**

- Self-erecting reflector Patent  
[NASA-CASE-XGS-09190] c 31 N71-16102
- High impact antenna Patent  
[NASA-CASE-NPO-10231] c 07 N71-26101
- Collapsible antenna boom and transmission line Patent  
[NASA-CASE-MFS-20068] c 07 N71-27191
- Conical reflector antenna  
[NASA-CASE-NPO-10303] c 07 N72-22127
- Coupled cavity traveling wave tube with velocity tapering  
[NASA-CASE-LEW-12296-1] c 33 N82-26568
- Antenna groud replacement system  
[NASA-CASE-NPO-15202-1] c 27 N83-34043
- Measurement apparatus and procedure for the determination of surface emissivities  
[NASA-CASE-LAR-13455-1] c 32 N87-21206

**ANTIBIOTICS**

- Determination of antimicrobial susceptibilities on infected urines without isolation  
[NASA-CASE-GSC-12046-1] c 52 N79-14750

**ANTIFRICTION BEARINGS**

- Hybrid lubrication system and bearing Patent  
[NASA-CASE-XNP-01641] c 15 N71-22997
- Rolling element bearings Patent  
[NASA-CASE-XLE-09527-2] c 15 N71-26189
- High speed hybrid bearing comprising a fluid bearing and a rolling bearing connected in series  
[NASA-CASE-LEW-11152-1] c 15 N73-32359
- Production of hollow components for rolling element bearings by diffusion welding  
[NASA-CASE-LEW-11026-1] c 15 N73-33383
- Method of making bearing materials --- self-lubricating, oxidation resistant composites for high temperature applications  
[NASA-CASE-LEW-11930-4] c 24 N79-17916
- Method of making bearing material  
[NASA-CASE-LEW-11930-3] c 24 N80-33482

**ANTIGRAVITY**

- Anti-gravity device  
[NASA-CASE-MFS-22758-1] c 70 N75-26789

**ANTIHISTAMINICS**

- Indomethacin-antihistamine combination for gastric ulceration control  
[NASA-CASE-ARC-11118-2] c 52 N81-14613
- Indomethacin-antihistamine combination for gastric ulceration control  
[NASA-CASE-ARC-11118-1] c 52 N81-29764

**ANTIREFLECTION COATINGS**

- Silicon nitride coated, plastic covered solar cell  
[NASA-CASE-LEW-11496-1] c 44 N77-14580
- Broadband optical radiation detector  
[US-PATENT-4,262,198] c 74 N83-19597

**ANVILS**

- Apparatus for making diamonds  
[NASA-CASE-MFS-20698] c 15 N72-20446

**APERTURES**

- Focussing system for an ion source having apertured electrodes Patent  
[NASA-CASE-XNP-03332] c 09 N71-10618
- Threadless fastener apparatus Patent  
[NASA-CASE-XFR-05302] c 15 N71-23254
- On-film optical recording of camera lens settings  
[NASA-CASE-MS-12363-1] c 14 N73-26431
- Method of forming aperture plate for electron microscope  
[NASA-CASE-ARC-10448-2] c 74 N75-12732
- Method of making an apertured casting --- using duplicate mold  
[NASA-CASE-LEW-11169-1] c 37 N76-23570
- Electron microscope aperture system  
[NASA-CASE-ARC-10448-3] c 35 N77-14408
- A compact fast wide angle broad band spectrometer optical system  
[NASA-CASE-NPO-17562-1-CU] c 74 N89-24153

**APOLLO PROJECT**

- Space suit  
[NASA-CASE-MS-12609-1] c 05 N73-32012

**APOLLO SPACECRAFT**

- Energy absorbing structure Patent Application  
[NASA-CASE-MSC-12279-1] c 15 N70-35679  
Low onset rate energy absorber  
[NASA-CASE-MSC-12279-1] c 15 N72-17450

**APPLICATIONS OF MATHEMATICS**

- Apparatus for computing square roots Patent  
[NASA-CASE-XGS-04768] c 08 N71-19437

**APPROACH**

- Spectrally balanced chromatic landing approach lighting system  
[NASA-CASE-ARC-10990-1] c 04 N82-16059

**AQUATIC PLANTS**

- Method for treating wastewater using microorganisms and vascular aquatic plants  
[NASA-CASE-NSTL-10] c 45 N84-12654

**AQUEOUS SOLUTIONS**

- Anti-fog composition --- for prevention of fogging on surfaces such as space helmet visors and windshields  
[NASA-CASE-MSC-13530-2] c 23 N75-14834  
Automated system for identifying traces of organic chemical compounds in aqueous solutions  
[NASA-CASE-NPO-13063-1] c 25 N76-18245  
Method for separating biological cells --- suspended in aqueous polymer systems  
[NASA-CASE-MFS-23883-1] c 51 N80-16715  
Method of cross-linking polyvinyl alcohol and other water soluble resins  
[NASA-CASE-LEW-13103-1] c 27 N80-32516  
Electrophotolysis oxidation system for measurement of organic concentration in water  
[NASA-CASE-MSC-16497-1] c 25 N82-12166  
Liquid immersion apparatus for minute articles  
[NASA-CASE-MFS-25363-1] c 37 N82-12441  
Coal desulfurization by aqueous chlorination  
[NASA-CASE-NPO-14902-1] c 25 N82-29371  
Hydrodesulfurization of chlorinated coal  
[NASA-CASE-NPO-15304-1] c 25 N83-31743

**ARC DISCHARGES**

- Device for preventing high voltage arcing in electron beam welding Patent  
[NASA-CASE-XMF-08522] c 15 N71-19486  
Self-repeating plasma generator having communicating annular and linear arc discharge passages Patent  
[NASA-CASE-XLA-03103] c 25 N71-21693  
Method and apparatus for nondestructive testing --- using high frequency arc discharges  
[NASA-CASE-MFS-21233-1] c 38 N74-15395  
Sustained arc ignition system  
[NASA-CASE-LEW-12444-1] c 33 N77-28385

**ARC HEATING**

- Electric-arc heater Patent  
[NASA-CASE-XLA-00330] c 33 N70-34540  
Electric arc device for heating gases Patent  
[NASA-CASE-XAC-00319] c 25 N70-41628  
Annular arc accelerator shock tube  
[NASA-CASE-NPO-13528-1] c 09 N77-10071

**ARC JET ENGINES**

- Magneto-plasma-dynamic arc thruster -  
[NASA-CASE-LEW-11180-1] c 25 N73-25760  
Arcjet power supply and start circuit  
[NASA-CASE-LEW-14374-1] c 09 N88-28939

**ARC LAMPS**

- Starting circuit for vapor lamps and the like Patent  
[NASA-CASE-XNP-01058] c 09 N71-12540  
Compact, high intensity arc lamp with internal magnetic field producing means  
[NASA-CASE-NPO-11510-1] c 33 N77-21315  
Depressurization of arc lamps  
[NASA-CASE-NPO-10790-1] c 33 N77-21316  
Arc control in compact arc lamps  
[NASA-CASE-NPO-10870-1] c 33 N77-22386  
Purging means and method for Xenon arc lamps  
[NASA-CASE-NPO-11978] c 31 N78-17238  
Multiple anode arc lamp system  
[NASA-CASE-NPO-10857-1] c 33 N80-14330  
Self-clamping arc light reflector for welding torch  
[NASA-CASE-MFS-29207-1] c 74 N87-25843  
Arc lamp power supply using a voltage multiplier  
[NASA-CASE-LAR-13202-1] c 33 N88-23942

**ARC SPRAYING**

- Arc spray fabrication of metal matrix composite monotope  
[NASA-CASE-LEW-13828-1] c 24 N85-30027

**ARC WELDING**

- Spectral method for monitoring atmospheric contamination of inert-gas welding shields Patent  
[NASA-CASE-XMF-02039] c 15 N71-15871  
Automatic closed circuit television arc guidance control Patent  
[NASA-CASE-MFS-13046] c 07 N71-19433  
Device for preventing high voltage arcing in electron beam welding Patent  
[NASA-CASE-XMF-08522] c 15 N71-19486  
Welding skate with computerized control Patent  
[NASA-CASE-XMF-07069] c 15 N71-23815

- Grain refinement control in TIG arc welding  
[NASA-CASE-MSC-19095-1] c 37 N75-19683  
Self-clamping arc light reflector for welding torch  
[NASA-CASE-MFS-29207-1] c 74 N87-25843  
Welding torch gas cup extension  
[NASA-CASE-MFS-29252-1] c 37 N88-23980  
Trailer shield assembly for a welding torch  
[NASA-CASE-MFS-29260-1] c 37 N88-24972  
ARC length control for plasma welding  
[NASA-CASE-MSC-20900-1] c 37 N88-30131

**ARCHITECTURE**

- Foldable construction block  
[NASA-CASE-MSC-12233-2] c 32 N73-13921  
Space station architecture, module, berthing hub, shell assembly, berthing mechanism and utility connection channel  
[NASA-CASE-ARC-11505-2] c 18 N89-25266

**ARCHITECTURE (COMPUTERS)**

- Massively parallel processor computer  
[NASA-CASE-GSC-12223-1] c 60 N83-25378  
Distributed multiport memory architecture  
[NASA-CASE-NPO-15342-1] c 60 N83-32342  
High dynamic global positioning system receiver  
[NASA-CASE-NPO-16171-1CU] c 04 N86-27270  
Method for Veterbi decoding of large constraint length convolutional codes  
[NASA-CASE-NPO-17310-1CU] c 17 N88-28946  
Nanosequencer digital logic controller  
[NASA-CASE-NPO-16116-2] c 60 N88-29310

**ARGON**

- Liquid crystal light valve structures  
[NASA-CASE-MSC-20036-1] c 76 N85-33826

**ARM (ANATOMY)**

- Apparatus for applying simulator g-forces to an arm of an aircraft simulator pilot  
[NASA-CASE-LAR-10550-1] c 09 N74-30597  
Orthotic arm joint --- for use in mechanical arms  
[NASA-CASE-MFS-21611-1] c 54 N75-12616  
Controller arm for a remotely related slave arm  
[NASA-CASE-ARC-11052-1] c 37 N79-28551

**ARMATURES**

- Direct current motor with stationary armature and field Patent  
[NASA-CASE-XGS-05290] c 09 N71-25999  
Solenoid valve including guide for armature and valve member  
[NASA-CASE-GSC-10607-1] c 15 N72-20442  
Electric motive machine including magnetic bearing  
[NASA-CASE-XGS-07805] c 15 N72-33476  
Natural turbulence electrical power generator --- using wave action or random motion  
[NASA-CASE-LAR-11551-1] c 44 N80-29834

**AROMATIC COMPOUNDS**

- Ultraviolet and thermally stable polymer compositions  
[NASA-CASE-ARC-10592-1] c 27 N74-21156  
Ultraviolet and thermally stable polymer compositions  
[NASA-CASE-ARC-10592-2] c 27 N76-32315  
Polymeric foams from cross-linkable poly-n-arylenebenzimidazoles  
[NASA-CASE-ARC-11008-1] c 27 N78-31232  
Process for preparing thermoplastic aromatic polyimides  
[NASA-CASE-LAR-11828-1] c 27 N78-32261  
Curing agent for polyepoxides and epoxy resins and composites cured therewith --- preventing carbon fiber release  
[NASA-CASE-LEW-13226-1] c 27 N81-17260  
The 1,1,1-triaryl-2,2,2-trifluoroethanes and process for their synthesis  
[NASA-CASE-ARC-11097-1] c 25 N82-24312

**ARRAYS**

- Radio frequency arraying method for receivers  
[NASA-CASE-NPO-14328-1] c 32 N80-18253  
Pyroelectric detector arrays  
[NASA-CASE-LAR-12363-1] c 35 N82-31659  
Pyroelectric detector arrays  
[NASA-CASE-LAR-12363-2] c 33 N83-24763  
Tm,Ho:YLF laser end-pumped by a semiconductor diode laser array  
[NASA-CASE-NPO-17282-1CU] c 36 N89-12856

**ARTERIES**

- Arterial pulse wave pressure transducer  
[NASA-CASE-GSC-11531-1] c 52 N74-27566

**ARTIFICIAL CLOUDS**

- Barium release system  
[NASA-CASE-LAR-10670-1] c 06 N73-30097

**ARTIFICIAL GRAVITY**

- Rotating space station simulator Patent  
[NASA-CASE-XLA-03127] c 11 N71-10776  
Artificial gravity spin deployment system Patent  
[NASA-CASE-XNP-02595] c 31 N71-21881  
Space vehicle with artificial gravity and earth-like environment  
[NASA-CASE-LEW-11101-1] c 31 N73-32750

**ARTIFICIAL SATELLITES**

- Satellite communication system and method Patent  
[NASA-CASE-GSC-10118-1] c 07 N71-24621  
Gravity gradient attitude control system Patent  
[NASA-CASE-GSC-10555-1] c 21 N71-27324

**ASBESTOS**

- Reconstituted asbestos matrix --- for use in fuel or electrolysis cells  
[NASA-CASE-MSC-12568-1] c 24 N76-14204

**ASHES**

- Energy efficient continuous flow ash lockhopper  
[NASA-CASE-NPO-16985-1CU] c 31 N88-24814

**ASPECT RATIO**

- Variable sweep wing aircraft Patent  
[NASA-CASE-XLA-00221] c 02 N70-33266  
Variable-span aircraft Patent  
[NASA-CASE-XLA-00166] c 02 N70-34178  
Variable sweep aircraft wing Patent  
[NASA-CASE-XLA-00350] c 02 N70-38011

**ASPHALT**

- Thermoplastic rubber comprising ethylene-vinyl acetate copolymer, asphalt and fluxing oil  
[NASA-CASE-NPO-08835-1] c 27 N78-33228

**ASSAYING**

- Rapid, quantitative determination of bacteria in water --- adenosine triphosphate  
[NASA-CASE-GSC-12158-1] c 51 N83-27569

**ASSEMBLIES**

- Multiple Belleville spring assembly Patent  
[NASA-CASE-XNP-00840] c 15 N70-38225  
Bearing seat usable in a gas turbine engine  
[NASA-CASE-LEW-12477-1] c 37 N77-32501  
Foldable beam  
[NASA-CASE-LAR-12077-1] c 31 N81-25259  
Resilient seal ring assembly with spring means applying force to wedge member --- cryogenic applications  
[NASA-CASE-MFS-25678-1] c 37 N84-11497  
Self-locking mechanical center joint  
[NASA-CASE-LAR-12864-1] c 37 N85-30336  
X-ray determination of parts alignment  
[NASA-CASE-MSC-20418-1] c 74 N86-20126  
Emitting vibration measurement device and method  
[NASA-CASE-MFS-25981-1] c 35 N87-14670  
Fully redundant mechanical release actuator  
[NASA-CASE-LAR-13198-1] c 37 N87-23983

**ASSEMBLING**

- Magnetic attachment mechanism  
[NASA-CASE-MSC-21095-1] c 37 N89-12866

**ASSEMBLY**

- Alignment and assembly tool for very large diameter cylinders  
[NASA-CASE-MFS-28001-2] c 37 N88-14360  
**ASSOCIATIVE PROCESSING (COMPUTERS)**  
Hybrid analog-digital associative neural network  
[NASA-CASE-NPO-17058-1CU] c 62 N87-25803

**ASTRONAUT LOCOMOTION**

- Rotating space station simulator Patent  
[NASA-CASE-XLA-03127] c 11 N71-10776  
Space suit pressure stabilizer Patent  
[NASA-CASE-XLA-05332] c 05 N71-11194  
Equipotential space suit Patent  
[NASA-CASE-LAR-10007-1] c 05 N71-11195  
Hard space suit Patent  
[NASA-CASE-XAC-07043] c 05 N71-23161  
Foreshortened convolute section for a pressurized suit Patent  
[NASA-CASE-XMS-09637-1] c 05 N71-24730  
Locomotion and restraint aid Patent  
[NASA-CASE-ARC-10153] c 05 N71-28619  
Walking boot assembly  
[NASA-CASE-ARC-11101-1] c 54 N78-17675  
Spacesuit mobility knee joints  
[NASA-CASE-ARC-11058-2] c 54 N79-24651

**ASTRONAUT MANEUVERING EQUIPMENT**

- Hand-held self-maneuvering unit Patent  
[NASA-CASE-XMS-05304] c 05 N71-12336  
Space environmental work simulator Patent  
[NASA-CASE-XMF-07488] c 11 N71-18773  
Personal propulsion unit Patent  
[NASA-CASE-MFS-20130] c 28 N71-27585

**ASTRONAUT PERFORMANCE**

- Locomotion and restraint aid Patent  
[NASA-CASE-ARC-10153] c 05 N71-28619  
Spacesuit mobility joints  
[NASA-CASE-ARC-11058-1] c 54 N78-31735

**ASTRONAUT TRAINING**

- Training vehicle for controlling attitude Patent  
[NASA-CASE-XMS-02977] c 11 N71-10746  
Mechanical simulator of low gravity conditions Patent  
[NASA-CASE-MFS-10555] c 11 N71-19494  
Subgravity simulator Patent  
[NASA-CASE-XMS-04798] c 11 N71-21474

**ASTRONAUTS**

- Emergency lunar communications system  
[NASA-CASE-MFS-21042] c 07 N72-25171

Manual actuator --- for spacecraft exercising machines  
[NASA-CASE-MFS-21481-1] c 37 N74-18127

Bi-stem gripping apparatus  
[NASA-CASE-MFS-28185-1] c 37 N88-23979

**ASTRONAVIGATION**

Guidance and maneuver analyzer Patent  
[NASA-CASE-XNP-09572] c 14 N71-15621

**ASTRONOMICAL PHOTOGRAPHY**

Apparatus for photographing meteors  
[NASA-CASE-LAR-10226-1] c 14 N73-19419

**ASYMMETRY**

Method for the preparation of thin-skinned asymmetric reverse osmosis membranes and products thereof  
[NASA-CASE-ARC-11359-1] c 51 N84-28361

**ATMOSPHERIC COMPOSITION**

Atmospheric sampling devices  
[NASA-CASE-NPO-11373] c 13 N72-25323

Apparatus for sampling particulates in gases  
[NASA-CASE-HQN-10037-1] c 14 N73-27376

Monitoring atmospheric pollutants with a heterodyne radiometer transmitter-receiver  
[NASA-CASE-NPO-11919-1] c 35 N74-11284

Chelate-modified polymers for atmospheric gas chromatography  
[NASA-CASE-ARC-11154-1] c 25 N80-23383

Mobile sampler for use in acquiring samples of terrestrial atmospheric gases  
[NASA-CASE-NPO-15220-1] c 45 N83-25217

**ATMOSPHERIC DENSITY**

System for indicating fuel-efficient aircraft altitude  
[NASA-CASE-NPO-15351-2] c 06 N84-34443

**ATMOSPHERIC ENTRY**

Flight craft Patent  
[NASA-CASE-XAC-02058] c 02 N71-16087

Means for measuring the electron density gradients of the plasma sheath formed around a space vehicle Patent  
[NASA-CASE-XLA-06232] c 25 N71-20563

Orbital and entry tracking accessory for globes --- to provide range requirements for reentry vehicles to any landing site  
[NASA-CASE-LAR-10626-1] c 19 N74-21015

**ATMOSPHERIC ENTRY SIMULATION**

Plasma accelerator Patent  
[NASA-CASE-XLA-00675] c 25 N70-33267

Flow field simulation Patent  
[NASA-CASE-LAR-11138] c 12 N71-20436

**ATMOSPHERIC MOISTURE**

Geodetic distance measuring apparatus  
[NASA-CASE-GSC-12609-2] c 36 N83-29681

**ATMOSPHERIC PHYSICS**

Rocket borne instrument to measure electric fields inside electrified clouds  
[NASA-CASE-KSC-10730-1] c 14 N73-32318

**ATMOSPHERIC PRESSURE**

Method of purifying metallurgical grade silicon employing reduced pressure atmospheric control  
[NASA-CASE-NPO-14474-1] c 26 N80-14229

Method of and apparatus for measuring temperature and pressure --- atmospheric sounding  
[NASA-CASE-GSC-12558-1] c 36 N85-21639

**ATMOSPHERIC RADIATION**

Method and apparatus for measuring solar activity and atmospheric radiation effects  
[NASA-CASE-ERC-10276] c 14 N73-26432

**ATMOSPHERIC REFRACTION**

Geodetic distance measuring apparatus  
[NASA-CASE-GSC-12609-1] c 36 N81-22344

**ATMOSPHERIC SCATTERING**

Clear air turbulence detector  
[NASA-CASE-MFS-21244-1] c 36 N75-15028

**ATMOSPHERIC SOUNDING**

Microwave limb sounder --- measuring trace gases in the upper atmosphere  
[NASA-CASE-NPO-14544-1] c 46 N82-12685

**ATMOSPHERIC TEMPERATURE**

System for indicating fuel-efficient aircraft altitude  
[NASA-CASE-NPO-15351-2] c 06 N84-34443

Method of and apparatus for measuring temperature and pressure --- atmospheric sounding  
[NASA-CASE-GSC-12558-1] c 36 N85-21639

**ATMOSPHERIC TURBULENCE**

Passive optical wind and turbulence detection system Patent  
[NASA-CASE-XMF-14032] c 20 N71-16340

Focused laser Doppler velocimeter  
[NASA-CASE-MFS-23178-1] c 35 N77-10493

**ATOMIC BEAMS**

Variable energy, high flux, ground-state atomic oxygen source  
[NASA-CASE-NPO-16640-1-CU] c 72 N87-21661

**ATOMIC EXCITATIONS**

Double photon excitation of high-Rydberg atoms as a long-lived submillimeter detector  
[NASA-CASE-NPO-16372-1] c 72 N86-33127

**ATOMIZERS**

Cryogenic cooling system Patent  
[NASA-CASE-NPO-10467] c 23 N71-26654

Constant-output atomizer --- Inhalation therapy and aerosol research  
[NASA-CASE-MFS-25631-1] c 34 N84-12406

Liquid seeding atomizer  
[NASA-CASE-ARC-11631-1] c 34 N87-21255

**ATS**

Doppler frequency spread correction device for multiplex transmissions  
[NASA-CASE-XGS-02749] c 07 N69-39978

**ATTACHMENT**

Wide temperature range electronic device with lead attachment  
[NASA-CASE-ERC-10224-2] c 09 N73-27150

**ATTENUATORS**

Rotary vane attenuator wherein rotor has orthogonally disposed resistive and dielectric cards  
[NASA-CASE-NPO-11418-1] c 14 N73-13420

Pulse transducer with artifact signal attenuator --- heart rate sensors  
[NASA-CASE-FRC-11012-1] c 52 N80-23969

**ATTITUDE (INCLINATION)**

Analog spatial maneuver computer  
[NASA-CASE-GSC-10880-1] c 08 N72-11172

Spacecraft attitude sensor  
[NASA-CASE-GSC-10890-1] c 21 N73-30640

Interferometer mirror tilt correcting system  
[NASA-CASE-NPO-13687-1] c 35 N78-18391

**ATTITUDE CONTROL**

Visual target for retrofire attitude control  
[NASA-CASE-XMS-12158-1] c 31 N69-27499

Three axis controller Patent  
[NASA-CASE-XFR-00181] c 21 N70-33279

Method and apparatus for determining satellite orientation utilizing spatial energy sources Patent  
[NASA-CASE-XGS-00466] c 21 N70-34297

Attitude and propellant flow control system and method Patent  
[NASA-CASE-XMF-00185] c 21 N70-34539

Space vehicle attitude control Patent  
[NASA-CASE-XNP-00465] c 21 N70-35395

Attitude control for spacecraft Patent  
[NASA-CASE-XNP-00294] c 21 N70-36938

Attitude orientation of spin-stabilized space vehicles Patent  
[NASA-CASE-XLA-00281] c 21 N70-36943

Ejection unit Patent  
[NASA-CASE-XNP-00676] c 15 N70-38996

Three-axis controller Patent  
[NASA-CASE-XAC-01404] c 05 N70-41581

Training vehicle for controlling attitude Patent  
[NASA-CASE-XMS-02977] c 11 N71-10746

Canopus detector including automotive gain control of photomultiplier tube Patent  
[NASA-CASE-XNP-03914] c 21 N71-10771

Automatic balancing device Patent  
[NASA-CASE-LAR-10774] c 10 N71-13545

Spacecraft experiment pointing and attitude control system Patent  
[NASA-CASE-XLA-05464] c 21 N71-14132

Attitude control system Patent  
[NASA-CASE-XGS-04393] c 21 N71-14159

Control system for rocket vehicles Patent  
[NASA-CASE-XLA-01163] c 21 N71-15582

Reactance control system Patent  
[NASA-CASE-XMF-01598] c 21 N71-15583

Spacecraft attitude detection system by stellar reference Patent  
[NASA-CASE-XGS-03431] c 21 N71-15642

Three-axis finger tip controller for switches Patent  
[NASA-CASE-XAC-02405] c 09 N71-16089

Thrust and direction control apparatus Patent  
[NASA-CASE-XLE-03583] c 31 N71-17629

Attitude sensor for space vehicles Patent  
[NASA-CASE-XLA-00793] c 21 N71-22880

Attitude control system for sounding rockets Patent  
[NASA-CASE-XGS-01654] c 31 N71-24750

Voice operated controller Patent  
[NASA-CASE-XLA-04063] c 31 N71-33160

Attitude sensor  
[NASA-CASE-LAR-10586-1] c 19 N74-15089

Temperature compensated digital inertial sensor --- circuit for maintaining inertial element of gyroscope or accelerometer at constant position  
[NASA-CASE-NPO-13044-1] c 35 N74-15094

Sun direction detection system  
[NASA-CASE-NPO-13722-1] c 74 N77-22951

Thrust augmented spin recovery device  
[NASA-CASE-LAR-11970-2] c 08 N81-19130

Programmable scan/read circuitry for charge coupled device imaging detectors --- spacecraft attitude control and star trackers  
[NASA-CASE-NPO-15345-1] c 74 N84-23247

Propulsion apparatus and method using boil-off gas from a cryogenic liquid  
[NASA-CASE-MFS-25946-1] c 20 N86-26368

Emitted vibration measurement device and method  
[NASA-CASE-MFS-25981-1] c 35 N87-14670

Aircraft control position indicator  
[NASA-CASE-LAR-12984-1] c 06 N87-22678

Three axis attitude control system  
[NASA-CASE-GSC-12970-1] c 08 N88-23808

**ATTITUDE GYROS**

Space vehicle attitude control Patent  
[NASA-CASE-XNP-00465] c 21 N70-35395

Attitude control system  
[NASA-CASE-MFS-22787-1] c 15 N77-10113

**ATTITUDE INDICATORS**

Photosensitive device to detect bearing deviation Patent  
[NASA-CASE-XNP-00438] c 21 N70-35089

Controllers Patent  
[NASA-CASE-XMS-07487] c 15 N71-23255

Combined optical attitude and altitude indicating instrument Patent  
[NASA-CASE-XLA-01907] c 14 N71-23268

Head-up attitude display  
[NASA-CASE-ERC-10392] c 21 N73-14692

Attitude sensor  
[NASA-CASE-LAR-10586-1] c 19 N74-15089

Translatory shock absorber for attitude sensors  
[NASA-CASE-MFS-22905-1] c 19 N76-22284

Air speed and attitude probe  
[NASA-CASE-FRC-11009-1] c 06 N80-18036

Aircraft body-axis rotation measurement system  
[NASA-CASE-FRC-11043-1] c 06 N83-33882

**ATTITUDE STABILITY**

Dynamic precession damper for spin stabilized vehicles Patent  
[NASA-CASE-XLA-01989] c 21 N70-34295

Apparatus for automatically stabilizing the attitude of a nonguided vehicle  
[NASA-CASE-ARC-10134] c 30 N72-17873

Method of damping nutation motion with minimum spin axis attitude disturbance  
[NASA-CASE-GSC-12551-1] c 18 N83-28064

**AUDIO EQUIPMENT**

Audio system with means for reducing noise effects  
[NASA-CASE-NPO-11631] c 10 N73-12244

**AUDIO FREQUENCIES**

Signal path series step biased multidevice high efficiency amplifier Patent  
[NASA-CASE-GSC-10668-1] c 07 N71-28430

Audio frequency marker system  
[NASA-CASE-NPO-11147] c 14 N72-27408

**AUDIO SIGNALS**

Method and apparatus for operating on companded PCM voice data  
[NASA-CASE-KSC-11285-1] c 32 N86-27513

**AUDITORY DEFECTS**

Hearing aid malfunction detection system  
[NASA-CASE-MS-C-14916-1] c 33 N78-10375

**AUDITORY PERCEPTION**

Auditory display for the blind  
[NASA-CASE-HQN-10832-1] c 71 N74-21014

**AUDITORY SIGNALS**

Audio signal processor Patent  
[NASA-CASE-MS-C-12223-1] c 07 N71-26181

Audio system with means for reducing noise effects  
[NASA-CASE-NPO-11631] c 10 N73-12244

**AUDITORY STIMULI**

Auditory display for the blind  
[NASA-CASE-HQN-10832-1] c 71 N74-21014

**AUGER EFFECT**

Apparatus for accurately preloading auger attachment means for frangible protective material  
[NASA-CASE-MS-C-18791-1] c 37 N83-36482

**AUSTENITIC STAINLESS STEELS**

Nickel aluminide coated low alloy stainless steel  
[NASA-CASE-LEW-11267-1] c 17 N73-32414

Device for measuring the ferrite content in an austenitic stainless-steel weld  
[NASA-CASE-MFS-22907-1] c 26 N76-18257

**AUTOCLAVES**

System for sterilizing objects --- cleaning space vehicle systems  
[NASA-CASE-KSC-11085-1] c 54 N81-24724

**AUTOCORRELATION**

Linear three-tap feedback shift register Patent  
[NASA-CASE-NPO-10351] c 08 N71-12503

Correlation function apparatus Patent  
[NASA-CASE-XNP-00746] c 07 N71-21476

**AUTOMATIC CONTROL**

Bus voltage compensation circuit for controlling direct current motor  
[NASA-CASE-XMS-04215-1] c 09 N69-39987

Optical alignment system Patent  
[NASA-CASE-XNP-02029] c 14 N70-41955



Pulsed energy power system Patent  
[NASA-CASE-MSC-13112] c 03 N71-11057

Automatic balancing device Patent  
[NASA-CASE-LAR-10774] c 10 N71-13545

Apparatus for welding torch angle and seam tracking control Patent  
[NASA-CASE-XMF-03287] c 15 N71-15607

Leak detector Patent  
[NASA-CASE-LAR-10323-1] c 12 N71-17573

Solar optical telescope dome control system Patent  
[NASA-CASE-MSC-10966] c 14 N71-19568

Automatic welding speed controller Patent  
[NASA-CASE-XMF-01730] c 15 N71-23050

Indexing microwave switch Patent  
[NASA-CASE-XNP-06507] c 09 N71-23548

Automatic pump Patent  
[NASA-CASE-XNP-04731] c 15 N71-24042

Automatic fatigue test temperature programmer Patent  
[NASA-CASE-XLA-02059] c 33 N71-24276

Automatic battery charger Patent  
[NASA-CASE-XNP-04758] c 03 N71-24605

Transistor servo system including a unique differential amplifier circuit Patent  
[NASA-CASE-XMF-05195] c 10 N71-24861

Electron beam tube containing a multiple cathode array employing indexing means for cathode substitution Patent  
[NASA-CASE-NPO-10625] c 09 N71-26182

Automatic signal range selector for metering devices Patent  
[NASA-CASE-XMS-06497] c 14 N71-26244

Automated fluid chemical analyzer Patent  
[NASA-CASE-XNP-09451] c 06 N71-26754

Automatic control of liquid cooling garment by cutaneous and external auditory meatus temperatures  
[NASA-CASE-MSC-13917-1] c 05 N72-15098

Optimal control system for an electric motor driven vehicle  
[NASA-CASE-NPO-11210] c 11 N72-20244

Automated equipotential plotter  
[NASA-CASE-NPO-11134] c 09 N72-21246

Ion thruster magnetic field control  
[NASA-CASE-LEW-10835-1] c 28 N72-22771

Temperature controller for a fluid cooled garment  
[NASA-CASE-ARC-10599-1] c 05 N73-26071

Redundant speed control for brushless Hall effect motor  
[NASA-CASE-MFS-20207-1] c 09 N73-32107

Programmable physiological infusion  
[NASA-CASE-ARC-10447-1] c 52 N74-22771

Automatically operable self-leveling load table  
[NASA-CASE-MFS-22039-1] c 09 N75-12968

Automatic focus control for facsimile cameras  
[NASA-CASE-LAR-11213-1] c 35 N75-15014

Traffic survey system --- using optical scanners  
[NASA-CASE-MFS-22631-1] c 66 N76-19888

Automatic visual inspection system for microelectronics  
[NASA-CASE-NPO-13282] c 38 N78-17396

Automatic fluid dispenser  
[NASA-CASE-ARC-10820-1] c 35 N78-19466

Method for producing solar energy panels by automation  
[NASA-CASE-LEW-12541-1] c 44 N78-25529

Circuit for automatic load sharing in parallel converter modules  
[NASA-CASE-NPO-14056-1] c 33 N79-24257

Method for forming a solar array strip  
[NASA-CASE-NPO-13652-3] c 44 N80-14474

Method of growing a ribbon crystal particularly suited for facilitating automated control of ribbon width  
[NASA-CASE-NPO-14295-1] c 76 N80-32245

Integrated control system for a gas turbine engine  
[NASA-CASE-LEW-12594-2] c 07 N81-19116

Solar energy control system --- temperature measurement  
[NASA-CASE-MFS-25287-1] c 44 N82-18686

Hydraulic actuator mechanism to control aircraft spoiler movements through dual input commands  
[NASA-CASE-LAR-12412-1] c 08 N82-24205

Automatic weld torch guidance control system  
[NASA-CASE-MFS-25807] c 37 N83-20154

Automatic thermal switch --- spacecraft applications  
[NASA-CASE-GSC-12553-1] c 34 N83-28356

Linear magnetic bearings  
[NASA-CASE-GSC-12582-2] c 37 N85-20337

Jet pump-drive system for heat removal  
[NASA-CASE-NPO-16494-1-CU] c 34 N85-29182

Automatic oscillator frequency control system  
[NASA-CASE-GSC-12804-1] c 33 N86-20668

Automated weld torch guidance control system  
[NASA-CASE-MFS-25807-2] c 37 N86-21850

Airplane automatic control force trimming device for asymmetric engine failures  
[NASA-CASE-LAR-13280-1] c 08 N87-20999

Self indexing latch system  
[NASA-CASE-MFS-25956-1] c 37 N87-21333

**AUTOMATIC CONTROL VALVES**

Check valve assembly for a probe Patent  
[NASA-CASE-XLA-00128] c 15 N70-37925

Metal valve pinfile with encapsulated elastomeric body Patent  
[NASA-CASE-MSC-12116-1] c 15 N71-17648

Semitoroidal diaphragm cavitating valve Patent  
[NASA-CASE-XNP-09704] c 12 N71-18615

Valving device for automatic refilling in cryogenic liquid systems  
[NASA-CASE-NPO-11177] c 15 N72-17453

Combined pressure regulator and shutoff valve  
[NASA-CASE-NPO-13201-1] c 37 N75-15050

Iodine generator for reclaimed water purification  
[NASA-CASE-MSC-14632-1] c 54 N78-14784

Automatic compression adjusting mechanism for internal combustion engines  
[NASA-CASE-MSC-18807-1] c 37 N83-36483

**AUTOMATIC FREQUENCY CONTROL**

Automatic acquisition system for phase-lock loop  
[NASA-CASE-XGS-04994] c 09 N69-21543

Audio signal processor Patent  
[NASA-CASE-MSC-12223-1] c 07 N71-26181

Automatic frequency control loop including synchronous switching circuits  
[NASA-CASE-KSC-10393] c 09 N72-21247

Self-tuning bandpass filter  
[NASA-CASE-ARC-10264-1] c 09 N73-20231

Programmable electronic synthesized capacitance  
[NASA-CASE-GSC-12961-1] c 33 N87-22895

Frequency domain laser velocimeter signal processor  
[NASA-CASE-LAR-13552-1-CU] c 33 N89-14385

**AUTOMATIC GAIN CONTROL**

Automatic gain control system  
[NASA-CASE-XMS-05307] c 09 N69-24330

Amplifier drift tester  
[NASA-CASE-XMS-05562-1] c 09 N69-39986

Self-tuning bandpass filter  
[NASA-CASE-ARC-10264-1] c 09 N73-20231

Digital automatic gain amplifier  
[NASA-CASE-KSC-11008-1] c 33 N79-22373

Automatic level control circuit  
[NASA-CASE-KSC-11170-1] c 33 N83-36356

Frequency domain laser velocimeter signal processor  
[NASA-CASE-LAR-13552-1-CU] c 33 N89-14385

**AUTOMATIC TEST EQUIPMENT**

Visual examination apparatus  
[NASA-CASE-ARC-10329-1] c 05 N73-26072

Automatic microbial transfer device  
[NASA-CASE-LAR-11354-1] c 35 N75-27330

Visual examination apparatus  
[US-PATENT-RE-28,921] c 52 N76-30793

Automated clinical system for chromosome analysis  
[NASA-CASE-NPO-13913-1] c 52 N79-12694

Automatic flowmeter calibration system  
[NASA-CASE-KSC-11076-1] c 34 N81-26402

Pressure suit joint analyzer  
[NASA-CASE-ARC-11314-1] c 54 N82-26987

**AUTOMATION**

Automated multi-level vehicle parking system  
[NASA-CASE-NPO-13058-1] c 37 N77-22480

**AUTOMOBILE ENGINES**

Automotive gas turbine fuel control  
[NASA-CASE-LEW-12785-1] c 37 N78-24545

Controller for computer control of brushless dc motors --- automobile engines  
[NASA-CASE-NPO-13970-1] c 33 N81-20352

**AUTOMOBILE FUELS**

Hydrogen rich gas generator  
[NASA-CASE-NPO-13342-2] c 44 N76-29700

**AUTONOMOUS NAVIGATION**

Autonomous navigation system --- gyroscopic pendulum for air navigation  
[NASA-CASE-ARC-11257-1] c 04 N81-21047

**AUXILIARY POWER SOURCES**

Independent power generator  
[NASA-CASE-LAR-11208-1] c 44 N78-32539

Electrical power generating system  
[NASA-CASE-MFS-25302-1] c 33 N83-28319

**AVERAGE**

Method of and apparatus for generating an interstitial point in a data stream having an even number of data points  
[NASA-CASE-MFS-25319-1] c 60 N85-33701

**AVIONICS**

Aircraft control position indicator  
[NASA-CASE-LAR-12984-1] c 06 N87-22678

**AXES (REFERENCE LINES)**

Moment of inertia test fixture Patent  
[NASA-CASE-XGS-01023] c 14 N71-22992

Universal restrainer and joint Patent  
[NASA-CASE-XNP-02278] c 15 N71-28951

Focal axis resolver for offset reflector antennas  
[NASA-CASE-GSC-12630-1] c 33 N83-36355

## AXES OF ROTATION

Three axis controller Patent  
[NASA-CASE-XFR-00181] c 21 N70-33279

Proportional controller Patent  
[NASA-CASE-XAC-03392] c 03 N70-41954

Trigonometric vehicle guidance assembly which aligns the three perpendicular axes of two three-axes systems Patent  
[NASA-CASE-XMF-00684] c 21 N71-21688

Controllers Patent  
[NASA-CASE-XMS-07487] c 15 N71-23255

Aircraft body-axis rotation measurement system  
[NASA-CASE-FRC-11043-1] c 06 N83-33882

Centrifugal-reciprocating compressor  
[NASA-CASE-NPO-14597-2] c 37 N84-28081

Shoulder and hip joint for hard space suits  
[NASA-CASE-MRC-11543-1] c 54 N86-28620

## AXIAL COMPRESSION LOADS

Impact monitoring apparatus  
[NASA-CASE-MSC-15626-1] c 14 N72-25411

Compression test apparatus  
[NASA-CASE-MSC-18723-1] c 35 N83-21312

## AXIAL FLOW

Monogroove heat pipe design: Insulated liquid channel with bridging wick  
[NASA-CASE-MSC-20497-1] c 34 N85-29180

Wingtip vortex propeller  
[NASA-CASE-LAR-13019-1] c 07 N85-35194

## AXIAL FLOW PUMPS

Dual motion valve with single motion input  
[NASA-CASE-MFS-28058-1] c 37 N87-21332

Rotor self-lubricating axial stop  
[NASA-CASE-MFS-28273-1] c 37 N88-23974

## AXIAL FLOW TURBINES

Multistage multiple-reentry turbine Patent  
[NASA-CASE-XLE-00170] c 15 N70-36412

Multistage multiple-reentry turbine Patent  
[NASA-CASE-XLE-00085] c 28 N70-39895

Method and turbine for extracting kinetic energy from a stream of two-phase fluid  
[NASA-CASE-NPO-14130-1] c 34 N79-20335

## AXIAL LOADS

Locking device with rolling detents Patent  
[NASA-CASE-XMF-01371] c 15 N70-41829

Method for measuring biaxial stress in a body subjected to stress inducing loads  
[NASA-CASE-MFS-23299-1] c 39 N77-28511

## AXIAL STRESS

Axially and radially controllable magnetic bearing  
[NASA-CASE-GSC-11551-1] c 37 N76-18459

Method for measuring biaxial stress in a body subjected to stress inducing loads  
[NASA-CASE-MFS-23299-1] c 39 N77-28511

## AZIMUTH

Optical tracking mount Patent  
[NASA-CASE-MFS-14017] c 14 N71-26627

Long range laser traversing system  
[NASA-CASE-GSC-11262-1] c 36 N74-21091

Magnetic heading reference  
[NASA-CASE-LAR-11387-2] c 04 N77-19056

Aircraft body-axis rotation measurement system  
[NASA-CASE-FRC-11043-1] c 06 N83-33882

## AZINES

Azine polymers and process for preparing the same Patent  
[NASA-CASE-XMF-08656] c 06 N71-11242

Ultraviolet and thermally stable polymer compositions  
[NASA-CASE-ARC-10592-1] c 27 N74-21156

Ultraviolet and thermally stable polymer compositions  
[NASA-CASE-ARC-10592-2] c 27 N76-32315

Catalytic trimerization of aromatic nitriles and triaryl-s-triazine ring cross-linked high temperature resistant polymers and copolymers made thereby  
[NASA-CASE-LEW-12053-2] c 27 N79-28307

Perfluoroalkyl polytriazines containing pendent iododifluoromethyl groups  
[NASA-CASE-ARC-11241-1] c 25 N81-14016

Process for the preparation of fluorine containing crosslinked elastomeric polytriazine and product so produced  
[NASA-CASE-ARC-11248-1] c 27 N81-17259

## AZO COMPOUNDS

Molding process for imidazopyrrolone polymers  
[NASA-CASE-LAR-10547-1] c 31 N74-13177

## AZOLES

Vinyl stilbazoles  
[NASA-CASE-ARC-11429-3CU] c 27 N87-16908

## B

## BACK INJURIES

Spine immobilization apparatus  
[NASA-CASE-ARC-11167-1] c 52 N81-25662

**BACKGROUND NOISE**

Electronic background suppression method and apparatus for a field scanning sensor  
[NASA-CASE-XGS-05211] c 07 N69-39980

**BACKGROUND RADIATION**

Method and apparatus for background signal reduction in opto-acoustic absorption measurement  
[NASA-CASE-NPO-13683-1] c 35 N77-14411

**BACKSCATTERING**

Method and apparatus for determining electromagnetic characteristics of large surface area passive reflectors  
Patent  
[NASA-CASE-XGS-02608] c 07 N70-41678  
Mossbauer spectrometer radiation detector  
[NASA-CASE-LAR-11155-1] c 35 N74-15091

**BACKUPS**

Flexible back-up bar Patent  
[NASA-CASE-XMF-00722] c 15 N70-40204  
Inherent redundancy electric heater  
[NASA-CASE-MFS-21462-1] c 33 N74-14935

**BACKWARD WAVES**

Ladder supported ring bar circuit  
[NASA-CASE-LEW-13570-1] c 33 N84-16452  
Dielectric based submillimeter backward wave oscillator circuit  
[NASA-CASE-LEW-13736-1] c 33 N84-27974

**BACTERIA**

Decontamination of petroleum products Patent  
[NASA-CASE-XNP-03835] c 06 N71-23499  
Bacterial contamination monitor  
[NASA-CASE-GSC-10879-1] c 14 N72-25413  
Method of detecting and counting bacteria in body fluids  
[NASA-CASE-GSC-11092-2] c 04 N73-27052  
Lyophilized spore dispenser  
[NASA-CASE-LAR-10544-1] c 37 N74-13178  
Method of detecting and counting bacteria  
[NASA-CASE-GSC-11917-2] c 51 N76-29891  
Determination of antimicrobial susceptibilities on infected urines without isolation  
[NASA-CASE-GSC-12046-1] c 52 N79-14750  
Method and apparatus for eliminating luminol interference material  
[NASA-CASE-MSC-16260-1] c 51 N80-16714  
Rapid, quantitative determination of bacteria in water --- adenosine triphosphate  
[NASA-CASE-GSC-12158-1] c 51 N83-27569

**BACTERIOLOGY**

Bacteria detection instrument and method  
[NASA-CASE-GSC-11533-1] c 14 N73-13435  
Application of luciferase assay for ATP to antimicrobial drug susceptibility  
[NASA-CASE-GSC-12039-1] c 51 N77-22794  
Automated single-slide staining device  
[NASA-CASE-LAR-11649-1] c 51 N77-27677

**BAFFLES**

Light radiation direction indicator with a baffle of two parallel grids  
[NASA-CASE-XNP-03930] c 14 N69-24331  
Anti-glare improvement for optical imaging systems Patent  
[NASA-CASE-NPO-10337] c 14 N71-15604  
Flexible ring slosh damping baffle Patent  
[NASA-CASE-LAR-10317-1] c 32 N71-16103  
Buoyant anti-slosh system Patent  
[NASA-CASE-XLA-04605] c 32 N71-16106  
Floating baffle to improve efficiency of liquid transfer from tanks  
[NASA-CASE-KSC-10639] c 15 N73-26472  
System for the measurement of ultra-low stray light levels --- determining the adequacy of large space telescope systems  
[NASA-CASE-MFS-23513-1] c 74 N79-11865  
Pressure letdown method and device for coal conversion systems  
[NASA-CASE-NPO-15100-1] c 44 N84-14583  
Optical system with reflective baffles  
[NASA-CASE-ARC-11502-1] c 74 N86-20125

**BAGS**

Relief container  
[NASA-CASE-XMS-06761] c 05 N69-23192  
Gas diffusion liquid storage bag and method of use for storing blood  
[NASA-CASE-NPO-13930-1] c 52 N79-14749

**BAKING**

Bakeable McLeod gauge  
[NASA-CASE-XGS-01293-1] c 35 N79-33450  
A method and technique for installing light-weight fragile, high-temperature fiber insulation  
[NASA-CASE-MSC-18934-3] c 24 N82-26387

**BALANCE**

Thermo-protective device for balances Patent  
[NASA-CASE-XAC-00648] c 14 N70-40400  
Device for monitoring a change in mass in varying gravimetric environments  
[NASA-CASE-MFS-21556-1] c 35 N74-26945

**BALANCING**

Automatic balancing device Patent  
[NASA-CASE-LAR-10774] c 10 N71-13545  
Force-balanced, throttle valve Patent  
[NASA-CASE-NPO-10808] c 15 N71-27432  
Lift balancing device  
[NASA-CASE-LAR-10348-1] c 11 N73-12264  
Method and apparatus for rebalancing a REDOX flow cell system  
[NASA-CASE-LEW-14127-1] c 33 N86-20680

**BALL BEARINGS**

Two component bearing Patent  
[NASA-CASE-XLA-00013] c 15 N71-29136  
High speed rolling element bearing  
[NASA-CASE-LEW-10856-1] c 15 N72-22490  
Low mass rolling element for bearings  
[NASA-CASE-LEW-11087-1] c 15 N73-30458  
Hollow rolling element bearings  
[NASA-CASE-LEW-11087-3] c 37 N74-21064  
Drilled ball bearing with a one piece anti-tipping cage assembly  
[NASA-CASE-LEW-11925-1] c 37 N75-31446  
Spherical bearing --- to reduce vibration effects  
[NASA-CASE-MFS-23447-1] c 37 N79-11404  
Apparatus and method for inspecting a bearing ball  
[NASA-CASE-MFS-25833-1] c 35 N86-32698  
Turbomachinery rotor support with damping  
[NASA-CASE-MFS-28345-1] c 37 N89-28841

**BALLAST (MASS)**

Life raft stabilizer  
[NASA-CASE-MSC-12393-1] c 02 N73-26006

**BALLASTS (IMPEDANCES)**

Apparatus for ballasting high frequency transistors  
[NASA-CASE-XGS-05003] c 09 N69-24318  
Direct current ballast circuit for metal halide lamp  
[NASA-CASE-MSC-18407-1] c 33 N82-24427

**BALLISTICS**

Fiber modified polyurethane foam for ballistic protection  
[NASA-CASE-ARC-10714-1] c 27 N76-15310

**BALLOON SOUNDING**

Apparatus for controlling the temperature of balloon-borne equipment  
[NASA-CASE-GSC-11620-1] c 34 N74-23039

**BALLOONS**

Hot air balloon deceleration and recovery system Patent  
[NASA-CASE-XLA-06824-2] c 02 N71-11037  
Inflation system for balloon type satellites Patent  
[NASA-CASE-XGS-03351] c 31 N71-16081  
System for stabilizing torque between a balloon and gondola  
[NASA-CASE-GSC-11077-1] c 02 N73-13008

**BALLS**

Two-axis controller Patent  
[NASA-CASE-XFR-04104] c 03 N70-42073  
Quartz ball valve  
[NASA-CASE-NPO-14473-1] c 37 N80-23654

**BANDPASS FILTERS**

Helical coaxial resonator RF filter  
[NASA-CASE-XGS-02816] c 07 N69-24323  
Compensating bandwidth switching transients in an amplifier circuit Patent  
[NASA-CASE-XNP-01107] c 10 N71-28859  
Signal-to-noise ratio determination circuit  
[NASA-CASE-GSC-11239-1] c 10 N73-25241  
High-Q bandpass resonators utilizing bandstop resonator pairs  
[NASA-CASE-GSC-10990-1] c 09 N73-26195  
Dichroic plate --- as bandpass filters  
[NASA-CASE-NPO-13506-1] c 35 N76-15435  
Notch filter  
[NASA-CASE-MFS-23303-1] c 32 N77-18307  
Adaptive polarization separation  
[NASA-CASE-LAR-12196-1] c 33 N81-26358  
Smoothing filter for digital to analog conversion  
[NASA-CASE-FRC-11025-1] c 33 N82-24417  
Tuned analog network  
[NASA-CASE-GSC-12650-1] c 33 N84-14421  
Low noise tuned amplifier  
[NASA-CASE-GSC-12567-1] c 33 N84-22887  
Reactanceless synthesized impedance bandpass amplifier  
[NASA-CASE-GSC-12788-1] c 33 N85-29145  
Multispectral linear array multiband selection device  
[NASA-CASE-GSC-12911-1] c 74 N86-29650

**BANDWIDTH**

Narrow bandwidth video Patent  
[NASA-CASE-XMS-06740-1] c 07 N71-26579  
Self-tuning bandpass filter  
[NASA-CASE-ARC-10264-1] c 09 N73-20231  
Turnstile and flared cone UHF antenna  
[NASA-CASE-LAR-10970-1] c 33 N76-14372  
Independent gain and bandwidth control of a traveling wave maser  
[NASA-CASE-NPO-13801-1] c 36 N78-18410

Dual band combiner for horn antenna  
[NASA-CASE-NPO-14519-1] c 32 N80-23524  
Method and apparatus for telemetry adaptive bandwidth compression  
[NASA-CASE-MSC-20821-1] c 17 N87-25348

**BARIUM**

Barium release system  
[NASA-CASE-LAR-10670-1] c 06 N73-30097

**BARIUM COMPOUNDS**

Ion thruster cathode  
[NASA-CASE-XLE-07087] c 06 N69-39889

**BARIUM FLUORIDES**

Method of making self lubricating fluoride- metal composite materials Patent  
[NASA-CASE-XLE-08511-2] c 18 N71-16105

**BARIUM ION CLOUDS**

Rocket having barium release system to create ion clouds in the upper atmosphere  
[NASA-CASE-LAR-10670-2] c 15 N74-27360

**BARIUM TITANATES**

Semiconductor-ferroelectric memory device  
[NASA-CASE-ERC-10307] c 08 N72-21198

**BARRIER LAYERS**

Schottky barrier solar cell  
[NASA-CASE-NPO-13689-2] c 44 N81-29525  
Method of measuring field funneling and range straggling in semiconductor charge-collecting junctions  
[NASA-CASE-NPO-16584-1-CU] c 76 N86-25269

**BARRIERS**

Short range laser obstacle detector --- for surface vehicles using laser diode array  
[NASA-CASE-NPO-11856-1] c 36 N74-15145

**BARS**

Satellite retrieval system  
[NASA-CASE-MFS-25403-1] c 18 N83-29303

**BASES (CHEMICAL)**

Thermal control coating Patent  
[NASA-CASE-XLA-01995] c 18 N71-23047

**BATTERY CHARGERS**

Method and apparatus for battery charge control Patent  
[NASA-CASE-XGS-05432] c 03 N71-19438  
Electrochemical coulometer and method of forming same Patent  
[NASA-CASE-XGS-05434] c 03 N71-20491  
Coulometer and third electrode battery charging circuit Patent  
[NASA-CASE-GSC-10487-1] c 03 N71-24719  
Method and apparatus for conditioning of nickel-cadmium batteries  
[NASA-CASE-MFS-23270-1] c 44 N78-25531

**BAYARD-ALPERT IONIZATION GAGES**

Ionization vacuum gauge with all but the end of the ion collector shielded Patent  
[NASA-CASE-XLA-07424] c 14 N71-18482

**BAYS (STRUCTURAL UNITS)**

Deployable geodesic truss structure  
[NASA-CASE-LAR-13113-1] c 31 N87-25492

**BEADS**

Rotary bead dropper and selector for testing micrometeorite detectors Patent  
[NASA-CASE-XGS-03304] c 09 N71-22988  
Method for thermal monitoring subcutaneous tissue  
[NASA-CASE-LAR-13028-1] c 52 N85-30618

**BEAM LEADS**

Integrated circuit package with lead structure and method of preparing the same  
[NASA-CASE-MFS-21374-1] c 33 N74-12951

**BEAM SPLITTERS**

Optical range finder having nonoverlapping complete images  
[NASA-CASE-MSC-12105-1] c 14 N72-21409  
Laser extensometer  
[NASA-CASE-MFS-19259-1] c 36 N78-14380  
Over-under double-pass interferometer  
[NASA-CASE-NPO-13999-1] c 35 N78-18395  
Method and apparatus for splitting a beam of energy --- optical communication  
[NASA-CASE-GSC-12083-1] c 73 N78-32848  
Interferometer  
[NASA-CASE-NPO-14502-1] c 74 N81-17888  
Collimated beam manifold with the number of output beams variable at a given output angle  
[NASA-CASE-MFS-25312-1] c 74 N83-17305  
Dual-beam skin friction interferometer  
[NASA-CASE-ARC-11354-1] c 74 N83-21949  
High speed multi focal plane optical system  
[NASA-CASE-GSC-12683-1] c 74 N83-36898  
Projection lens scanning laser velocimeter system  
[NASA-CASE-ARC-11547-1] c 36 N87-17026

**BEAM SWITCHING**

Electronic beam switching commutator Patent  
[NASA-CASE-XGS-01451] c 09 N71-10677  
Antenna array at focal plane of reflector with coupling network for beam switching Patent  
[NASA-CASE-GSC-10220-1] c 07 N71-27233



- Dish antenna having switchable beamwidth --- with truncated concave ellipsoid subreflector  
[NASA-CASE-GSC-11760-1] c 33 N75-19516
- Single frequency, two feed dish antenna having switchable beamwidth  
[NASA-CASE-GSC-11968-1] c 32 N76-15329
- Switchable beamwidth monopulse method and system  
[NASA-CASE-GSC-11924-1] c 33 N76-27472

**BEAM WAVEGUIDES**

- Laser machining apparatus Patent  
[NASA-CASE-HQN-10541-2] c 15 N71-27135
- Optical frequency waveguide and transmission system Patent  
[NASA-CASE-HQN-10541-4] c 16 N71-27183
- Method and apparatus for aligning a laser beam projector Patent  
[NASA-CASE-NPO-11087] c 23 N71-29125
- Microwave power transmission beam safety system  
[NASA-CASE-NPO-14224-1] c 33 N80-18287
- Multiprism collimator  
[NASA-CASE-GSC-12608-1] c 74 N83-10900

**BEAMS (RADIATION)**

- Method and means for recording and reconstructing holograms without use of a reference beam Patent  
[NASA-CASE-ERC-10020] c 16 N71-26154
- Optical frequency waveguide and transmission system  
[NASA-CASE-HQN-10541-3] c 23 N72-23695
- Method and apparatus for Doppler frequency modulation of radiation  
[NASA-CASE-NPO-14524-1] c 32 N80-24510
- Scannable beam forming interferometer antenna array system  
[NASA-CASE-GSC-12365-1] c 32 N80-28578
- Method for shaping and aiming narrow beams --- sonar mapping and target identification  
[NASA-CASE-NPO-14632-1] c 32 N82-18443
- Constant magnification optical tracking system  
[NASA-CASE-NPO-14813-1] c 74 N82-24072
- Sidelooking laser altimeter for a flight simulator  
[NASA-CASE-ARC-11312-1] c 36 N83-34304
- Off-axis coherently pumped laser  
[NASA-CASE-GSC-12592-1] c 36 N84-28065
- Beam forming network  
[NASA-CASE-NPO-15743-1] c 32 N85-29118
- Means for phase locking the outputs of a surface emitting laser diode array  
[NASA-CASE-NPO-16542-1-CU] c 36 N87-23960

**BEAMS (SUPPORTS)**

- Foldable beam  
[NASA-CASE-LAR-12077-1] c 31 N81-25259
- Beam connector apparatus and assembly  
[NASA-CASE-MFS-25134-1] c 31 N83-31895
- Sequentially deployable maneuverable tetrahedral beam  
[NASA-CASE-LAR-13098-1] c 31 N86-19479
- Joint for deployable structures  
[NASA-CASE-NPO-16038-1] c 37 N86-19605
- Synchronously deployable double fold beam and planar truss structure  
[NASA-CASE-LAR-13490-1] c 18 N87-14413
- Bi-stem gripping apparatus  
[NASA-CASE-MFS-28185-1] c 37 N88-23979
- Mobile remote manipulator system for a tetrahedral truss  
[NASA-CASE-MSC-20985-1] c 18 N88-26398

**BEARING**

- Emitted vibration measurement device and method  
[NASA-CASE-MFS-25981-1] c 35 N87-14670

**BEARING (DIRECTION)**

- Light radiation direction indicator with a baffle of two parallel grids  
[NASA-CASE-XNP-03930] c 14 N69-24331
- Radiation direction detector including means for compensating for photocell aging Patent  
[NASA-CASE-XLA-00183] c 14 N70-40239
- Interferometer direction sensor Patent  
[NASA-CASE-NPO-10320] c 14 N71-17655
- Omnidirectional acceleration device Patent  
[NASA-CASE-HQN-10780] c 14 N71-30265
- Magnetic heading reference  
[NASA-CASE-LAR-11387-2] c 04 N77-19056
- Direction sensitive laser velocimeter --- determining the direction of particles using a helium-neon laser  
[NASA-CASE-LAR-12177-1] c 36 N81-24422
- System for providing an integrated display of instantaneous information relative to aircraft attitude, heading, altitude, and horizontal situation  
[NASA-CASE-FRC-11005-1] c 06 N82-16075

**BEARINGS**

- Alloys for bearings Patent  
[NASA-CASE-XLE-05033] c 15 N71-23810
- Bearing and gimbal lock mechanism and spiral flex lead module Patent  
[NASA-CASE-GSC-10556-1] c 31 N71-26537
- Device for measuring bearing preload  
[NASA-CASE-MFS-20434] c 11 N72-25288

- Magnetic bearing --- for supplying magnetic fluxes  
[NASA-CASE-GSC-11079-1] c 37 N75-18574
- Magnetic bearing system  
[NASA-CASE-GSC-11978-1] c 37 N77-17464
- Hydrostatic bearing support  
[NASA-CASE-LEW-11158-1] c 37 N77-28486
- Deformable bearing seat  
[NASA-CASE-LEW-12527-1] c 37 N77-32500
- Bearing seat usable in a gas turbine engine  
[NASA-CASE-LEW-12477-1] c 37 N77-32501
- Method of making bearing material  
[NASA-CASE-LEW-11930-3] c 24 N80-33482
- Suspension system for a wheel rolling on a flat track --- bearings for directional antennas  
[NASA-CASE-NPO-14395-1] c 37 N82-21587
- Antenna grout replacement system  
[NASA-CASE-NPO-15202-1] c 27 N83-34043
- Magnetic bearing and motor  
[NASA-CASE-GSC-12726-1] c 37 N83-34323
- Unidirectional flexural pivot  
[NASA-CASE-GSC-12622-1] c 37 N84-12492
- Portable 90 degree proof loading device  
[NASA-CASE-MSC-20250-1] c 35 N86-19581

**BEDS (PROCESS ENGINEERING)**

- Catalyst bed removing tool Patent  
[NASA-CASE-XFR-00811] c 15 N70-36901
- Solar heated oil shale pyrolysis process  
[NASA-CASE-NPO-16392-1] c 25 N86-25428

**BEER LAW**

- A multichannel photoionization chamber for absorption analysis Patent  
[NASA-CASE-ERC-10044-1] c 14 N71-27090

**BEES**

- Decontamination of petroleum products Patent  
[NASA-CASE-XNP-03835] c 06 N71-23499

**BELLOWS**

- Balanced bellows spirometer  
[NASA-CASE-XAR-01547] c 05 N69-21473
- Printed circuit board with bellows rivet connection Patent  
[NASA-CASE-XNP-05082] c 15 N70-41960
- Spherical shield Patent  
[NASA-CASE-XNP-01855] c 15 N71-28937
- Internally supported flexible duct joint --- device for conducting fluids in high pressure systems  
[NASA-CASE-MFS-19193-1] c 37 N75-19686
- Protective telescoping shield for solar concentrator  
[NASA-CASE-NPO-16236-1] c 44 N86-27706

**BELTS**

- Apparatus for forming drive belts  
[NASA-CASE-NPO-13205-1] c 31 N74-32917

**BENDING**

- Radio frequency shielded enclosure Patent  
[NASA-CASE-XMF-09422] c 07 N71-19436
- Means for suppressing or attenuating bending motion of elastic bodies Patent  
[NASA-CASE-XAC-05632] c 32 N71-23971
- Technique of elbow bending small jacketed transfer lines Patent  
[NASA-CASE-XNP-10475] c 15 N71-24679
- Forming tool for ribbon or wire  
[NASA-CASE-XLA-05966] c 15 N72-12408

**BENDING DIAGRAMS**

- Electrostatic charged particle analyzer having deflection members shaped according to the periodic voltage applied thereto Patent  
[NASA-CASE-XAC-05506-1] c 24 N71-16095

**BENDING FATIGUE**

- Apparatus for positioning and loading a test specimen Patent  
[NASA-CASE-XLE-01300] c 15 N70-41993
- Low temperature flexure fatigue cryostat Patent  
[NASA-CASE-XMF-02964] c 14 N71-17659

**BENDING MOMENTS**

- Missile launch release system Patent  
[NASA-CASE-XMF-03198] c 30 N70-40353
- Compliant hydrodynamic fluid journal bearing  
[NASA-CASE-LEW-13670-1] c 37 N86-19606

**BENDING VIBRATION**

- Viscous pendulum damper Patent  
[NASA-CASE-LAR-10274-1] c 14 N71-17626

**BENZENE**

- Intumescent composition, foamed product prepared therewith, and process for making same  
[NASA-CASE-ARC-10304-1] c 18 N73-26572
- Polymer of phosphonylmethyl-2,4- and -2,6-diamino benzene and polyfunctional monomer  
[NASA-CASE-ARC-11506-2] c 23 N86-32525
- Fire and heat resistant laminating resins based on maleimido and citraconimido substituted 1-(diorgano oxyphosphonyl) methyl -2,4- and -2,6- diamino benzenes  
[NASA-CASE-ARC-11533-3] c 27 N87-24564

**BERYLLIUM ALLOYS**

- Corrosion resistant beryllium Patent  
[NASA-CASE-LEW-10327] c 17 N71-33408

- Thin film strain transducer  
[NASA-CASE-WLP-10055-1] c 35 N84-28015

**BERYLLIUM HYDRIDES**

- Inhibited solid propellant composition containing beryllium hydride  
[NASA-CASE-NPO-10866-1] c 28 N79-14228

**BERYLLIUM OXIDES**

- High temperature beryllium oxide capacitor  
[NASA-CASE-LEW-11938-1] c 33 N76-15373
- High modulus invert analog glass compositions containing beryllia  
[NASA-CASE-HQN-10931-2] c 27 N82-29452
- High modulus rare earth and beryllium containing silicate glass compositions --- for glass reinforcing fibers  
[NASA-CASE-HQN-10595-1] c 27 N82-29455

**BIDIRECTIONAL REFLECTANCE**

- A reference standard for bidirectional reflection distribution function and bidirectional transmission distribution function measurement  
[NASA-CASE-MFS-28183-1] c 74 N89-13253

**BIMETALS**

- Nonmagnetic thermal motor for a magnetometer  
[NASA-CASE-XAR-03786] c 09 N69-21313
- Thermostatic actuator  
[NASA-CASE-NPO-10637] c 15 N72-12409
- Thermal motor  
[NASA-CASE-NPO-11283] c 09 N72-25260
- Thermal compensating structural member  
[NASA-CASE-MFS-20433] c 15 N72-28496
- Bimetallic fluid displacement apparatus --- for stirring and heating stored gases and liquids  
[NASA-CASE-ARC-10441-1] c 35 N74-15126
- Thermocouples of tantalum and rhenium alloys for more stable vacuum-high temperature performance  
[NASA-CASE-LEW-12050-1] c 35 N77-32454

**BINARY CODES**

- Time division radio relay synchronizing system using different sync code words for in sync and out of sync conditions Patent  
[NASA-CASE-GSC-10373-1] c 07 N71-19773
- Parallel generation of the check bits of a PN sequence Patent  
[NASA-CASE-XNP-04623] c 10 N71-26103
- Encoder/decoder system for a rapidly synchronizable binary code Patent  
[NASA-CASE-NPO-10342] c 10 N71-33407
- Binary coded sequential acquisition ranging system  
[NASA-CASE-NPO-11194] c 08 N72-25209
- Binary concatenated coding system  
[NASA-CASE-MSC-14082-1] c 60 N76-23850
- Multiple rate digital command detection system with range clean-up capability  
[NASA-CASE-NPO-13753-1] c 32 N77-20289
- Pseudo noise code and data transmission method and apparatus  
[NASA-CASE-GSC-12017-1] c 32 N77-30308
- Binary to binary coded decimal converter  
[NASA-CASE-GSC-12044-1] c 60 N78-17691
- Apparatus and method for stabilized phase detection for binary signal tracking loops  
[NASA-CASE-MSC-16461-1] c 33 N79-11313

**BINARY DATA**

- Binary magnetic memory device Patent  
[NASA-CASE-XGS-00174] c 08 N70-34743
- Ripple add and ripple subtract binary counters Patent  
[NASA-CASE-XGS-04766] c 08 N71-18602
- Computing apparatus Patent  
[NASA-CASE-XGS-04765] c 08 N71-18693
- Digital synchronizer Patent  
[NASA-CASE-NPO-10851] c 07 N71-24613
- Differential phase shift keyed communication system  
[NASA-CASE-MSC-14065-1] c 32 N74-26654
- Modulator for tone and binary signals --- phase of modulation of tone and binary signals on carrier waves in communication systems  
[NASA-CASE-GSC-11743-1] c 32 N75-24981
- Binary to binary coded decimal converter  
[NASA-CASE-GSC-12044-1] c 60 N78-17691

**BINARY DIGITS**

- Logarithmic converter Patent  
[NASA-CASE-XLA-00471] c 08 N70-34778
- Full binary adder Patent  
[NASA-CASE-XGS-00689] c 08 N70-34787
- Binary number sorter Patent  
[NASA-CASE-NPO-10112] c 08 N71-12502
- Binary sequence detector Patent  
[NASA-CASE-XNP-05415] c 08 N71-12505
- Display for binary characters Patent  
[NASA-CASE-XGS-04987] c 08 N71-20571
- Comparator for the comparison of two binary numbers Patent  
[NASA-CASE-XNP-04819] c 08 N71-23295
- High speed direct binary to binary coded decimal converter and scaler  
[NASA-CASE-KSC-10595] c 08 N73-12176

- A-mary linear feedback shift register with binary logic  
[NASA-CASE-NPO-11868] c 10 N73-20254
- Binary concatenated coding system  
[NASA-CASE-MSC-14082-1] c 60 N76-23850
- BINARY FLUIDS**
- Flow measuring apparatus  
[NASA-CASE-LEW-12078-1] c 35 N75-30503
- BINARY TO DECIMAL CONVERTERS**
- Binary to binary-coded-decimal converter Patent  
[NASA-CASE-XNP-00432] c 08 N70-35423
- High speed binary to decimal conversion system Patent  
[NASA-CASE-XGS-01230] c 08 N71-19544
- BCD to decimal decoder Patent  
[NASA-CASE-XKS-06167] c 08 N71-24890
- High speed direct binary-to-binary coded decimal converter  
[NASA-CASE-KSC-10326] c 08 N72-21197
- Binary to binary coded decimal converter  
[NASA-CASE-GSC-12044-1] c 60 N78-17691
- BINDERS (MATERIALS)**
- Bonded solid lubricant coating Patent  
[NASA-CASE-XMS-00259] c 18 N70-36400
- Brazing alloy binder  
[NASA-CASE-XMF-05868] c 26 N75-27125
- Alkali-metal silicate binders and methods of manufacture  
[NASA-CASE-GSC-12303-1] c 24 N79-31347
- BINOCULARS**
- Binocular device for displaying numerical information in field of view  
[NASA-CASE-LAR-11782-1] c 74 N77-20882
- BIOASSAY**
- Apparatus for producing three-dimensional recordings of fluorescence spectra Patent  
[NASA-CASE-XGS-01231] c 14 N70-41676
- Flavin coenzyme assay  
[NASA-CASE-GSC-10565-1] c 06 N72-25149
- Method of detecting and counting bacteria in body fluids  
[NASA-CASE-GSC-11092-2] c 04 N73-27052
- Amino acid analysis  
[NASA-CASE-NPO-12130-1] c 25 N75-14844
- Servo-controlled intravital microscope system  
[NASA-CASE-NPO-13214-1] c 35 N75-25123
- Method of detecting and counting bacteria  
[NASA-CASE-GSC-11917-2] c 51 N76-29891
- Automated clinical system for chromosome analysis  
[NASA-CASE-NPO-13913-1] c 52 N79-12694
- Determination of antimicrobial susceptibilities on infected urines without isolation  
[NASA-CASE-GSC-12046-1] c 52 N79-14750
- Method and apparatus for eliminating luminol interference material  
[NASA-CASE-MSC-16260-1] c 51 N80-16714
- BIODEGRADATION**
- Method for treating wastewater using microorganisms and vascular aquatic plants  
[NASA-CASE-NSTL-10] c 45 N84-12654
- BIODYNAMICS**
- Prosthesis coupling  
[NASA-CASE-KSC-11069-1] c 52 N79-26772
- Kinesimetric method and apparatus  
[NASA-CASE-MSC-18929-1] c 39 N83-20280
- BIOELECTRIC POTENTIAL**
- Electrode for biological recording  
[NASA-CASE-XMS-02872] c 05 N69-21925
- Method of making a perspiration resistant biopotential electrode  
[NASA-CASE-MSC-90153-2] c 05 N72-25120
- Process for control of cell division  
[NASA-CASE-LAR-10773-3] c 51 N77-25769
- BIOELECTRICITY**
- Plated electrodes Patent  
[NASA-CASE-XMS-04213-1] c 09 N71-26002
- Indirect microbial detection  
[NASA-CASE-LAR-12520-1] c 51 N81-28698
- BIOENGINEERING**
- Bio-isolated dc operational amplifier --- for bioelectric measurements  
[NASA-CASE-ARC-10596-1] c 33 N74-21851
- Actuator device for artificial leg  
[NASA-CASE-MFS-23225-1] c 52 N77-14735
- Percutaneous connector device  
[NASA-CASE-KSC-10849-1] c 52 N77-14738
- Prosthesis coupling  
[NASA-CASE-KSC-11069-1] c 52 N79-26772
- Subcutaneous electrode structure  
[NASA-CASE-ARC-11117-1] c 52 N81-14612
- Urine collection device  
[NASA-CASE-MSC-16433-1] c 52 N81-24711
- Bio-medical flow sensor --- intravenous procedures  
[NASA-CASE-MSC-18761-1] c 52 N83-27577
- Prosthetic occlusive device for an internal passageway  
[NASA-CASE-MFS-25740-1] c 52 N84-11744
- Medical clip  
[NASA-CASE-LAR-12650-1] c 52 N84-28388
- BIOINSTRUMENTATION**
- Temperature compensated solid state differential amplifier Patent  
[NASA-CASE-XAC-00435] c 09 N70-35440
- Electrode construction Patent  
[NASA-CASE-ARC-10043-1] c 05 N71-11193
- Pressed disc type sensing electrodes with ion-screening means Patent  
[NASA-CASE-XMS-04212-1] c 05 N71-12346
- EEG sleep analyzer and method of operation Patent  
[NASA-CASE-MSC-13282-1] c 05 N71-24729
- Plated electrodes Patent  
[NASA-CASE-XMS-04213-1] c 09 N71-26002
- Ultrasonic biomedical measuring and recording apparatus --- for recording motion of internal organs such as heart valves  
[NASA-CASE-ARC-10597-1] c 52 N74-20726
- Subminiature insertable force transducer --- including a strain gage to measure forces in muscles  
[NASA-CASE-NPO-13423-1] c 33 N75-31329
- Catheter tip force transducer for cardiovascular research  
[NASA-CASE-NPO-13643-1] c 52 N76-29896
- Biomedical ultrasonoscope  
[NASA-CASE-ARC-10994-1] c 52 N76-33835
- Thermistor holder for skin temperature measurements  
[NASA-CASE-ARC-10855-1] c 52 N77-10780
- Magnetic electrical connectors for biomedical percutaneous implants  
[NASA-CASE-KSC-11030-1] c 52 N77-25772
- Corneal seal device  
[NASA-CASE-LEW-12258-1] c 52 N77-28716
- Snap-in compressible biomedical electrode  
[NASA-CASE-MSC-14623-1] c 52 N77-28717
- Miniature implantable ultrasonic echosonometer  
[NASA-CASE-ARC-11035-1] c 52 N79-18580
- Induction powered biological radiosonde  
[NASA-CASE-ARC-11120-1] c 52 N80-18691
- Pulse transducer with artifact signal attenuator --- heart rate sensors  
[NASA-CASE-FRC-11012-1] c 52 N80-23969
- Method and automated apparatus for detecting coliform organisms  
[NASA-CASE-MSC-16777-1] c 51 N80-27067
- Simultaneous muscle force and displacement transducer  
[NASA-CASE-NPO-14212-1] c 52 N80-27072
- Logic-controlled occlusive cuff system  
[NASA-CASE-MSC-14836-1] c 52 N82-11770
- Implantable electrical device  
[NASA-CASE-GSC-12560-1] c 52 N82-29863
- BIOLOGICAL EFFECTS**
- Bio-reactor cell culture process  
[NASA-CASE-MSC-21293-1] c 51 N89-14666
- BIO Luminescence**
- Light detection instrument Patent  
[NASA-CASE-XGS-05534] c 23 N71-16355
- Lyophilized reaction mixtures Patent  
[NASA-CASE-XGS-05532] c 06 N71-17705
- Application of luciferase assay for ATP to antimicrobial drug susceptibility  
[NASA-CASE-GSC-12039-1] c 51 N77-22794
- Rapid, quantitative determination of bacteria in water --- adenosine triphosphate  
[NASA-CASE-GSC-12158-1] c 51 N83-27569
- BIOMEDICAL DATA**
- Biomedical radiation detecting probe Patent  
[NASA-CASE-XMS-01177] c 05 N71-19440
- Biomedical ultrasonoscope  
[NASA-CASE-ARC-10994-2] c 52 N79-26771
- BIOMETRICS**
- Pressed disc type sensing electrodes with ion-screening means Patent  
[NASA-CASE-XMS-04212-1] c 05 N71-12346
- Compressible biomedical electrode  
[NASA-CASE-MSC-13648] c 05 N72-27103
- Ultrasonic biomedical measuring and recording apparatus --- for recording motion of internal organs such as heart valves  
[NASA-CASE-ARC-10597-1] c 52 N74-20726
- Arterial pulse wave pressure transducer  
[NASA-CASE-GSC-11531-1] c 52 N74-27566
- Biomedical ultrasonoscope  
[NASA-CASE-ARC-10994-1] c 52 N76-33835
- Miniature implantable ultrasonic echosonometer  
[NASA-CASE-ARC-11035-1] c 52 N79-18580
- Biomedical ultrasonoscope  
[NASA-CASE-ARC-10994-2] c 52 N79-26771
- Simultaneous muscle force and displacement transducer  
[NASA-CASE-NPO-14212-1] c 52 N80-27072
- Multifunctional transducer  
[NASA-CASE-NPO-14329-1] c 52 N81-20703
- Sweat collection capsule  
[NASA-CASE-ARC-11031-1] c 52 N81-29763
- Rapid quantification of an internal property --- ultrasonic determination of bladder urine quantity  
[NASA-CASE-LAR-13689-1-NP] c 35 N87-23941
- BIOPROCESSING**
- Spiral vane bioreactor  
[NASA-CASE-MSC-21361-1] c 51 N89-25557
- BIOREACTORS**
- Horizontally rotated cell culture system  
[NASA-CASE-MSC-21294-1] c 51 N89-13131
- Spiral vane bioreactor  
[NASA-CASE-MSC-21361-1] c 51 N89-25557
- BIOTECHNOLOGY**
- Bio-reactor cell culture process  
[NASA-CASE-MSC-21293-1] c 51 N89-14666
- BIOTELEMETRY**
- Telemeter adaptable for implanting in an animal Patent  
[NASA-CASE-XAC-05706] c 05 N71-12342
- Miniature multichannel biotelemetry system  
[NASA-CASE-NPO-13065-1] c 52 N74-26625
- Medical subject monitoring systems --- multichannel monitoring systems  
[NASA-CASE-MSC-14180-1] c 52 N76-14757
- Accelerometer telemetry system  
[NASA-CASE-ARC-10849-1] c 17 N76-29347
- Miniature ingestible telemeter devices to measure deep-body temperature  
[NASA-CASE-ARC-10583-1] c 52 N76-29894
- BIPOLAR TRANSISTORS**
- Voltage regulator for battery power source --- using a bipolar transistor  
[NASA-CASE-FRC-10116-1] c 33 N79-23345
- Power converter  
[NASA-CASE-FRC-11014-1] c 33 N82-18494
- BIREFRINGENCE**
- Polarimeter for transient measurement Patent  
[NASA-CASE-XNP-08883] c 23 N71-16101
- BISMALEIMIDE**
- Amine terminated bisaspartimide polymer  
[NASA-CASE-ARC-11421-2] c 27 N86-31726
- Process for curing bismaleimide resins  
[NASA-CASE-ARC-11429-4CU] c 27 N87-15304
- Vinyl stilbazoles  
[NASA-CASE-ARC-11429-3CU] c 27 N87-16908
- BISMUTH**
- Manganese bismuth films with narrow transfer characteristics for Curie-point switching  
[NASA-CASE-NPO-11336-1] c 76 N79-16678
- BISMUTH COMPOUNDS**
- Hall effect magnetometer  
[NASA-CASE-LEW-11632-2] c 35 N75-13213
- BISTABLE CIRCUITS**
- AC logic flip-flop circuits Patent  
[NASA-CASE-XGS-00823] c 10 N71-15910
- BIT SYNCHRONIZATION**
- Telemetry word forming unit  
[NASA-CASE-XNP-09225] c 09 N69-24333
- Transition tracking bit synchronization system  
[NASA-CASE-NPO-10844] c 07 N72-20140
- Apparatus for deriving synchronizing pulses from pulses in a single channel PCM communications system  
[NASA-CASE-NPO-11302-1] c 07 N73-13149
- Method and apparatus for a single channel digital communications system --- synchronization of received PCM signal by digital correlation with reference signal  
[NASA-CASE-NPO-11302-2] c 32 N74-10132
- BITERNARY CODE**
- Minimal logic block encoder Patent  
[NASA-CASE-NPO-10595] c 10 N71-25917
- BITS**
- Parallel generation of the check bits of a PN sequence Patent  
[NASA-CASE-XNP-04623] c 10 N71-26103
- MOD 2 sequential function generator for multibit binary sequence  
[NASA-CASE-NPO-10636] c 08 N72-25210
- Bit error rate measurement above and below bit rate tracking threshold  
[NASA-CASE-MSC-12743-1] c 32 N79-10263
- BITUMENS**
- Oil shale extraction using super-critical extraction  
[NASA-CASE-NPO-15656-1] c 43 N84-23012
- BLACK BODY RADIATION**
- Black-body furnace Patent  
[NASA-CASE-XLE-01399] c 33 N71-15625
- Cavity radiometer Patent  
[NASA-CASE-XNP-08961] c 14 N71-24809
- Conically shaped cavity radiometer with a dual purpose cone winding Patent  
[NASA-CASE-XNP-09701] c 14 N71-26475
- Black body cavity radiometer Patent  
[NASA-CASE-NPO-10810] c 14 N71-27323
- Stable density stratification solar pond  
[NASA-CASE-NPO-15419-2] c 44 N85-30474

**BLADDER**

- Prosthetic urinary sphincter  
[NASA-CASE-MFS-23717-1] c 52 N81-25660  
Rapid quantification of an internal property --- ultrasonic determination of bladder urine quantity  
[NASA-CASE-LAR-13689-1-NP] c 35 N87-23941

**BLADE TIPS**

- Modification and improvements to cooled blades Patent  
[NASA-CASE-XLE-00092] c 15 N70-33264  
Tip cap for a rotor blade  
[NASA-CASE-LEW-13654-1] c 07 N84-22560

**BLADES**

- Impact absorbing blade mounts for variable pitch blades  
[NASA-CASE-LEW-12313-1] c 37 N78-10468

**BLADES (CUTTERS)**

- Line cutter Patent  
[NASA-CASE-XMS-04072] c 15 N70-42017  
Tissue macerating instrument  
[NASA-CASE-LEW-12668-1] c 52 N78-14773  
Crystal cleaving machine  
[NASA-CASE-GSC-12584-1] c 37 N82-32730

**BLAST LOADS**

- Linear explosive comparison  
[NASA-CASE-LAR-10800-1] c 33 N72-27959

**BLOOD**

- Reduction of blood serum cholesterol  
[NASA-CASE-NPO-12119-1] c 52 N75-15270  
Gas diffusion liquid storage bag and method of use for storing blood  
[NASA-CASE-NPO-13930-1] c 52 N79-14749  
Dialysis system --- using ion exchange resin membranes permeable to urea molecules  
[NASA-CASE-NPO-14101-1] c 52 N80-14687

**BLOOD FLOW**

- Logic-controlled occlusive cuff system  
[NASA-CASE-MSC-14836-1] c 52 N82-11770

**BLOOD PRESSURE**

- Blood pressure measuring system for separating and separately recording dc signal and an ac signal Patent  
[NASA-CASE-XMS-06061] c 05 N71-23317  
Apparatus and method for processing Korotkov sounds --- for blood pressure measurement  
[NASA-CASE-MSC-13999-1] c 52 N74-26626  
Arterial pulse wave pressure transducer  
[NASA-CASE-GSC-11531-1] c 52 N74-27566  
Circuit for detecting initial systole and diastolic notch --- for monitoring arterial pressure  
[NASA-CASE-LEW-11581-1] c 54 N75-13531

**BLOOD VESSELS**

- Non-invasive method and apparatus for measuring pressure within a pliable vessel  
[NASA-CASE-ARC-11264-2] c 52 N83-29991

**BLUFF BODIES**

- Annular supersonic decelerator or drogue Patent  
[NASA-CASE-XLE-00222] c 02 N70-37939

**BLUNT BODIES**

- Flow field simulation Patent  
[NASA-CASE-LAR-11138] c 12 N71-20436

**BODIES OF REVOLUTION**

- Conforming polisher for aspheric surface of revolution Patent  
[NASA-CASE-XGS-02884] c 15 N71-22705  
Moment of inertia test fixture Patent  
[NASA-CASE-XGS-01023] c 14 N71-22992

**BODY FLUIDS**

- Programmable physiological infusion  
[NASA-CASE-ARC-10447-1] c 52 N74-22771  
Method of detecting and counting bacteria  
[NASA-CASE-GSC-11917-2] c 51 N76-29891  
Micro-fluid exchange coupling apparatus  
[NASA-CASE-ARC-11114-1] c 51 N81-14605

**BODY KINEMATICS**

- Space suit having improved waist and torso movement  
[NASA-CASE-ARC-10275-1] c 05 N72-22092  
Controller arm for a remotely related slave arm  
[NASA-CASE-ARC-11052-1] c 37 N79-28551  
Kinesimetric method and apparatus  
[NASA-CASE-MSC-18929-1] c 39 N83-20280

**BODY MEASUREMENT (BIOLOGY)**

- Biomedical ultrasonoscope  
[NASA-CASE-ARC-10994-1] c 52 N76-33835  
Miniature implantable ultrasonic echosonometer  
[NASA-CASE-ARC-11035-1] c 52 N79-18580  
Kinesimetric method and apparatus  
[NASA-CASE-MSC-18929-1] c 39 N83-20280  
Apparatus for determining changes in limb volume  
[NASA-CASE-MSC-18759-1] c 52 N83-27578

**BODY TEMPERATURE**

- Garments for controlling the temperature of the body Patent  
[NASA-CASE-XMS-10269] c 05 N71-24147

- Miniature ingestible telemeter devices to measure deep-body temperature  
[NASA-CASE-ARC-10583-1] c 52 N76-29894  
Method for thermal monitoring subcutaneous tissue  
[NASA-CASE-LAR-13028-1] c 52 N85-30618

**BODY VOLUME (BIOLOGY)**

- Whole body measurement systems --- for weightlessness simulation  
[NASA-CASE-MSC-13972-1] c 52 N74-10975  
Apparatus for determining changes in limb volume  
[NASA-CASE-MSC-18759-1] c 52 N83-27578

**BODY-WING CONFIGURATIONS**

- Free wing assembly for an aircraft  
[NASA-CASE-FRC-10092-1] c 05 N79-12061  
Means for controlling aerodynamically induced twist  
[NASA-CASE-LAR-12175-1] c 05 N82-28279

**BOILERS**

- Boiler for generating high quality vapor Patent  
[NASA-CASE-XLE-00785] c 33 N71-16104  
Shell side liquid metal boiler  
[NASA-CASE-NPO-10831] c 33 N72-20915  
Carbon granule probe microphone for leak detection --- recovery boilers  
[NASA-CASE-NPO-16027-1] c 35 N85-21597

**BOLOMETERS**

- Insertion loss measuring apparatus having transformer means connected across a pair of bolometers Patent  
[NASA-CASE-XNP-01193] c 10 N71-16057  
Thin film capacitive bolometer and temperature sensor Patent  
[NASA-CASE-NPO-10607] c 09 N71-27232  
Wedge immersed thermistor bolometers  
[NASA-CASE-XGS-01245-1] c 35 N79-33449

**BOLTED JOINTS**

- Optimized bolted joint  
[NASA-CASE-LAR-13250-1] c 37 N86-27630  
Device for measuring hole elongation in a bolted joint  
[NASA-CASE-LAR-13453-1] c 37 N88-14361  
Clevis joint for deployable space structures  
[NASA-CASE-LAR-13898-1] c 37 N88-30130

**BOLTS**

- Gas actuated bolt disconnect Patent  
[NASA-CASE-XLA-00326] c 03 N70-34667  
Despin weight release Patent  
[NASA-CASE-XLA-00679] c 15 N70-38601  
Inspection gage for boss Patent  
[NASA-CASE-XMF-04966] c 14 N71-17658  
Split nut separation system Patent  
[NASA-CASE-XNP-06914] c 15 N71-21489  
Fastener stretcher  
[NASA-CASE-GSC-11149-1] c 15 N73-30457  
Optimized bolted joint  
[NASA-CASE-LAR-13250-1] c 37 N86-27630  
Bearing-bypass material system test  
[NASA-CASE-LAR-13458-1] c 35 N88-23967

**BONDING**

- Bonding graphite with fused silver chloride  
[NASA-CASE-XGS-00963] c 15 N69-39735  
Bonded joint and method --- for reducing peak shear stress in adhesive bonds  
[NASA-CASE-LAR-10900-1] c 37 N74-23064  
Bonding method in the manufacture of continuous regression rate sensor devices  
[NASA-CASE-LAR-10337-1] c 24 N75-30260  
Strain arrestor plate for fused silica tile --- bonding of thermal insulation to metallic plates or structural parts  
[NASA-CASE-MSC-14182-1] c 27 N76-14264  
Bonding machine for forming a solar array strip  
[NASA-CASE-NPO-13652-2] c 44 N79-24431  
Bonding of sapphire to sapphire by eutectic mixture of aluminum oxide and zirconium oxide  
[NASA-CASE-GSC-11577-3] c 24 N79-25143  
Method of making a partial interlaminar separation composite system  
[NASA-CASE-LAR-12065-2] c 24 N81-33235  
Attachment system for silica tiles --- thermal protection for space shuttle orbiter  
[NASA-CASE-MSC-18741-1] c 27 N82-29456  
Surface texturing of fluoropolymers  
[NASA-CASE-LEW-13028-1] c 27 N82-33521  
Heat sealable, flame and abrasion resistant coated fabric  
[NASA-CASE-MSC-18382-2] c 27 N84-14324  
Insulation bonding test system  
[NASA-CASE-MFS-25862-1] c 27 N85-20126  
Cryogenic insulation strength and bond tester  
[NASA-CASE-MFS-25910-1] c 39 N86-20841  
Method for forming hermetic seals  
[NASA-CASE-NPO-16423-1-CU] c 37 N87-21334  
Tool and process for miniature explosive joining of tubes  
[NASA-CASE-LAR-13662-1] c 37 N88-14359  
Method for maintaining precise suction strip porosities  
[NASA-CASE-LAR-13638-1] c 31 N88-29051

- Method of inseting predesigned disbond areas into composite laminates  
[NASA-CASE-LAR-13225-1] c 24 N89-14258

**BONES**

- Ultrasonic bone densitometer  
[NASA-CASE-MFS-20994-1] c 35 N75-12271  
Method and system for in vivo measurement of bone tissue using a two level energy source  
[NASA-CASE-MSC-14276-1] c 52 N77-14737  
Method of adhering bone to a rigid substrate using a graphite fiber reinforced bone cement  
[NASA-CASE-NPO-13764-1] c 27 N78-17215

**BOOMS (EQUIPMENT)**

- Folding boom assembly Patent  
[NASA-CASE-XGS-00938] c 32 N70-41367  
Collapsible antenna boom and transmission line Patent  
[NASA-CASE-MFS-20068] c 07 N71-27191  
Minimech self-deploying boom mechanism  
[NASA-CASE-GSC-10566-1] c 15 N72-18477  
Mechanically extendible telescoping boom  
[NASA-CASE-NPO-11118] c 03 N72-25021  
Extended moment arm anti-spin device  
[NASA-CASE-LAR-12979-1] c 05 N85-21147  
Space station erectable manipulator placement system  
[NASA-CASE-MSC-21096-1] c 18 N89-12621

**BOOSTER RECOVERY**

- Recoverable rocket vehicle Patent  
[NASA-CASE-XMF-00389] c 31 N70-34176  
Recoverable single stage spacecraft booster Patent  
[NASA-CASE-XMF-01973] c 31 N70-41588  
Orbiter/launch system  
[NASA-CASE-LAR-12250-1] c 14 N81-26161

**BOOSTER ROCKET ENGINES**

- Segmented back-up bar Patent  
[NASA-CASE-XMF-00640] c 15 N70-39924  
Recoverable single stage spacecraft booster Patent  
[NASA-CASE-XMF-01973] c 31 N70-41588  
Space Shuttle with rail system and aft thrust structure securing solid rocket boosters to external tank  
[NASA-CASE-MFS-25853-1] c 16 N84-27784  
Earth-to-orbit vehicle providing a reusable orbital stage and method of utilizing same  
[NASA-CASE-LAR-13486-1] c 16 N87-29582

**BOOTS (FOOTWEAR)**

- Walking boot assembly  
[NASA-CASE-ARC-11101-1] c 54 N78-17675

**BOREHOLES**

- Method for machining holes in composite materials  
[NASA-CASE-MFS-28044-1] c 31 N87-25491

**BORIDES**

- Method of making a light weight battery plaque  
[NASA-CASE-LEW-13349-1] c 26 N84-22734  
Boron-containing organosilane polymers and ceramic materials thereof  
[NASA-CASE-ARC-11649-1-SB] c 27 N88-29040

**BORING MACHINES**

- Boring bar drive mechanism Patent  
[NASA-CASE-XLA-03661] c 15 N71-33518  
Borehole geological assessment  
[NASA-CASE-NPO-14231-1] c 46 N80-10709

**BORON**

- Radiation hardening of MOS devices by boron --- for stabilizing gate threshold potential of field effect device  
[NASA-CASE-GSC-11425-1] c 76 N74-20329

**BORON CARBIDES**

- Catalyst for growth of boron carbide single crystal whiskers  
[NASA-CASE-XHQ-03903] c 15 N69-21922

**BORON CHLORIDES**

- Preparation of B-trichloroborazine  
[NASA-CASE-ARC-11643-1-SB] c 23 N87-23698

**BORON COMPOUNDS**

- Boron-containing organosilane polymers and ceramic materials thereof  
[NASA-CASE-ARC-11649-1-SB] c 27 N88-29040

**BORON FLUORIDES**

- Boron trifluoride coatings for thermoplastic materials and method of applying same in glow discharge  
[NASA-CASE-ARC-11057-1] c 27 N78-31233

**BOROSILICATE GLASS**

- Method for repair of thin glass coatings --- on space shuttle orbiter tiles  
[NASA-CASE-KSC-11097-1] c 27 N82-33520

**BOULES**

- Ingot slicing machine and method  
[NASA-CASE-NPO-15483-1] c 37 N85-21650

**BOUNDARY LAYER CONTROL**

- Double hinged flap Patent  
[NASA-CASE-XLA-01290] c 02 N70-42016  
Aerodynamic side-force alleviator means  
[NASA-CASE-LAR-12326-1] c 02 N81-14968  
Active control of boundary layer transition and turbulence  
[NASA-CASE-LAR-13532-1] c 34 N86-26575

**BOUNDARY LAYER FLOW**

Combined riblet and lebu drag reduction system  
[NASA-CASE-LAR-13286-1] c 02 N88-14071

**BOUNDARY LAYER SEPARATION**

Tertiary flow injection thrust vectoring system Patent  
[NASA-CASE-MFS-20831] c 28 N71-29153  
Controlled separation combustor --- airflow distribution  
in gas turbine engines  
[NASA-CASE-LEW-11593-1] c 20 N76-14190  
Self stabilizing sonic inlet  
[NASA-CASE-LEW-11890-1] c 05 N79-24976

**BOUNDARY LAYER TRANSITION**

Detection of the transitional layer between laminar and  
turbulent flow areas on a wing surface --- using an  
accelerometer to measure pressure levels during wind  
tunnel tests  
[NASA-CASE-LAR-12261-1] c 02 N80-20224  
Active control of boundary layer transition and  
turbulence  
[NASA-CASE-LAR-13532-1] c 34 N86-26575  
Crossflow vorticity sensor  
[NASA-CASE-LAR-13436-1-CU] c 02 N88-23759  
Method for laminar boundary layer transition visualization  
in flight  
[NASA-CASE-LAR-13554-1] c 02 N89-12551

**BOUNDARY LAYERS**

Traversing probe Patent  
[NASA-CASE-XFR-02007] c 12 N71-24692  
Apparatus for sensing temperature  
[NASA-CASE-XLE-05230] c 14 N72-27410

**BOXES (CONTAINERS)**

Storage container for electronic devices Patent  
[NASA-CASE-MFS-20075] c 09 N71-26133  
Double window viewing chamber assembly  
[NASA-CASE-MFS-28057-1] c 09 N87-14355

**BRACKETS**

Electrical servo actuator bracket --- fuel control valves  
on jet engines  
[NASA-CASE-FRC-11044-1] c 37 N81-33483  
Airfoil flutter model suspension system  
[NASA-CASE-LAR-13522-1-SB] c 09 N87-25334  
Locking hinge  
[NASA-CASE-MS-C-21056-1] c 18 N88-23827

**BRAILLE**

Braille reading system  
[NASA-CASE-LAR-13306-1] c 82 N87-29372

**BRAKES**

Preloaded brake disc  
[NASA-CASE-MS-C-21132-1] c 37 N88-29181

**BRAKES (FOR ARRESTING MOTION)**

Frangible tube energy dissipation Patent  
[NASA-CASE-XLA-00754] c 15 N70-34850  
Emergency escape system Patent  
[NASA-CASE-XKS-07814] c 15 N71-27067  
Sprag solenoid brake --- development and operations  
of electrically controlled brake  
[NASA-CASE-MFS-21846-1] c 37 N74-26976  
Reel safety brake  
[NASA-CASE-GSC-11960-1] c 37 N77-14479  
Motion restraining device  
[NASA-CASE-NPO-13619-1] c 37 N78-16369  
Moving body velocity arresting line --- stainless steel  
cables with energy absorbing sleeves  
[NASA-CASE-LAR-12372-1] c 37 N82-18601

**BRAKING**

Regenerative braking system Patent  
[NASA-CASE-XMF-01096] c 10 N71-16030  
Linear magnetic brake with two windings Patent  
[NASA-CASE-XLE-05079] c 15 N71-17652  
Anemometer with braking mechanism Patent  
[NASA-CASE-XMF-05224] c 14 N71-23726

**BRAZING**

Pretreatment method for anti-wettable materials  
[NASA-CASE-XMS-03537] c 15 N69-21471  
Process for applying a protective coating for salt bath  
brazing Patent  
[NASA-CASE-XLE-00046] c 15 N70-33311  
Method of joining aluminum to stainless steel Patent  
[NASA-CASE-MFS-07369] c 15 N71-20443  
Brazing alloy Patent  
[NASA-CASE-XNP-03063] c 17 N71-23365  
Brazing alloy binder  
[NASA-CASE-XMF-05868] c 26 N75-27125  
Brazing alloy composition  
[NASA-CASE-XMF-06053] c 26 N75-27126  
Brazing alloy  
[NASA-CASE-XNP-03878] c 26 N75-27127  
Method of fluxless brazing and diffusion bonding of  
aluminum containing components  
[NASA-CASE-MS-C-14435-1] c 37 N76-18455

**BREATHING APPARATUS**

Transfer valve Patent  
[NASA-CASE-XAC-01158] c 15 N71-23051  
Self-contained breathing apparatus  
[NASA-CASE-MS-C-14733-1] c 54 N76-24900

Portable breathing system --- a breathing apparatus  
using a rebreathing system of heat exchangers for carbon  
dioxide removal  
[NASA-CASE-MS-C-16182-1] c 54 N80-10799

**BRICKS**

Foldable construction block  
[NASA-CASE-MS-C-12233-2] c 32 N73-13921

**BRIDGMAN METHOD**

Apparatus and procedure to detect a liquid-solid  
interface during crystal growth in a bridgman furnace  
[NASA-CASE-LAR-13597-1-CU] c 25 N87-23713

**BRIGHTNESS**

Light intensity modulator controller Patent  
[NASA-CASE-XMS-04300] c 09 N71-19479

**BRIGHTNESS DISCRIMINATION**

Television signal processing system Patent  
[NASA-CASE-NPO-10140] c 07 N71-24742  
Visual examination apparatus  
[NASA-CASE-ARC-10329-1] c 05 N73-26072  
Illumination control apparatus for compensating solar  
light  
[NASA-CASE-KSC-11010-1] c 74 N79-12890

**BRITTLENESS**

Rock sampling --- apparatus for controlling particle  
size  
[NASA-CASE-XNP-10007-1] c 46 N74-23068  
Rock sampling --- method for controlling particle size  
distribution  
[NASA-CASE-XNP-09755] c 46 N74-23069  
Elastomer coated filler and composites thereof  
comprising at least 60% by weight of a hydrated filler and  
an elastomer containing an acid substituent  
[NASA-CASE-NPO-14857-1] c 27 N83-19900

**BROADBAND**

Broadband choke for antenna structure  
[NASA-CASE-XMS-05303] c 07 N69-27462  
Flexible blade antenna Patent  
[NASA-CASE-MS-C-12101] c 09 N71-18720  
Broadband frequency discriminator Patent  
[NASA-CASE-NPO-10096] c 07 N71-24583  
Broadband microwave waveguide window Patent  
[NASA-CASE-XNP-08880] c 09 N71-24808  
High-gain, broadband traveling wave maser Patent  
[NASA-CASE-NPO-10548] c 16 N71-24831  
Wideband VCO with high phase stability Patent  
[NASA-CASE-XLA-03893] c 10 N71-27271  
Composite antenna feed  
[NASA-CASE-GSC-11046-1] c 07 N73-28013  
Multifrequency broadband polarized horn antenna  
[NASA-CASE-NPO-14588-1] c 32 N81-25278  
Broadband optical radiation detector  
[US-PATENT-4,262,198] c 74 N83-19597  
Method of measuring sea surface water temperature  
with a satellite including wideband passive  
synthetic-aperture multichannel receiver  
[NASA-CASE-NPO-15651-1] c 43 N85-21723  
A compact fast wide angle broad band spectrometer  
optical system  
[NASA-CASE-NPO-17562-1-CU] c 74 N89-24153

**BROADBAND AMPLIFIERS**

Broadband stable power multiplier Patent  
[NASA-CASE-XNP-10854] c 10 N71-26331  
Cascaded complementary pair broadband transistor  
amplifiers Patent  
[NASA-CASE-NPO-10003] c 10 N71-26415

**BROADCASTING**

Vehicle locating system utilizing AM broadcasting station  
carriers  
[NASA-CASE-NPO-13217-1] c 32 N75-26194

**BROMINATION**

Toughening reinforced epoxy composites with  
brominated polymeric additives  
[NASA-CASE-ARC-11427-1] c 24 N86-19380  
Brominated graphite fibers and method of producing the  
same  
[NASA-CASE-LEW-14698-1] c 24 N88-29888

**BROMINE**

Hydrogen-bromine secondary battery  
[NASA-CASE-NPO-13237-1] c 44 N76-18641

**BROMINE COMPOUNDS**

Toughening reinforced epoxy composites with  
brominated polymeric additives  
[NASA-CASE-ARC-11427-2] c 27 N86-27451

**BRONZES**

Thin wire pointing method  
[NASA-CASE-NPO-15789-1] c 31 N83-19947

**BRUSHES**

Method of making impurity-type semiconductor electrical  
contacts Patent  
[NASA-CASE-XMF-01016] c 26 N71-17818

**BRUSHES (ELECTRICAL CONTACTS)**

Shaft transducer having dc output proportional to angular  
velocity  
[NASA-CASE-NPO-15706-1] c 35 N84-28017

**BUBBLES**

Method of forming frozen spheres in a force-free drop  
tower  
[NASA-CASE-NPO-14845-1] c 27 N82-28442  
Acoustic bubble removal method  
[NASA-CASE-NPO-15334-1] c 71 N83-35781

**BUCKLING**

Miniature vibration isolator Patent  
[NASA-CASE-XLA-01019] c 15 N70-40156  
Compression test assembly  
[NASA-CASE-LAR-10440-1] c 14 N73-32323

**BUFFER STORAGE**

Data handling system based on source significance,  
storage availability and data received from the source  
Patent Application  
[NASA-CASE-XNP-04162-1] c 08 N70-34675  
Data transfer system Patent  
[NASA-CASE-NPO-12107] c 08 N71-27255  
Buffered analog converter  
[NASA-CASE-KSC-10397] c 08 N72-25206  
Common data buffer system --- communication with  
computational equipment utilized in spacecraft  
operations  
[NASA-CASE-KSC-11048-1] c 62 N81-24779  
Braille reading system  
[NASA-CASE-LAR-13306-1] c 82 N87-29372

**BUFFERS (CHEMISTRY)**

Static continuous electrophoresis device  
[NASA-CASE-MFS-25306-1] c 25 N83-13187

**BUILDINGS**

Foldable construction block  
[NASA-CASE-MS-C-12233-1] c 15 N72-25454

**BULBS**

External bulb variable volume maser  
[NASA-CASE-GSC-12334-1] c 36 N79-14362

**BULKHEADS**

Tank construction for space vehicles Patent  
[NASA-CASE-XMF-01899] c 31 N70-41948  
Tube coupling device  
[NASA-CASE-MFS-25964-2] c 37 N87-22977

**BUOYANCY**

Inflatable radar reflector unit Patent  
[NASA-CASE-XMS-00893] c 07 N70-40063

**BURNERS**

Micronized coal burner facility  
[NASA-CASE-LEW-13426-1] c 25 N84-16276

**BURNING RATE**

Burning rate control of solid propellants Patent  
[NASA-CASE-XLE-03494] c 27 N71-21819  
Burn rate testing apparatus  
[NASA-CASE-XMS-09690] c 33 N72-25913  
Nitramine propellants --- gun propellant burning rate  
[NASA-CASE-NPO-14103-1] c 28 N78-31255

**BURNOUT**

Spherically-shaped rocket motor Patent  
[NASA-CASE-XHQ-01897] c 28 N70-35381

**BURNS (INJURIES)**

Medical diagnosis system and method with multispectral  
imaging --- depth of burns and optical density of the skin  
[NASA-CASE-NPO-14402-1] c 52 N81-27783

**BUS CONDUCTORS**

Test apparatus for locating shorts during assembly of  
electrical buses  
[NASA-CASE-ARC-11116-1] c 33 N82-24420

**BUTANES**

Production of butanol by fermentation in the presence  
of cocultures of clostridium  
[NASA-CASE-NPO-16203-1] c 23 N85-35227

**BUTT JOINTS**

Channel-type shell construction for rocket engines and  
the like Patent  
[NASA-CASE-XLE-00144] c 28 N70-34860  
Segmented back-up bar Patent  
[NASA-CASE-XMF-00640] c 15 N70-39924  
Apparatus for welding sheet material --- butt joints  
[NASA-CASE-XMS-01330] c 37 N75-27376

**BUTTERFLY VALVES**

Flexible seal for valves Patent  
[NASA-CASE-XLE-00101] c 15 N70-33376

**BUTYRIC ACID**

Production of butanol by fermentation in the presence  
of cocultures of clostridium  
[NASA-CASE-NPO-16203-1] c 23 N85-35227

**BYPASSES**

Low power drain semi-conductor circuit  
[NASA-CASE-XGS-04999] c 09 N69-24317  
Helical coaxial resonator RF filter  
[NASA-CASE-XGS-02816] c 07 N69-24323  
Current regulating voltage divider  
[NASA-CASE-MFS-20935] c 09 N71-34212  
Use of unilluminated solar cells as shunt diodes for a  
solar array  
[NASA-CASE-GSC-10344-1] c 03 N72-27053  
Shunt regulation electric power system  
[NASA-CASE-GSC-10135] c 33 N78-17296

Thrust reverser for a long duct fan engine --- for turbofan engines  
 [NASA-CASE-LEW-13199-1] c 07 N82-26293  
 Method of making an ion beam sputter-etched ventricular catheter for hydrocephalus shunt  
 [NASA-CASE-LEW-13107-2] c 52 N84-23095

## C

## CABLE FORCE RECORDERS

Winch having cable position and load indicators Patent  
 [NASA-CASE-MSC-12052-1] c 15 N71-24599

## CABLES

Cable restraint  
 [NASA-CASE-LAR-10129-1] c 15 N73-25512  
 Deployable flexible tunnel  
 [NASA-CASE-MFS-22636-1] c 37 N76-22540

## CABLES (ROPES)

High-voltage cable Patent  
 [NASA-CASE-XNP-00738] c 09 N70-38201  
 Cable arrangement for rigid tethering Patent  
 [NASA-CASE-XLA-02332] c 32 N71-17609  
 Extensible cable support Patent  
 [NASA-CASE-XMF-07587] c 15 N71-18701  
 Satellite appendage tie down cord Patent  
 [NASA-CASE-XGS-02554] c 31 N71-21064  
 Quick attach mechanism Patent  
 [NASA-CASE-XFR-05421] c 15 N71-22994  
 Flexible/rigidifiable cable assembly  
 [NASA-CASE-MSC-13512-1] c 15 N72-22485  
 Cable stabilizer for open shaft cable operated elevators  
 [NASA-CASE-KSC-10513] c 15 N72-25453  
 Reefing system  
 [NASA-CASE-LAR-10129-2] c 37 N74-20063  
 Emergency descent device  
 [NASA-CASE-MFS-23074-1] c 54 N77-21844  
 Belt for transmitting power from a cogged driving member to a cogged driven member  
 [NASA-CASE-GSC-12289-1] c 37 N80-32717  
 Moving body velocity arresting line --- stainless steel cables with energy absorbing sleeves  
 [NASA-CASE-LAR-12372-1] c 37 N82-18601

## CADMIUM SULFIDES

High field CdS detector for infrared radiation  
 [NASA-CASE-LAR-11027-1] c 35 N74-18088  
 CDS solid state phase insensitive ultrasonic transducer --- annealing cadmium sulfide crystals  
 [NASA-CASE-LAR-12304-1] c 35 N80-20559  
 Liquid crystal light valve structures  
 [NASA-CASE-MSC-20036-1] c 76 N85-33826

## CALCIUM

Ultrasonic bone densitometer  
 [NASA-CASE-MFS-20994-1] c 35 N75-12271

## CALCIUM FLUORIDES

Bonded solid lubricant coating Patent  
 [NASA-CASE-XMS-00259] c 18 N70-36400  
 Method of making self lubricating fluoride- metal composite materials Patent  
 [NASA-CASE-XLE-08511-2] c 18 N71-16105

## CALCIUM OXIDES

Process for the preparation of calcium superoxide  
 [NASA-CASE-ARC-11053-1] c 25 N79-10162

## CALCIUM PHOSPHATES

Process for the preparation of brushite crystals  
 [NASA-CASE-ERC-10338] c 04 N72-33072

## CALCULATORS

Sun angle calculator  
 [NASA-CASE-MSC-12617-1] c 35 N76-29552

## CALCULI

Apparatus for disintegrating kidney stones  
 [NASA-CASE-GSC-12652-1] c 52 N84-34913

## CALIBRATING

Self-calibrating displacement transducer Patent  
 [NASA-CASE-XLA-00781] c 09 N71-22999  
 Pressure transducer calibrator Patent  
 [NASA-CASE-XNP-01660] c 14 N71-23036  
 Apparatus for testing a pressure responsive instrument Patent  
 [NASA-CASE-XMF-04134] c 14 N71-23755  
 Phonocardiogram simulator Patent  
 [NASA-CASE-XKS-10804] c 05 N71-24606  
 Laser calibrator Patent  
 [NASA-CASE-XLA-03410] c 16 N71-25914  
 Radar calibration sphere  
 [NASA-CASE-XLA-11154] c 07 N72-21117  
 Gauge calibration by diffusion  
 [NASA-CASE-XGS-07752] c 14 N73-30390  
 System for calibrating pressure transducer  
 [NASA-CASE-LAR-10910-1] c 35 N74-13132  
 In situ transfer standard for ultrahigh vacuum gage calibration  
 [NASA-CASE-LAR-10862-1] c 35 N74-15092

Ergometer calibrator --- for any ergometer utilizing rotating shaft

[NASA-CASE-MFS-21045-1] c 35 N75-15932  
 Ultrasonic calibration device --- for producing changes in acoustic attenuation and phase velocity  
 [NASA-CASE-LAR-11435-1] c 35 N76-15432  
 High temperature strain gage calibration fixture  
 [NASA-CASE-LAR-11500-1] c 35 N76-24523  
 Electronically scanned pressure sensor module with in SITU calibration capability  
 [NASA-CASE-LAR-12230-1] c 35 N79-14347  
 Calibrating pressure switch  
 [NASA-CASE-XMF-04494-1] c 33 N79-33392  
 Electromagnetic power absorber  
 [NASA-CASE-NPO-13830-1] c 32 N80-14281  
 Automatic flowmeter calibration system  
 [NASA-CASE-KSC-11076-1] c 34 N81-26402  
 Method and apparatus for precision control of radiometer  
 [NASA-CASE-NPO-15398-1] c 35 N84-22931  
 Strain gage calibration  
 [NASA-CASE-LAR-12743-1] c 35 N84-28019  
 Means and method for calibrating a photon detector utilizing electron-photon coincidence  
 [NASA-CASE-NPO-15644-1] c 35 N84-33767  
 Method and apparatus for self-calibration and phasing of array antenna  
 [NASA-CASE-NPO-15920-1] c 33 N85-21493  
 Ultrasonic angle beam standard reflector --- ultrasonic nondestructive inspection  
 [NASA-CASE-LAR-13153-1] c 71 N86-21276  
 Simulator scene display evaluation device  
 [NASA-CASE-ARC-11504-1] c 09 N86-32447  
 Spinning disk calibration method and apparatus for laser Doppler velocimeter  
 [NASA-CASE-ARC-11510-1] c 35 N86-32697  
 Antimultipath communication by injecting tone into null in signal spectrum  
 [NASA-CASE-NPO-16414-1-CU] c 32 N87-25511  
 Miniature remote dead weight calibrator  
 [NASA-CASE-LAR-13564-1] c 35 N87-25558

## CALORIMETERS

Constant temperature heat sink for calorimeters Patent  
 [NASA-CASE-XMF-04208] c 33 N71-29051  
 Heat flow calorimeter --- measures output of Ni-Cd batteries  
 [NASA-CASE-GSC-11434-1] c 34 N74-27859  
 Containerless high temperature calorimeter apparatus  
 [NASA-CASE-MFS-23923-1] c 35 N81-19426

## CAMERA SHUTTERS

Electrically-operated rotary shutter Patent  
 [NASA-CASE-XNP-00637] c 14 N70-40273  
 Fast opening diaphragm Patent  
 [NASA-CASE-XLA-03660] c 15 N71-21060  
 Cyclically operable optical shutter  
 [NASA-CASE-NPO-10758] c 14 N73-14427  
 Rotary solenoid shutter drive assembly and rotary inertia damper and stop plate assembly --- for use with cameras mounted in satellites  
 [NASA-CASE-GSC-11560-1] c 33 N74-20861

## CAMERAS

Measurement of time differences between luminous events Patent  
 [NASA-CASE-XLA-01987] c 23 N71-23976  
 Image magnification adapter for cameras Patent  
 [NASA-CASE-XMF-03844-1] c 14 N71-26474  
 Film feed camera having a detent means Patent  
 [NASA-CASE-LAR-10686] c 14 N71-28935  
 Laser camera and diffusion filter therefore Patent  
 [NASA-CASE-NPO-10417] c 16 N71-33410  
 Optical binocular scanning apparatus  
 [NASA-CASE-NPO-11002] c 14 N72-22441  
 On-film optical recording of camera lens settings  
 [NASA-CASE-MSC-12363-1] c 14 N73-26431  
 Exposure interlock for oscilloscope cameras  
 [NASA-CASE-LAR-10319-1] c 14 N73-32322  
 Real time moving scene holographic camera system  
 [NASA-CASE-MFS-21087-1] c 35 N74-17153  
 Automatic focus control for facsimile cameras  
 [NASA-CASE-LAR-11213-1] c 35 N75-15014  
 Spectrometer integrated with a facsimile camera  
 [NASA-CASE-LAR-11207-1] c 35 N75-19613  
 Real time, large volume, moving scene holographic camera system  
 [NASA-CASE-MFS-22537-1] c 35 N75-27328  
 Holographic motion picture camera with Doppler shift compensation  
 [NASA-CASE-MFS-22517-1] c 35 N76-18402

## CAMS

Controlled caging and uncaging mechanism  
 [NASA-CASE-GSC-11063-1] c 37 N77-27400  
 Cam-operated pitch-change apparatus  
 [NASA-CASE-LEW-13050-1] c 07 N79-14095  
 CAM controlled retractable door latch  
 [NASA-CASE-MSC-20304-1] c 37 N82-31690

## CANARD CONFIGURATIONS

Thrust and direction control apparatus Patent  
 [NASA-CASE-XLE-03583] c 31 N71-17629  
 Supersonic transport --- using canard surfaces  
 [NASA-CASE-LAR-11932-1] c 05 N78-32086  
 Missile rolling tail brake torque system --- simulating bearing friction on canard controlled missiles  
 [NASA-CASE-LAR-12751-1] c 15 N84-16231

## CANCER

Coupling apparatus for ultrasonic medical diagnostic system  
 [NASA-CASE-NPO-13935-1] c 52 N79-14751  
 Hyperthermia heating apparatus --- cancer therapy  
 [NASA-CASE-NPO-14549-2] c 52 N82-33996

## CANOPIES

Transparent fire resistant polymeric structures  
 [NASA-CASE-ARC-10813-1] c 27 N76-16230  
 Method for refurbishing and processing parachutes  
 [NASA-CASE-KSC-11042-1] c 09 N82-29330  
 Aircraft canopy lock  
 [NASA-CASE-FRC-11065-1] c 05 N83-19737

## CANS

Canister closing device Patent  
 [NASA-CASE-XLA-01446] c 15 N71-21528  
 Extrusion can  
 [NASA-CASE-NPO-10812] c 15 N73-13464

## CANTILEVER BEAMS

Inflatable support structure Patent  
 [NASA-CASE-XLA-01731] c 32 N71-21045  
 Cantilever mounted resilient pad gas bearing  
 [NASA-CASE-LEW-12569-1] c 37 N79-10418

## CANTILEVER MEMBERS

Deployable solar cell array  
 [NASA-CASE-NPO-10883] c 31 N72-22874  
 Miniature biaxial strain transducer  
 [NASA-CASE-LAR-11648-1] c 35 N77-14407

## CAPACITANCE

Device for determining the accuracy of the flare on a flared tube  
 [NASA-CASE-XKS-03495] c 14 N69-39785  
 Floating two force component measuring device Patent  
 [NASA-CASE-XAC-04885] c 14 N71-23790  
 Thin film capacitive bolometer and temperature sensor Patent  
 [NASA-CASE-NPO-10607] c 09 N71-27232  
 Capacitive tank gaging apparatus being independent of liquid distribution  
 [NASA-CASE-MFS-21629] c 14 N72-22442  
 Capacitance multiplier and filter synthesizing network  
 [NASA-CASE-NPO-11948-1] c 33 N74-32712  
 Direct reading inductance meter  
 [NASA-CASE-NPO-13792-1] c 35 N77-32455  
 Dynamic capacitor having a peripherally driven element and system incorporating the same  
 [NASA-CASE-XNP-02899-1] c 33 N79-21265  
 Programmable electronic synthesized capacitance  
 [NASA-CASE-GSC-12961-1] c 33 N87-22895  
 Ice detector  
 [NASA-CASE-LAR-13776-1] c 35 N88-29149

## CAPACITANCE SWITCHES

Electrical discharge apparatus for forming Patent  
 [NASA-CASE-XMF-00375] c 15 N70-34249  
 Ultra-long monostable multivibrator employing bistable semiconductor switch to allow charging of timing circuit Patent  
 [NASA-CASE-XGS-00381] c 09 N70-34819  
 Feedback integrator with grounded capacitor Patent  
 [NASA-CASE-XAC-10607] c 10 N71-23669

## CAPACITORS

Temperature sensitive capacitor device  
 [NASA-CASE-XNP-09750] c 14 N69-39937  
 Space vehicle electrical system Patent  
 [NASA-CASE-XMF-00517] c 03 N70-34157  
 Apparatus having coaxial capacitor structure for measuring fluid density Patent  
 [NASA-CASE-XLE-00143] c 14 N70-36618  
 Meteoroid sensing apparatus having a coincidence network connected to a pair of capacitors Patent  
 [NASA-CASE-XLE-01246] c 14 N71-10797  
 Capacitor and method of making same Patent  
 [NASA-CASE-LEW-10364-1] c 09 N71-13522  
 Measurement of time differences between luminous events Patent  
 [NASA-CASE-XLA-01987] c 23 N71-23976  
 Ripple indicator  
 [NASA-CASE-KSC-10162] c 09 N72-11225  
 Thermoelectric radiometer utilizing polymer film  
 [NASA-CASE-ARC-10138-1] c 14 N72-24477  
 Screened circuit capacitors  
 [NASA-CASE-LAR-10294-1] c 26 N72-28762  
 Micrometeoroid analyzer  
 [NASA-CASE-ARC-10443-1] c 14 N73-20477  
 Insulated electrocardiographic electrodes --- without paste electrolyte  
 [NASA-CASE-MSC-14339-1] c 05 N75-24716

High temperature beryllium oxide capacitor  
[NASA-CASE-LEW-11938-1] c 33 N76-15373

Energy storage apparatus  
[NASA-CASE-GSC-12030-1] c 44 N78-24608

Regulated high efficiency, lightweight capacitor-diode multiplier dc to dc converter  
[NASA-CASE-LEW-12791-1] c 33 N78-32341

Dynamic capacitor having a peripherally driven element and system incorporating the same  
[NASA-CASE-XNP-02899-1] c 33 N79-21265

Laser activated MTOS microwave device  
[NASA-CASE-NPO-16112-1] c 33 N86-19516

Water-absorbing capacitor system for measuring relative humidity  
[NASA-CASE-NPO-16544-1-CU] c 35 N87-22953

**CAPILLARY FLOW**

Capillary radiator Patent  
[NASA-CASE-XLE-03307] c 33 N71-14035

Fluid lubricant system Patent  
[NASA-CASE-XNP-03972] c 15 N71-23048

Soldering device Patent  
[NASA-CASE-XLA-08911] c 15 N71-27214

Capillary flow weld-bonding  
[NASA-CASE-LAR-11726-1] c 37 N76-27568

Polymeric heat pipe wick  
[NASA-CASE-GSC-13019-1] c 34 N88-29133

Capillary heat transport and fluid management device  
[NASA-CASE-MFS-28217-1] c 34 N89-14392

**CAPILLARY TUBES**

Fluid flow restrictor Patent  
[NASA-CASE-NPO-10117] c 15 N71-15608

Water separating system Patent  
[NASA-CASE-XMS-13052] c 14 N71-20427

Mercury capillary interrupter Patent  
[NASA-CASE-XNP-02251] c 12 N71-20896

Diffused waveguiding capillary tube with distributed feedback for a gas laser  
[NASA-CASE-NPO-13544-1] c 36 N76-18428

**CARBAZOLES**

Method of using photovoltaic cell using poly-N-vinylcarbazole complex Patent  
[NASA-CASE-NPO-10373] c 03 N71-18698

**CARBIDES**

Absorbable-susceptor joining of ceramic surfaces  
[NASA-CASE-NPO-15640-1] c 27 N84-22748

Carbide-fluoride-silver self-lubricating composite  
[NASA-CASE-LEW-14196-2] c 37 N87-25585

**CARBONHYDRATES**

Decontamination of petroleum products Patent  
[NASA-CASE-XNP-03835] c 06 N71-23499

**CARBON**

Low density bismaleimide-carbon microballoon composites --- aircraft and submarine compartment safety  
[NASA-CASE-ARC-11040-2] c 24 N78-27184

Electrophotolysis oxidation system for measurement of organic concentration in water  
[NASA-CASE-MS-16497-1] c 25 N82-12166

Apparatus and method for destructive removal of particles contained in flowing fluid  
[NASA-CASE-NPO-15426-1] c 35 N84-17555

Chromium electrodes for REDOX cells  
[NASA-CASE-LEW-13653-1] c 44 N84-28205

Deposition of diamondlike carbon films  
[NASA-CASE-LEW-14080-1] c 31 N85-20153

Carbon granule probe microphone for leak detection --- recovery boilers  
[NASA-CASE-NPO-16027-1] c 35 N85-21597

Textured carbon surfaces on copper by sputtering  
[NASA-CASE-LEW-14130-1] c 31 N86-32587

Krypton based adsorption type cryogenic refrigerator  
[NASA-CASE-NPO-17334-1-CU] c 31 N88-23917

Cryogenic regenerator including saran-carbon heat conduction matrix  
[NASA-CASE-NPO-17291-1-CU] c 34 N88-23946

**CARBON ARCS**

Water cooled contactor for anode in carbon arc mechanism  
[NASA-CASE-XMS-03700] c 15 N69-24266

Diamondlike flakes  
[NASA-CASE-LEW-13837-2] c 24 N85-21267

**CARBON COMPOUNDS**

Method of coating carbonaceous base to prevent oxidation destruction and coated base Patent  
[NASA-CASE-XLA-00284] c 15 N71-16075

Surfactant-assisted liquefaction of particulate carbonaceous substances  
[NASA-CASE-NPO-13904-1] c 25 N79-11152

Diamondlike flake composites  
[NASA-CASE-LEW-13837-1] c 24 N84-22695

**CARBON DIOXIDE**

Techniques for insulating cryogenic fuel containers Patent  
[NASA-CASE-XLA-01967] c 31 N70-42015

Miniature carbon dioxide sensor and methods  
[NASA-CASE-MS-13332-1] c 14 N72-21408

Metabolic rate meter and method  
[NASA-CASE-MS-12239-1] c 52 N79-21750

**CARBON DIOXIDE LASERS**

Repetitively pulsed, wavelength selective laser Patent  
[NASA-CASE-ERC-10178] c 16 N71-24832

Power supply for carbon dioxide lasers  
[NASA-CASE-GSC-11222-1] c 16 N73-32391

Stark-effect modulation of CO<sub>2</sub> laser with NH<sub>2</sub>D  
[NASA-CASE-NPO-11945-1] c 36 N76-18427

**CARBON DIOXIDE REMOVAL**

Catalyst cartridge for carbon dioxide reduction unit  
[NASA-CASE-LAR-10551-1] c 25 N74-12813

Regenerable device for scrubbing breathable air of CO<sub>2</sub> and moisture without special heat exchanger equipment  
[NASA-CASE-MS-14771-1] c 54 N77-32722

Portable breathing system --- a breathing apparatus using a rebreathing system of heat exchangers for carbon dioxide removal  
[NASA-CASE-MS-16182-1] c 54 N80-10799

Method and apparatus for bio-regenerative life support system  
[NASA-CASE-MS-21629-1] c 54 N89-29027

**CARBON FIBER REINFORCED PLASTICS**

Low density bismaleimide-carbon microballoon composites  
[NASA-CASE-ARC-11040-1] c 24 N79-16915

Circumferential shaft seal  
[NASA-CASE-LEW-12119-1] c 37 N80-28711

Curing agent for polyepoxides and epoxy resins and composites cured therewith --- preventing carbon fiber release  
[NASA-CASE-LEW-13226-1] c 27 N81-17260

**CARBON FIBERS**

Method and device for detection of a substance --- determining carbon fiber release in fire situations  
[NASA-CASE-NPO-14940-1] c 33 N83-31954

Mixed polyvalent-monovalent metal coating for carbon-graphite fibers  
[NASA-CASE-NPO-14987-1] c 24 N83-33950

High resistance and raised modulus carbon fibers  
[NASA-TM-76884] c 24 N85-25436

Brominated graphite fibers and method of producing the same  
[NASA-CASE-LEW-14698-1] c 24 N88-29888

**CARBON MONOXIDE**

Carbon monoxide monitor --- using real time operation  
[NASA-CASE-MFS-22060-1] c 35 N75-29380

**CARBON-CARBON COMPOSITES**

Oxidation resistant slurry coating for carbon-based materials  
[NASA-CASE-LEW-13923-1] c 26 N85-35267

Lightweight piston  
[NASA-CASE-LAR-13150-1] c 24 N87-27742

Composite piston  
[NASA-CASE-LAR-13435-1] c 37 N88-23981

**CARBONACEOUS MATERIALS**

Fluidized bed desulfurization  
[NASA-CASE-NPO-15924-1] c 25 N85-35253

**CARBONATES**

Polyurethanes of fluorine containing polycarbonates  
[NASA-CASE-MFS-10512] c 06 N73-30099

Synthesis of dawsonites --- for use in fire extinguishing operations  
[NASA-CASE-ARC-11326-1] c 25 N83-33977

**CARBONIZATION**

Method of carbonizing polyacrylonitrile fibers  
[NASA-CASE-ARC-11261-1] c 24 N83-25789

**CARBONYL COMPOUNDS**

Coal desulfurization --- using iron pentacarbonyl  
[NASA-CASE-NPO-14272-1] c 25 N81-33246

Polyimides containing carbonyl and ether connecting groups  
[NASA-CASE-LAR-13633-1] c 27 N87-24575

**CARBORANE**

Process for the preparation of polycarbonylphosphazenes --- thermal insulation  
[NASA-CASE-ARC-11176-2] c 27 N81-27271

Carboranylchlorophosphazenes and their polymers --- thermal insulation  
[NASA-CASE-ARC-11176-1] c 27 N82-18389

Carboranymethylene-substituted phosphazenes and polymers thereof  
[NASA-CASE-ARC-11370-1] c 27 N84-22750

**CARBOXYL GROUP**

Novel polycarboxylic prepolymeric materials and polymers thereof Patent  
[NASA-CASE-NPO-10596] c 06 N71-25929

**CARBOXYLIC ACIDS**

Preparation of polyimides from mixtures of monomeric diamines and esters of polycarboxylic acids  
[NASA-CASE-LEW-11325-1] c 06 N73-27980

Fluorinated esters of polycarboxylic acids  
[NASA-CASE-MFS-21040-1] c 06 N73-30098

Metal phthalocyanine polymers  
[NASA-CASE-ARC-11405-1] c 27 N84-27884

Alkaline battery containing a separator of a cross-linked copolymer of vinyl alcohol and unsaturated carboxylic acid  
[NASA-CASE-LEW-13102-1] c 33 N85-29144

Metal phthalocyanine intermediates for the preparation of polymers  
[NASA-CASE-ARC-11405-2] c 27 N86-19455

**CARCINOGENS**

Apparatus for producing three-dimensional recordings of fluorescence spectra Patent  
[NASA-CASE-XGS-01231] c 14 N70-41676

**CARDIAC VENTRICLES**

Contour detector and data acquisition system for the left ventricular outline  
[NASA-CASE-ARC-10985-1] c 52 N79-10724

**CARDIOGRAPHY**

Digital cardioltachometer system Patent  
[NASA-CASE-XMS-02399] c 05 N71-22896

Reference apparatus for medical ultrasonic transducer  
[NASA-CASE-ARC-10753-1] c 54 N75-27760

**CARDIOLOGY**

Ratemeter  
[NASA-CASE-MFS-20418] c 14 N73-24473

Myocardium wall thickness transducer and measuring method  
[NASA-CASE-NPO-13644-1] c 52 N76-29895

**CARDIOTACHOMETERS**

Digital computing cardioltachometer  
[NASA-CASE-MFS-20284-1] c 52 N74-12778

**CARDIOVASCULAR SYSTEM**

G conditioning suit Patent  
[NASA-CASE-XLA-02898] c 05 N71-20268

Method and apparatus for continuously monitoring blood oxygenation, blood pressure, pulse rate and the pressure pulse curve utilizing an ear oximeter as transducer Patent  
[NASA-CASE-XAC-05422] c 04 N71-23185

Catheter tip force transducer for cardiovascular research  
[NASA-CASE-NPO-13643-1] c 52 N76-29896

Medical clip  
[NASA-CASE-LAR-12650-1] c 52 N84-28388

**CARGO**

Portable pallet weighing apparatus  
[NASA-CASE-GSC-12789-1] c 35 N85-20294

**CARRIER FREQUENCIES**

Bi-carrier demodulator with modulation Patent  
[NASA-CASE-XMF-01160] c 07 N71-11298

Automatic carrier acquisition system  
[NASA-CASE-NPO-11628-1] c 07 N73-30113

Demodulator for carrier transducers  
[NASA-CASE-NUC-10107-1] c 33 N74-17930

Decision feedback loop for tracking a polyphase modulated carrier  
[NASA-CASE-NPO-13103-1] c 32 N74-20811

Discriminator aided phase lock acquisition for suppressed carrier signals  
[NASA-CASE-NPO-14311-1] c 33 N82-29539

**CARRIER LIFETIME**

Method of increasing minority carrier lifetime in silicon web or the like  
[NASA-CASE-NPO-15530-1] c 76 N83-35888

Method and apparatus for measuring minority carrier lifetime in a direct band-gap semiconductor  
[NASA-CASE-NPO-16337-1-CU] c 33 N87-22894

**CARRIER WAVES**

Variable frequency oscillator with temperature compensation Patent  
[NASA-CASE-XNP-03916] c 09 N71-28810

Modulator for tone and binary signals --- phase of modulation of tone and binary signals on carrier waves in communication systems  
[NASA-CASE-GSC-11743-1] c 32 N75-24981

**CARRIERS**

Storage container for electronic devices Patent  
[NASA-CASE-MFS-20075] c 09 N71-26133

Apparatus for conducting flow electrophoresis in the substantial absence of gravity  
[NASA-CASE-MFS-21394-1] c 34 N74-27744

**CARTESIAN COORDINATES**

Random function tracer Patent  
[NASA-CASE-XLA-01401] c 15 N71-21179

**CARTRIDGES**

Endless tape cartridge Patent  
[NASA-CASE-XGS-00769] c 14 N70-41647

Endless tape transport mechanism Patent  
[NASA-CASE-XGS-01223] c 07 N71-10609

Catalyst cartridge for carbon dioxide reduction unit  
[NASA-CASE-LAR-10551-1] c 25 N74-12813

**CASCADE CONTROL**

Reversible ring counter employing cascaded single SCR stages Patent  
[NASA-CASE-XGS-01473] c 09 N71-10673

Synchronous dc direct drive system Patent  
[NASA-CASE-GSC-10065-1] c 10 N71-27136



- Multiloop RC active filter apparatus having low parameter sensitivity with low amplifier gain  
[NASA-CASE-ARC-10192] c 09 N72-21245
- CASCADE FLOW**  
Cascade plug nozzle --- for jet noise reduction  
[NASA-CASE-LAR-11674-1] c 07 N76-18117  
Thrust reverser for a long duct fan engine --- for turbofan engines  
[NASA-CASE-LEW-13199-1] c 07 N82-26293  
Degassing and mixing apparatus for liquids --- potable water for spacecraft  
[NASA-CASE-MS-C-18936-1] c 35 N83-29652
- CASE BONDED PROPELLANTS**  
Solid propellant motor  
[NASA-CASE-NPO-11458A] c 20 N78-32179
- CASES (CONTAINERS)**  
Non-magnetic battery case Patent  
[NASA-CASE-XGS-00886] c 03 N71-11053  
Protected isotope heat source --- for atmospheric reentry protection and heat transmission to spacecraft  
[NASA-CASE-LEW-11227-1] c 73 N75-30876  
Portable heatable container  
[NASA-CASE-NPO-14237-1] c 44 N80-20808  
Low temperature storage container for transporting perishables to space station  
[NASA-CASE-MFS-28248-1] c 31 N88-24817
- CASSEGRAIN ANTENNAS**  
Cassegrian antenna subreflector flange for suppressing ground noise Patent  
[NASA-CASE-XNP-00683] c 09 N70-35425  
Multi-feed cone Cassegrian antenna Patent  
[NASA-CASE-NPO-10539] c 07 N71-11285  
Millimeter wave radiometer for radio astronomy Patent  
[NASA-CASE-XNP-09832] c 30 N71-23723  
Dual frequency microwave reflex feed  
[NASA-CASE-NPO-13091-1] c 09 N73-12214  
Low loss dichroic plate  
[NASA-CASE-NPO-13171-1] c 32 N74-11000
- CASTING**  
Hydraulic casting of liquid polymers Patent  
[NASA-CASE-XNP-07659] c 06 N71-22975  
Texturing polymer surfaces by transfer casting --- cardiovascular prosthesis  
[NASA-CASE-LEW-13120-1] c 27 N82-28440  
High intensity casting system  
[NASA-CASE-NPO-16901-1-CU] c 31 N87-15327  
Castable hot corrosion resistant alloy  
[NASA-CASE-LEW-14134-2] c 26 N89-14303
- CASTINGS**  
Method of making an apertured casting --- using duplicate mold  
[NASA-CASE-LEW-11169-1] c 37 N76-23570
- CATALYSIS**  
Decomposition unit Patent  
[NASA-CASE-XMS-00583] c 28 N70-38504  
Apparatus for photon excited catalysis  
[NASA-CASE-NPO-13566-1] c 25 N77-32255  
Start up system for hydrogen generator used with an internal combustion engine  
[NASA-CASE-NPO-13849-1] c 28 N80-10374
- CATALYSTS**  
Catalyst for growth of boron carbide single crystal whiskers  
[NASA-CASE-XHQ-03903] c 15 N69-21922  
Catalyst bed removing tool Patent  
[NASA-CASE-XFR-00811] c 15 N70-36901  
Ignition means for monopropellant Patent  
[NASA-CASE-XNP-00876] c 28 N70-41311  
Hydrogen leak detection device Patent  
[NASA-CASE-MFS-11537] c 14 N71-20442  
Catalyst cartridge for carbon dioxide reduction unit  
[NASA-CASE-LAR-10551-1] c 25 N74-12813  
Catalysts for polyimide foams from aromatic isocyanates and aromatic dianhydrides --- flame retardant foams  
[NASA-CASE-ARC-11107-1] c 25 N80-16116  
Mixed polyvalent-monovalent metal coating for carbon-graphite fibers  
[NASA-CASE-NPO-14987-1] c 24 N83-33950  
Photoelectrochemical electrodes  
[NASA-CASE-NPO-15458-1] c 25 N84-12262  
Negative electrode catalyst for the iron chromium redox energy storage system  
[NASA-CASE-LEW-14028-1] c 44 N86-19721
- CATALYTIC ACTIVITY**  
Diesel engine catalytic combustor system --- aircraft engines  
[NASA-CASE-LEW-12995-1] c 37 N84-33808
- CATHETERIZATION**  
Transducer circuit and catheter transducer Patent  
[NASA-CASE-ARC-10132-1] c 09 N71-24597  
Catheter tip force transducer for cardiovascular research  
[NASA-CASE-NPO-13643-1] c 52 N76-29896  
Ion beam sputter-etched ventricular catheter for hydrocephalus shunt  
[NASA-CASE-LEW-13107-1] c 52 N83-21785

- Method of making an ion beam sputter-etched ventricular catheter for hydrocephalus shunt  
[NASA-CASE-LEW-13107-2] c 52 N84-23095
- CATHODE RAY TUBES**  
Single or joint amplitude distribution analyzer Patent  
[NASA-CASE-XNP-01383] c 09 N71-10659  
Display for binary characters Patent  
[NASA-CASE-XGS-04987] c 08 N71-20571  
Electron beam tube containing a multiple cathode array employing indexing means for cathode substitution Patent  
[NASA-CASE-NPO-10625] c 09 N71-26182  
Color television systems using a single gun color cathode ray tube Patent  
[NASA-CASE-ERC-10098] c 09 N71-28618  
High contrast cathode ray tube  
[NASA-CASE-ERC-10468] c 09 N72-20206  
Digital video display system using cathode ray tube  
[NASA-CASE-NPO-11342] c 09 N72-25248  
CRT blanking and brightness control circuit  
[NASA-CASE-KSC-10647-1] c 10 N72-31273  
Display system  
[NASA-CASE-ERC-10350] c 14 N73-20474  
Very high intensity light source using a cathode ray tube --- electron beams  
[NASA-CASE-XNP-01296] c 33 N75-27250
- CATHODES**  
Ion thruster cathode Patent Application  
[NASA-CASE-LEW-10814-1] c 28 N70-35422  
Electronic cathode having a brush-like structure and a relatively thick oxide emissive coating Patent  
[NASA-CASE-XLE-04501] c 09 N71-23190  
Heat activated cell with alkali anode and alkali salt electrolyte Patent  
[NASA-CASE-LEW-11358] c 03 N71-26084  
Ion thruster with a combination keeper electrode and electron baffle  
[NASA-CASE-NPO-11880] c 28 N73-24783  
Storage battery comprising negative plates of a wedge shaped configuration --- for preventing shape change induced malfunctions  
[NASA-CASE-NPO-11806-1] c 44 N74-19693  
Method and apparatus for rebalancing a REDOX flow cell system  
[NASA-CASE-LEW-14127-1] c 33 N86-20680  
Apparatus for mounting a field emission cathode  
[NASA-CASE-LEW-14108-1] c 33 N87-28832
- CATIONS**  
Ionen membrane separator  
[NASA-CASE-NPO-11091] c 18 N72-22567  
Viscoelastic cationic polymers containing the urethane linkage  
[NASA-CASE-NPO-10830-1] c 27 N81-15104  
Procedure to prepare transparent silica gels  
[NASA-CASE-LAR-13476-1-CU] c 76 N87-29360
- CAVITATION FLOW**  
Semitoroidal diaphragm cavitating valve Patent  
[NASA-CASE-XNP-09704] c 12 N71-18615
- CAVITIES**  
Black body cavity radiometer Patent  
[NASA-CASE-NPO-10810] c 14 N71-27323  
Method of coating through-holes Patent  
[NASA-CASE-XMF-05999] c 15 N71-29032  
Burrowing apparatus  
[NASA-CASE-XNP-07169] c 15 N73-32362  
Method of constructing dished ion thruster grids to provide hole array spacing compensation  
[NASA-CASE-LEW-11876-1] c 20 N76-21276  
Method of making hollow elastomeric bodies  
[NASA-CASE-NPO-13535-1] c 37 N76-31524  
Method and apparatus for producing concentric hollow spheres --- inertial confinement fusion targets  
[NASA-CASE-NPO-14596-1] c 31 N81-33319  
Cavity-backed, micro-strip dipole antenna array  
[NASA-CASE-MS-C-18606-1] c 32 N82-11336  
High performance channel injection sealant invention abstract  
[NASA-CASE-ARC-14408-1] c 27 N82-33523  
Maser cavity servo-tuning system  
[NASA-CASE-NPO-15890-1-CU] c 33 N85-29143  
Passive venting technique for shallow cavities  
[NASA-CASE-LAR-14031-1] c 05 N89-14232  
Passive venting technique for shallow cavities  
[NASA-CASE-LAR-13875-1] c 05 N89-14233  
Circumferential pressure probe  
[NASA-CASE-LEW-13775-1] c 35 N89-14408
- CAVITY RESONATORS**  
Helical coaxial resonator RF filter  
[NASA-CASE-XGS-02816] c 07 N69-24323  
System for improving signal-to-noise ratio of a communication signal Patent Application  
[NASA-CASE-MS-C-12259-1] c 07 N70-12616  
Temperature-compensating means for cavity resonator of amplifier Patent  
[NASA-CASE-XNP-00449] c 14 N70-35220

- Holder for crystal resonators Patent  
[NASA-CASE-XNP-03637] c 15 N71-21311  
System for improving signal-to-noise ratio of a communication signal  
[NASA-CASE-MS-C-12259-2] c 07 N72-33146  
Infrared tunable laser  
[NASA-CASE-ARC-10463-1] c 09 N73-32111  
Tunable cavity resonator with ramp shaped supports  
[NASA-CASE-HON-10790-1] c 36 N74-11313  
Laser apparatus  
[NASA-CASE-GSC-12237-1] c 36 N80-14384  
Laser Resonator  
[NASA-CASE-GSC-12565-1] c 36 N84-14509  
Off-axis coherently pumped laser  
[NASA-CASE-GSC-12592-1] c 36 N84-28065  
Maser cavity servo-tuning system  
[NASA-CASE-NPO-15890-1-CU] c 33 N85-29143
- CELESTIAL BODIES**  
Device for determining relative angular position between a spacecraft and a radiation emitting celestial body  
[NASA-CASE-GSC-11444-1] c 14 N73-28490  
Position determination systems --- using orbital antenna scan of celestial bodies  
[NASA-CASE-MS-C-12593-1] c 17 N76-21250
- CELESTIAL NAVIGATION**  
Radiant energy intensity measurement system Patent  
[NASA-CASE-XNP-06510] c 14 N71-23797
- CELL ANODES**  
Heat activated cell Patent  
[NASA-CASE-LEW-11359] c 03 N71-28579  
Method of making emf cell  
[NASA-CASE-LEW-11359-2] c 03 N72-20034  
Electrically rechargeable REDOX flow cell  
[NASA-CASE-LEW-12220-1] c 44 N77-14581
- CELL DIVISION**  
Process for control of cell division  
[NASA-CASE-LAR-10773-3] c 51 N77-25769
- CELLS**  
Mixture separation cell Patent  
[NASA-CASE-XMS-02952] c 18 N71-20742
- CELLS (BIOLOGY)**  
System for and method of freezing biological tissue  
[NASA-CASE-GSC-12173-1] c 51 N79-10694  
Method for separating biological cells --- suspended in aqueous polymer systems  
[NASA-CASE-MFS-23883-1] c 51 N80-16715  
Electrophoresis device  
[NASA-CASE-MFS-25426-1] c 25 N83-10126  
Horizontally rotated cell culture system  
[NASA-CASE-MS-C-21294-1] c 51 N89-13131  
Bio-reactor cell culture process  
[NASA-CASE-MS-C-1293-1] c 51 N89-14666  
Spiral vane bioreactor  
[NASA-CASE-MS-C-21361-1] c 51 N89-25557  
Controlled method of reducing electrophoretic mobility of various substances  
[NASA-CASE-MFS-26049-1-NP] c 25 N89-28603
- CELLULOSE**  
Process of treating cellulosic membrane and alkaline with membrane separator  
[NASA-CASE-GSC-10019-1] c 44 N82-24641  
Separator for alkaline electric cells and method of making  
[NASA-CASE-GSC-10017-1] c 44 N82-24643  
Alkaline electrochemical cells and method of making  
[NASA-CASE-GSC-10349-1] c 44 N82-24645  
Aqueous alkali metal hydroxide insoluble cellulose ether membrane  
[NASA-CASE-XGS-05584-1] c 25 N82-29370
- CELLULOSE NITRATE**  
Oxidation resistant slurry coating for carbon-based materials  
[NASA-CASE-LEW-13923-1] c 26 N85-35267
- CENTERBODIES**  
Multi-body aircraft with an all-movable center fuselage actively controlling fuselage pressure drag  
[NASA-CASE-LAR-13511-1] c 05 N88-23765
- CENTRAL PROCESSING UNITS**  
Pipelined digital SAR azimuth correlator using hybrid FFT-transversal filter  
[NASA-CASE-NPO-15519-1] c 32 N84-34651
- CENTRIFUGAL COMPRESSORS**  
Centrifugal-reciprocating compressor  
[NASA-CASE-NPO-14597-2] c 37 N84-28081
- CENTRIFUGAL FORCE**  
Counter pumping debris excluder and separator --- gas turbine shaft seals  
[NASA-CASE-LEW-11855-1] c 07 N78-25090
- CENTRIFUGES**  
Centrifuge mounted motion simulator Patent  
[NASA-CASE-XAC-00399] c 11 N70-34815  
Separator Patent  
[NASA-CASE-XLA-00415] c 15 N71-16079  
Centrifugal lyophobic separator  
[NASA-CASE-LAR-10194-1] c 34 N74-30608

- Fluid control apparatus and method  
[NASA-CASE-LAR-11110-1] c 34 N75-26282
- Biocentrifuge system capable of exchanging specimen cages while in operational mode  
[NASA-CASE-MFS-23825-1] c 51 N81-32829
- CERAMIC BONDING**  
Method of making a diffusion bonded refractory coating Patent  
[NASA-CASE-XLE-01604-2] c 15 N71-15610  
Method of forming ceramic to metal seal Patent  
[NASA-CASE-XNP-01263-2] c 15 N71-26312  
Composite piston  
[NASA-CASE-LAR-13435-1] c 37 N88-23981
- CERAMIC COATINGS**  
Evaporant holder  
[NASA-CASE-XLA-03105] c 15 N69-27483  
Unfired-ceramic flame-resistant insulation and method of making the same Patent  
[NASA-CASE-XMF-01030] c 18 N70-41583  
Ceramic insulation for radiant heating environments and method of preparing the same Patent  
[NASA-CASE-MFS-14253] c 33 N71-24858  
Method of making a cermet Patent  
[NASA-CASE-LEW-10219-1] c 18 N71-28729  
Two-component ceramic coating for silica insulation  
[NASA-CASE-MSC-14270-1] c 27 N76-22377  
Three-component ceramic coating for silica insulation  
[NASA-CASE-MSC-14270-2] c 27 N76-23426  
Spray coating apparatus having a rotatable workpiece holder  
[NASA-CASE-ARC-11110-1] c 37 N82-24492  
Laser surface fusion of plasma sprayed ceramic turbine seals  
[NASA-CASE-LEW-13269-1] c 18 N83-20996  
Thermal barrier coating system having improved adhesion  
[NASA-CASE-LEW-1335901] c 27 N83-31855  
Thermal barrier coating system  
[NASA-CASE-LEW-13324-2] c 24 N85-21266  
Ceramic-ceramic shell tile thermal protection system and method thereof  
[NASA-CASE-ARC-11641-1] c 24 N88-18628
- CERAMIC HONEYCOMBS**  
Ceramic honeycomb structures and the method thereof  
[NASA-CASE-ARC-11652-1] c 27 N87-23737
- CERAMIC MATRIX COMPOSITES**  
Method of preparing fiber reinforced ceramic material  
[NASA-CASE-LEW-14392-1] c 27 N87-28656  
Fiber reinforced ceramic material  
[NASA-CASE-LEW-14392-2] c 27 N89-29538
- CERAMIC NUCLEAR FUELS**  
Method of making a cermet Patent  
[NASA-CASE-LEW-10219-1] c 18 N71-28729
- CERAMICS**  
Transpiration cooled turbine blade manufactured from wires Patent  
[NASA-CASE-XLE-00020] c 15 N70-33226  
Foamed in place ceramic refractory insulating material Patent  
[NASA-CASE-XGS-02435] c 18 N71-22998  
Method for fiberizing ceramic materials Patent  
[NASA-CASE-XNP-00597] c 18 N71-23088  
Method of coating through-holes Patent  
[NASA-CASE-XMF-05999] c 15 N71-29032  
Extrusion can  
[NASA-CASE-NPO-10812] c 15 N73-13464  
Thermal shock resistant hafnia ceramic material  
[NASA-CASE-LAR-10894-1] c 18 N73-14584  
Thermal shock and erosion resistant tantalum carbide ceramic material  
[NASA-CASE-LAR-11902-1] c 27 N78-17206  
High temperature resistant cermet and ceramic compositions --- for thermal resistant insulators and refractory coatings  
[NASA-CASE-NPO-13690-1] c 27 N78-19302  
Thermal insulation attaching means --- adhesive bonding of felt vibration insulators under ceramic tiles  
[NASA-CASE-MSC-12619-2] c 27 N79-12221  
High temperature resistant cermet and ceramic compositions  
[NASA-CASE-NPO-13690-2] c 27 N79-14213  
Sandblasting nozzle  
[NASA-CASE-NPO-13823-1] c 37 N81-25371  
Fully plasma-sprayed compliant backed ceramic turbine seal  
[NASA-CASE-LEW-13268-2] c 37 N82-26674  
Fully plasma-sprayed compliant backed ceramic turbine seal  
[NASA-CASE-LEW-13268-1] c 27 N82-29453  
Absorbable-susceptor joining of ceramic surfaces  
[NASA-CASE-NPO-15640-1] c 27 N84-22748  
Method of fabricating an abradable gas path seal  
[NASA-CASE-LEW-13269-2] c 37 N84-22957  
Shell tile thermal protection system  
[NASA-CASE-LAR-12862-1] c 27 N84-27886
- Boron-containing organosilane polymers and ceramic materials thereof  
[NASA-CASE-ARC-11649-1-SB] c 27 N88-29040  
Lightweight ceramic insulation and method  
[NASA-CASE-MSC-20782-1] c 27 N89-13620  
Fiber reinforced ceramic material  
[NASA-CASE-LEW-14392-2] c 27 N89-29538
- CEREBROSPINAL FLUID**  
Ion beam sputter-etched ventricular catheter for hydrocephalus shunt  
[NASA-CASE-LEW-13107-1] c 52 N83-21785  
Method of making an ion beam sputter-etched ventricular catheter for hydrocephalus shunt  
[NASA-CASE-LEW-13107-2] c 52 N84-23095
- CERMETS**  
Process of casting heavy slips Patent  
[NASA-CASE-XLE-00106] c 15 N71-16076  
Method of making a cermet Patent  
[NASA-CASE-LEW-10219-1] c 18 N71-28729  
Cermet composition and method of fabrication --- heat resistant alloys and powders  
[NASA-CASE-NPO-13120-1] c 27 N76-15311  
High temperature oxidation resistant cermet compositions  
[NASA-CASE-NPO-13666-1] c 27 N77-13217  
High temperature resistant cermet and ceramic compositions --- for thermal resistant insulators and refractory coatings  
[NASA-CASE-NPO-13690-1] c 27 N78-19302  
High temperature resistant cermet and ceramic compositions  
[NASA-CASE-NPO-13690-2] c 27 N79-14213  
Coating with overlay metallic-cermet alloy systems  
[NASA-CASE-LEW-13639-2] c 26 N84-27855  
Overlay metallic-cermet alloy coating systems  
[NASA-CASE-LEW-13639-1] c 26 N84-33555
- CESIUM**  
Method for removing oxygen impurities from cesium Patent  
[NASA-CASE-XNP-04262-2] c 17 N71-26773  
Method of producing I-123 --- by bombardment of cesium causing spallation  
[NASA-CASE-LEW-11390-2] c 25 N76-27383
- CESIUM DIODES**  
Thermionic tantalum emitter doped with oxygen Patent Application  
[NASA-CASE-NPO-11138] c 03 N70-34646  
Cavity emitter for thermionic converter Patent  
[NASA-CASE-NPO-10412] c 09 N71-28421  
Thermionic energy converters  
[NASA-CASE-LEW-12443-1] c 44 N83-32175
- CESIUM ENGINES**  
Variable thrust ion engine utilizing thermally decomposable solid fuel Patent  
[NASA-CASE-XMF-00923] c 28 N70-36802  
Method of producing porous tungsten ionizers for ion rocket engines Patent  
[NASA-CASE-XLE-00455] c 28 N70-38197
- CESIUM VAPOR**  
Electric power generation system directory from laser power  
[NASA-CASE-NPO-13308-1] c 36 N75-30524
- CHALCOGENIDES**  
Photoelectrochemical cells including chalcogenophosphate photoelectrodes  
[NASA-CASE-LAR-12958-1] c 44 N84-23019
- CHAMBERS**  
Diffuser/ejector system for a very high vacuum environment  
[NASA-CASE-MFS-25791-1] c 09 N84-27749
- CHANGE DETECTION**  
Real-time image difference detection using a polarization rotation spatial light modulator  
[NASA-CASE-NPO-17144-1-CU] c 74 N88-25305
- CHANNEL FLOW**  
Method of making a regeneratively cooled combustion chamber Patent  
[NASA-CASE-XLE-00150] c 28 N70-41818  
Heated element fluid flow sensor Patent  
[NASA-CASE-MSC-12084-1] c 12 N71-17569  
Multicolor printing plate joining  
[NASA-CASE-LEW-13598-1] c 35 N84-22930
- CHANNELS (DATA TRANSMISSION)**  
Automatic fault correction system for parallel signal channels Patent  
[NASA-CASE-XNP-03263] c 09 N71-18843  
Helical recorder arrangement for multiple channel recording on both sides of the tape  
[NASA-CASE-GSC-10614-1] c 09 N72-11224  
Asynchronous, multiplexing, single line transmission and recovery data system --- for satellite use  
[NASA-CASE-NPO-13321-1] c 32 N75-26195  
High-speed data link for moderate distances and noisy environments  
[NASA-CASE-NPO-14152-1] c 32 N80-18252
- CHARACTER RECOGNITION**  
Automatic character skew and spacing checking network --- of digital tape drive systems  
[NASA-CASE-GSC-11925-1] c 33 N76-18353  
System and method for character recognition  
[NASA-CASE-NPO-11337-1] c 74 N81-19896
- CHARACTERIZATION**  
Apparatus and method for characterizing the transmission efficiency of a mass spectrometer  
[NASA-CASE-NPO-16989-1-CU] c 35 N89-28794
- CHARGE COUPLED DEVICES**  
Multispectral imaging and analysis system --- using charge coupled devices and linear arrays  
[NASA-CASE-NPO-13691-1] c 43 N79-17288  
CCD correlated quadruple sampling processor  
[NASA-CASE-NPO-14426-1] c 33 N81-27396  
Programmable scan/read circuitry for charge coupled device imaging detectors --- spacecraft attitude control and star trackers  
[NASA-CASE-NPO-15345-1] c 74 N84-23247  
Laser pulse detection method and apparatus  
[NASA-CASE-NPO-16030-1] c 36 N84-25037
- CHARGE DISTRIBUTION**  
Method of erasing target material of a vidicon tube or the like Patent  
[NASA-CASE-XNP-06028] c 09 N71-23189  
Charge storage diode modulators and demodulators  
[NASA-CASE-NPO-10189-1] c 33 N77-21314
- CHARGE EFFICIENCY**  
State-of-charge coulometer  
[NASA-CASE-NPO-15759-1] c 35 N85-21596  
Method for determining the point of zero zeta potential of semiconductor  
[NASA-CASE-LAR-12893-1] c 76 N85-30923
- CHARGE EXCHANGE**  
Ion beam thruster shield  
[NASA-CASE-LEW-12082-1] c 20 N77-10148
- CHARGE TRANSFER**  
Magnetic counter Patent  
[NASA-CASE-XNP-08836] c 09 N71-12515  
Pressure transducer --- using a monomeric charge transfer complex sensor  
[NASA-CASE-NPO-11150] c 35 N78-17359  
Process for preparing highly optically transparent/colorless aromatic polyimide film  
[NASA-CASE-LAR-13351-1] c 27 N86-31727
- CHARGE TRANSFER DEVICES**  
Charge transfer reaction laser with preionization means  
[NASA-CASE-NPO-13945-1] c 36 N78-27402  
Time delay and integration detectors using charge transfer devices  
[NASA-CASE-GSC-12324-1] c 33 N81-33403  
Image readout device with electronically variable spatial resolution  
[NASA-CASE-LAR-12633-1] c 33 N82-24416
- CHARGED PARTICLES**  
Method of forming thin window drifted silicon charged particle detector Patent  
[NASA-CASE-XLE-00808] c 24 N71-10560  
Electrostatic charged particle analyzer having deflection members shaped according to the periodic voltage applied thereto Patent  
[NASA-CASE-XAC-05506-1] c 24 N71-16095  
Electrostatic collector for charged particles  
[NASA-CASE-LEW-11192-1] c 09 N73-13208  
Method and apparatus for neutralizing potentials induced on spacecraft surfaces  
[NASA-CASE-GSC-11963-1] c 33 N77-10429  
Apparatus for measuring charged particle beam  
[NASA-CASE-MFS-25641-1] c 72 N84-28575  
Multistage spent particle collector and a method for making same  
[NASA-CASE-LEW-13914-1] c 37 N85-33489
- CHARGING**  
Synchronous orbit battery cyclor  
[NASA-CASE-GSC-11211-1] c 03 N72-25020
- CHARRING**  
Ablation sensor  
[NASA-CASE-XLA-01781] c 14 N69-39975  
Ablation sensor Patent  
[NASA-CASE-XLA-01794] c 33 N71-21586
- CHASSIS**  
Chassis unit insert tightening-extract device  
[NASA-CASE-XMS-01077-1] c 37 N79-33467  
Articulated suspension system  
[NASA-CASE-NPO-17354-1-CU] c 37 N88-24973
- CHECKOUT**  
Electronic checkout system for space vehicles Patent  
[NASA-CASE-XKS-08012-2] c 31 N71-15566  
Rapid activation and checkout device for batteries  
[NASA-CASE-MFS-22749-1] c 44 N76-14601  
Decommutator patchboard verifier  
[NASA-CASE-KSC-11065-1] c 33 N81-26359



## CHELATES

- Ammonium perchlorate composite propellant containing an organic transitional metal chelate catalytic additive Patent  
 [NASA-CASE-LAR-10173-1] c 27 N71-14090  
 Chelate-modified polymers for atmospheric gas chromatography  
 [NASA-CASE-ARC-11154-1] c 25 N80-23383

## CHEMICAL ANALYSIS

- Analytical test apparatus and method for determining oxide content of alkali metal Patent  
 [NASA-CASE-XLE-01997] c 06 N71-23527  
 Automated fluid chemical analyzer Patent  
 [NASA-CASE-XNP-09451] c 06 N71-26754  
 Method for determining presence of OH in magnesium oxide  
 [NASA-CASE-NPO-10774] c 06 N72-17095  
 Micrometeoroid analyzer  
 [NASA-CASE-ARC-10443-1] c 14 N73-20477  
 Chromato-fluorographic drug detector --- device for detecting and recording fluorescent properties of materials  
 [NASA-CASE-ARC-10633-1] c 25 N74-26947  
 Amino acid analysis  
 [NASA-CASE-NPO-12130-1] c 25 N75-14844  
 Gas chromatograph injection system  
 [NASA-CASE-ARC-10344-2] c 35 N75-26334  
 Alkaline electrochemical cells and method of making  
 [NASA-CASE-GSC-10349-1] c 44 N82-24645  
 Particle analyzing method and apparatus  
 [NASA-CASE-NPO-15292-1] c 35 N83-27184  
 System for monitoring physical characteristics of fluids  
 [NASA-CASE-NPO-15400-1] c 34 N83-31993  
 Method and apparatus for mapping the distribution of chemical elements in an extended medium  
 [NASA-CASE-GSC-12808-1] c 25 N85-21279

## CHEMICAL AUXILIARY POWER UNITS

- Ion-exchange membrane with platinum electrode assembly Patent  
 [NASA-CASE-XMS-02063] c 03 N71-29044

## CHEMICAL BONDS

- Fluorine-containing polyformals  
 [NASA-CASE-XMF-06900-1] c 27 N79-21191  
 Perfluoroalkyl polytriazines containing pendent iododifluoromethyl groups  
 [NASA-CASE-ARC-11241-1] c 25 N81-14016  
 Preparation of perfluorinated 1,2,4-oxadiazoles  
 [NASA-CASE-ARC-11267-2] c 23 N82-28353

## CHEMICAL COMPOSITION

- Phototropic composition of matter  
 [NASA-CASE-XGS-03736] c 14 N72-22443  
 Nitramine propellants --- gun propellant burning rate  
 [NASA-CASE-NPO-14103-1] c 28 N78-31255  
 Composition and method for making polyimide resin-reinforced fabric  
 [NASA-CASE-LEW-12933-1] c 27 N81-19296  
 Non-toxic invert analog glass compositions of high modulus  
 [NASA-CASE-HQN-10328-2] c 27 N82-29454  
 High modulus rare earth and beryllium containing silicate glass compositions --- for glass reinforcing fibers  
 [NASA-CASE-HQN-10595-1] c 27 N82-29455  
 Low temperature cross linking polyimides  
 [NASA-CASE-LEW-12876-2] c 27 N83-29392  
 Acetylene (ethynyl) terminated polyimide siloxane and process for preparation thereof  
 [NASA-CASE-LAR-13318-1] c 27 N87-14516

## CHEMICAL COMPOUNDS

- Ultraviolet atomic emission detector  
 [NASA-CASE-HQN-10756-1] c 14 N72-25428

## CHEMICAL ELEMENTS

- Apparatus for remote handling of materials --- mixing or analyzing dangerous chemicals  
 [NASA-CASE-LAR-10634-1] c 37 N74-18123

## CHEMICAL ENGINEERING

- Process for the preparation of calcium superoxide  
 [NASA-CASE-ARC-11053-1] c 25 N79-10162

## CHEMICAL EXPLOSIONS

- Hypervelocity gun --- using both electric and chemical energy for projectile propulsion  
 [NASA-CASE-XLE-03186-1] c 09 N79-21084

## CHEMICAL INDICATORS

- Self-contained, single-use hose and tubing cleaning module  
 [NASA-CASE-MSC-20857-1] c 37 N87-17035

## CHEMICAL MACHINING

- Masking device Patent  
 [NASA-CASE-XNP-02092] c 15 N70-42033

## CHEMICAL PROPERTIES

- Method of producing alternating ether siloxane copolymers Patent  
 [NASA-CASE-XMF-02584] c 06 N71-20905  
 Polyurethanes of fluorine containing polycarbonates  
 [NASA-CASE-MFS-10512] c 06 N73-30099  
 Highly fluorinated polyurethanes  
 [NASA-CASE-NPO-10767-1] c 06 N73-33076

- Thiophenyl ether disiloxanes and trisiloxanes useful as lubricant fluids  
 [NASA-CASE-MFS-22411-1] c 37 N74-21058

## CHEMICAL REACTIONS

- Process for interfacial polymerization of pyromellitic dianhydride and 1,2,4, 5-tetraamino-benzene Patent  
 [NASA-CASE-XLA-03104] c 06 N71-11235  
 Synthesis of polymeric schiff bases by schiff-base exchange reactions Patent  
 [NASA-CASE-XMF-08651] c 06 N71-11236  
 Preparation of ordered poly /arylenesiloxane/ polymers  
 [NASA-CASE-XMF-10753] c 06 N71-11237  
 Imidazopyrrolone/imide copolymers Patent  
 [NASA-CASE-XLA-08802] c 06 N71-11238  
 High resolution developing of photosensitive resists Patent  
 [NASA-CASE-XGS-04993] c 14 N71-17574  
 Inorganic solid film lubricants Patent  
 [NASA-CASE-XMF-03988] c 15 N71-21403  
 Process for preparation of dianilinosilanes Patent  
 [NASA-CASE-XMF-06409] c 06 N71-23230  
 Aromatic diamine-aromatic dialdehyde high molecular weight Schiff base polymers prepared in a monofunctional Schiff base Patent  
 [NASA-CASE-XMF-03074] c 06 N71-24740  
 Hydroxy terminated perfluoro ethers Patent  
 [NASA-CASE-NPO-10768] c 06 N71-27254  
 Metal containing polymers from cyclic tetrameric phenylphosphonitriamides Patent  
 [NASA-CASE-HQN-10364] c 06 N71-27363  
 Gas liquefaction and dispensing apparatus Patent  
 [NASA-CASE-NPO-10070] c 15 N71-27372  
 Epoxy-aziridine polymer product Patent  
 [NASA-CASE-NPO-10701] c 06 N71-28620  
 Process for preparation of high-molecular-weight polyaryloxysilanes Patent  
 [NASA-CASE-XMF-08674] c 06 N71-28807  
 Trialkyl-dihalotantalum and niobium compounds Patent  
 [NASA-CASE-XNP-04023] c 06 N71-28808  
 Method of making foamed materials in zero gravity  
 [NASA-CASE-XMF-09902] c 15 N72-11387  
 Preparation of high purity copper fluoride  
 [NASA-CASE-LEW-10794-1] c 06 N72-17093  
 Firefly pump-metering system  
 [NASA-CASE-GSC-10218-1] c 15 N72-21465  
 Apparatus for producing metal powders  
 [NASA-CASE-XLE-06461-2] c 17 N72-28535  
 Nondestructive spot test method for titanium and titanium alloys  
 [NASA-CASE-LAR-10539-1] c 17 N73-12547  
 Self-cycling fluid heater  
 [NASA-CASE-MSC-15567-1] c 33 N73-16918  
 Method of forming difunctional polyisobutylene  
 [NASA-CASE-NPO-10893] c 27 N73-22710  
 Polyurethanes from fluoroalkyl propylene glycol polyethers  
 [NASA-CASE-MFS-10506] c 06 N73-30100  
 Fluorine containing polyurethane  
 [NASA-CASE-MFS-10509] c 06 N73-30103  
 Novel polymers and method of preparing same  
 [NASA-CASE-NPO-10998-1] c 06 N73-32029  
 Polyimide foam for the thermal insulation and fire protection  
 [NASA-CASE-ARC-10464-1] c 27 N74-12812  
 Intumescent composition, foamed product prepared therewith and process for making same  
 [NASA-CASE-ARC-10304-2] c 27 N74-27037  
 Vapor phase growth of groups 3-5 compounds by hydrogen chloride transport of the elements  
 [NASA-CASE-LAR-11144-1] c 25 N75-26043  
 Utilization of oxygen difluoride for syntheses of fluoropolymers  
 [NASA-CASE-NPO-12061-1] c 27 N76-16228  
 Method for detecting pollutants --- through chemical reactions and heat treatment  
 [NASA-CASE-LAR-11405-1] c 45 N76-31714  
 Process for preparing higher oxides of the alkali and alkaline earth metals  
 [NASA-CASE-ARC-10992-1] c 26 N78-32229  
 Method for preparing addition type polyimide prepgs  
 [NASA-CASE-LAR-12054-2] c 27 N81-14078  
 The 1,1,1-triaryl-2,2,2-trifluoroethanes and process for their synthesis  
 [NASA-CASE-ARC-11097-1] c 25 N82-24312  
 Preparation of perfluorinated 1,2,4-oxadiazoles  
 [NASA-CASE-ARC-11267-2] c 23 N82-28353  
 Process for producing tris (n-methylamino) methylsilane  
 [NASA-CASE-MFS-25721-1] c 25 N85-21280  
 Chemical approach for controlling nadimide cure temperature and rate  
 [NASA-CASE-LEW-13770-5] c 27 N85-21352  
 Fire-resistant phosphorus containing polyimides and copolyimides  
 [NASA-CASE-ARC-11522-2] c 27 N85-34280

- Sulfone-ester polymers containing pendent ethynyl groups  
 [NASA-CASE-LAR-13316-1] c 27 N86-27450  
 Preparation of B-trichloroborazine  
 [NASA-CASE-ARC-11643-1-SB] c 23 N87-23698  
 The 1-((diorganooxy phosphonyl) methyl)-2,4- and -2,6-diamino benzenes and their derivatives  
 [NASA-CASE-ARC-11425-2] c 23 N87-28605  
 Method of dispensing reagent chemicals in space  
 [NASA-CASE-LAR-13607-1-CU] c 29 N88-29048

## CHEMICAL REACTORS

- Chemical vapor deposition reactor --- providing uniform film thickness  
 [NASA-CASE-NPO-13650-1] c 25 N79-28253  
 Sodium storage and injection system  
 [NASA-CASE-NPO-14384-1] c 37 N80-10494  
 Method of producing silicon --- gas phase reactor multiple injector liquid feed system  
 [NASA-CASE-NPO-14382-1] c 31 N80-18231  
 Fluidized bed coal combustion reactor  
 [NASA-CASE-NPO-14273-1] c 25 N82-11144  
 Solar heated fluidized bed gasification system  
 [NASA-CASE-NPO-15071-1] c 44 N82-16475  
 Thermal reactor --- liquid silicon production from silane gas  
 [NASA-CASE-NPO-14369-1] c 44 N83-10501  
 Pressure letdown method and device for coal conversion systems  
 [NASA-CASE-NPO-15100-1] c 44 N84-14583  
 Apparatus and method to keep the walls of a free-space reactor free from deposits of solid materials  
 [NASA-CASE-NPO-15851-1] c 37 N85-21652  
 Remotely controllable mixing system  
 [NASA-CASE-MFS-28153-1] c 31 N86-32589

## CHEMICAL TESTS

- Nondestructive spot test method for titanium and titanium alloys  
 [NASA-CASE-LAR-10539-1] c 17 N73-12547  
 Nondestructive spot test method for magnesium and magnesium alloys  
 [NASA-CASE-LAR-10953-1] c 17 N73-27446  
 Chemical approach for controlling nadimide cure temperature and rate  
 [NASA-CASE-LEW-13770-6] c 25 N85-30039

## CHEMILUMINESCENCE

- Method and apparatus for eliminating luminol interference material  
 [NASA-CASE-MSC-16260-1] c 51 N80-16714

## CHEMISORPTION

- Oxygen chemisorption cryogenic refrigerator  
 [NASA-CASE-NPO-16734-1-CU] c 31 N88-14223

## CHEMOTHERAPY

- Indomethacin-acetaminophen combination for gastric ulceration control  
 [NASA-CASE-ARC-11118-2] c 52 N81-14613

## CHIPS (ELECTRONICS)

- Head for high speed spinner having a vacuum chuck --- holding silicon dioxide chips for etching  
 [NASA-CASE-NPO-15227-1] c 37 N81-33482  
 Liquid immersion apparatus for minute articles  
 [NASA-CASE-MFS-25363-1] c 37 N82-12441

## CHIRP SIGNALS

- Method for shaping and aiming narrow beams --- sonar mapping and target identification  
 [NASA-CASE-NPO-14632-1] c 32 N82-18443

## CHLORIDES

- The 5-(4-Ethynylphenoxy) isophthalic chloride  
 [NASA-CASE-LAR-13316-2] c 27 N87-14515

## CHLORINATION

- Specialized halogen generator for purification of water Patent  
 [NASA-CASE-XLA-08913] c 14 N71-28933  
 Coal desulfurization by aqueous chlorination  
 [NASA-CASE-NPO-14902-1] c 25 N82-29371  
 Hydrodesulfurization of chlorinated coal  
 [NASA-CASE-NPO-15304-1] c 25 N83-31743

## CHLORINE

- Fluidized bed desulfurization  
 [NASA-CASE-NPO-15924-1] c 25 N85-35253

## CHLOROPRENE RESINS

- Flexible fire retardant polyisocyanate modified neoprene foam --- for thermal protective devices  
 [NASA-CASE-ARC-10180-1] c 27 N74-12814

## CHOKES

- Current dependent filter inductance  
 [NASA-CASE-ERC-10139] c 09 N72-17154

## CHOKES (RESTRICTIONS)

- Variably positioned guide vanes for aerodynamic choking  
 [NASA-CASE-LAR-10642-1] c 07 N74-31270

## CHOLESTEROL

- Reduction of blood serum cholesterol  
 [NASA-CASE-NPO-12119-1] c 52 N75-15270

**CHROMATOGRAPHY**

- Chromato-fluorographic drug detector --- device for detecting and recording fluorescent properties of materials  
[NASA-CASE-ARC-10633-1] c 25 N74-26947  
Modulated voltage metastable ionization detector  
[NASA-CASE-ARC-11503-1] c 35 N85-34374

**CHROMIUM**

- Selective coating for solar panels --- using black chrome and black nickel  
[NASA-CASE-LEW-12159-1] c 44 N78-19599  
Efficiency of silicon solar cells containing chromium  
[NASA-CASE-NPO-15179-1] c 44 N82-26777  
Process for improving moisture resistance of epoxy resins by addition of chromium ions  
[NASA-CASE-LAR-13226-1] c 27 N85-34282  
Negative electrode catalyst for the iron chromium redox energy storage system  
[NASA-CASE-LEW-14028-1] c 44 N86-19721

**CHROMIUM ALLOYS**

- Method of heat treating age-hardenable alloys  
[NASA-CASE-XNP-01311] c 26 N75-29236  
Niral ternary alloy having improved cyclic oxidation resistance  
[NASA-CASE-LEW-13339-1] c 26 N82-31505

**CHROMIUM COMPOUNDS**

- Chromium electrodes for REDOX cells  
[NASA-CASE-LEW-13653-1] c 44 N84-28205

**CHROMOSOMES**

- Automated clinical system for chromosome analysis  
[NASA-CASE-NPO-13913-1] c 52 N79-12694

**CINEMATOGRAPHY**

- High speed photo-optical time recording  
[NASA-CASE-KSC-10294] c 14 N72-18411  
Holographic motion picture camera with Doppler shift compensation  
[NASA-CASE-MFS-22517-1] c 35 N76-18402

**CIRCUIT BOARDS**

- Electrical feed-through connection for printed circuit boards and printed cable  
[NASA-CASE-XMF-01483] c 14 N69-27431  
Printed cable connector Patent  
[NASA-CASE-XMF-00369] c 09 N70-36494  
Printed circuit board with bellows rivet connection Patent  
[NASA-CASE-XNP-05082] c 15 N70-41960  
Electrical spot terminal assembly Patent  
[NASA-CASE-NPO-10034] c 15 N71-17685  
Polyimide resin-fiberglass cloth laminates for printed circuit boards  
[NASA-CASE-MFS-20408] c 18 N73-12604  
Circuit board package with wedge shaped covers  
[NASA-CASE-MFS-21919-1] c 10 N73-25243  
Tool for use in lifting pin supported objects  
[NASA-CASE-NPO-13157-1] c 37 N74-32918  
Shock absorbing mount for electrical components  
[NASA-CASE-NPO-13253-1] c 37 N75-18573  
Connector --- for connecting circuits on different layers of multilayer printed circuit boards  
[NASA-CASE-LAR-11709-1] c 37 N76-27567  
Traveling wave tube circuit  
[NASA-CASE-LEW-12013-1] c 33 N79-10339  
High stability amplifier  
[NASA-CASE-GSC-12646-1] c 33 N83-34191  
Beam forming network  
[NASA-CASE-NPO-15743-1] c 32 N85-29118

**CIRCUIT BREAKERS**

- Mercury capillary interrupter Patent  
[NASA-CASE-XNP-02251] c 12 N71-20896  
Diode and protection fuse unit Patent  
[NASA-CASE-XKS-03381] c 09 N71-22796  
Separation simulator Patent  
[NASA-CASE-XKS-04631] c 10 N71-23663  
Detenting servomotor Patent  
[NASA-CASE-XNP-06936] c 15 N71-24695  
Circuit breaker utilizing magnetic latching relays Patent  
[NASA-CASE-MSC-11277] c 09 N71-29008  
Multiple circuit protector device  
[NASA-CASE-XMS-02744] c 33 N75-27249  
Solar concentrator protective system  
[NASA-CASE-NPO-15662-1] c 44 N84-28204

**CIRCUIT DIAGRAMS**

- Excitation and detection circuitry for a flux responsive magnetic head  
[NASA-CASE-XNP-04183] c 09 N69-24329  
Signal multiplexer  
[NASA-CASE-XGS-01110] c 07 N69-24334  
Ring counter  
[NASA-CASE-XGS-03095] c 09 N69-27463  
Solid state switch  
[NASA-CASE-XNP-09228] c 09 N69-27500  
Ultra-long monostable multivibrator employing bistable semiconductor switch to allow charging of timing circuit Patent  
[NASA-CASE-XGS-00381] c 09 N70-34819

- Frequency shift keyed demodulator Patent  
[NASA-CASE-XGS-02889] c 07 N71-11282  
Difference circuit Patent  
[NASA-CASE-XNP-08274] c 10 N71-13537  
High voltage transistor circuit Patent  
[NASA-CASE-XNP-06937] c 09 N71-19516  
Weld control system using thermocouple wire Patent  
[NASA-CASE-MFS-06074] c 15 N71-20393  
Correlation function apparatus Patent  
[NASA-CASE-XNP-00746] c 07 N71-21476  
Diode and protection fuse unit Patent  
[NASA-CASE-XKS-03381] c 09 N71-22796  
Buck boost voltage regulation circuit Patent  
[NASA-CASE-GSC-10735-1] c 10 N71-26085  
Active RC networks  
[NASA-CASE-ARC-10042-2] c 10 N72-11256  
Microcircuit negative cutter  
[NASA-CASE-XLA-09843] c 15 N72-27485  
Self-regulating proportionally controlled heating apparatus and technique  
[NASA-CASE-GSC-11752-1] c 77 N75-20140  
Symmetrical odd-modulus frequency divider  
[NASA-CASE-NPO-13426-1] c 33 N75-31330  
Trielectrode capacitive pressure transducer  
[NASA-CASE-ARC-10711-2] c 33 N76-21390  
Frequency discriminator and phase detector circuit  
[NASA-CASE-NPO-11515-1] c 33 N77-13315

**CIRCUIT PROTECTION**

- Protection for energy conversion systems  
[NASA-CASE-XGS-04808] c 03 N69-25146  
Protective circuit of the spark gap type  
[NASA-CASE-XAC-08981] c 09 N69-39897  
Electrical load protection device Patent  
[NASA-CASE-MSC-12135-1] c 09 N71-12526  
Apparatus for overcurrent protection of a push-pull amplifier Patent  
[NASA-CASE-MSC-12033-1] c 09 N71-13531  
Method of coating circuit paths on printed circuit boards with solder Patent  
[NASA-CASE-XMF-01599] c 09 N71-20705  
Power supply circuit Patent  
[NASA-CASE-XMS-00913] c 10 N71-23543  
Selective plating of etched circuits without removing previous plating Patent  
[NASA-CASE-XGS-03120] c 15 N71-24047  
Failure sensing and protection circuit for converter networks Patent  
[NASA-CASE-GSC-10114-1] c 10 N71-27366  
Power responsive overload sensing circuit Patent  
[NASA-CASE-GSC-10667-1] c 10 N71-33129  
Saturation current protection apparatus for saturable core transformers  
[NASA-CASE-ERC-10075-2] c 09 N72-22196  
Electrical insulating layer process  
[NASA-CASE-LEW-10489-1] c 15 N72-25447  
Phase protection system for ac power lines  
[NASA-CASE-MSC-17832-1] c 33 N74-14956  
Overvoltage protection network  
[NASA-CASE-ARC-10197-1] c 33 N74-17929  
Shock absorbing mount for electrical components  
[NASA-CASE-NPO-13253-1] c 37 N75-18573  
Multiple circuit protector device  
[NASA-CASE-XMS-02744] c 33 N75-27249  
Multi-cell battery protection system  
[NASA-CASE-LEW-12039-1] c 44 N78-14625  
Fused switch  
[NASA-CASE-XMS-01244-1] c 33 N79-33393  
Base drive for paralleled inverter systems  
[NASA-CASE-NPO-14163-1] c 33 N81-14220  
Shielded conductor cable system  
[NASA-CASE-MSC-12745-1] c 33 N81-27397  
Push-pull converter with energy saving circuit for protecting switching transistors from peak power stress  
[NASA-CASE-NPO-14316-1] c 33 N81-33404

**CIRCUIT RELIABILITY**

- Split-cross-bridge resistor for testing for proper fabrication of integrated circuits  
[NASA-CASE-NPO-16021-1] c 33 N85-30187  
Cross-contact chain  
[NASA-CASE-NPO-16784-1] c 33 N87-10231

**CIRCUITS**

- Connector - Electrical  
[NASA-CASE-XLA-01288] c 09 N69-21470  
Binary magnetic memory device Patent  
[NASA-CASE-XGS-00174] c 08 N70-34743  
Electronic motor control system Patent  
[NASA-CASE-XMF-01129] c 09 N70-38712  
Starting circuit for vapor lamps and the like Patent  
[NASA-CASE-XNP-01058] c 09 N71-12540  
Drift compensation circuit for analog to digital converter Patent  
[NASA-CASE-XNP-04780] c 08 N71-19687  
High voltage divider system Patent  
[NASA-CASE-XLE-02008] c 09 N71-21583

- Solar cell and circuit array and process for nullifying magnetic fields Patent  
[NASA-CASE-XGS-03390] c 03 N71-23187  
Dual polarity full wave dc motor drive Patent  
[NASA-CASE-XNP-07477] c 09 N71-26092  
Temperature regulation circuit Patent  
[NASA-CASE-XNP-02792] c 14 N71-28958  
Pulse generating circuit employing switch means on ends of delay line for alternately charging and discharging same Patent  
[NASA-CASE-XNP-00745] c 10 N71-28960  
Digital pulse width selection circuit Patent  
[NASA-CASE-XLA-07788] c 09 N71-29139  
Power responsive overload sensing circuit Patent  
[NASA-CASE-GSC-10667-1] c 10 N71-33129  
Pulsed excitation voltage circuit for transducers  
[NASA-CASE-FRC-10036] c 09 N72-22200  
Thermal to electrical power conversion system with solid-state switches with Seebeck effect compensation  
[NASA-CASE-NPO-11388] c 03 N72-23048  
Controllable load insensitive power converters  
[NASA-CASE-ERC-10268] c 09 N72-25252  
Failsafe multiple transformer circuit configuration  
[NASA-CASE-NPO-11078] c 09 N72-25262  
Microcircuit negative cutter  
[NASA-CASE-XLA-09843] c 15 N72-27485  
Infinite range electronics gain control circuit  
[NASA-CASE-GSC-10786-1] c 10 N72-28241  
Active tuned circuit  
[NASA-CASE-GSC-11340-1] c 10 N72-33230  
Heat detection and compositions and devices therefor  
[NASA-CASE-NPO-10764-1] c 14 N73-14428  
Driving lamps by induction  
[NASA-CASE-MFS-21214-1] c 09 N73-30181  
Circuit for detecting initial systole and diastolic notch --- for monitoring arterial pressure  
[NASA-CASE-LEW-11581-1] c 54 N75-13531  
Peak holding circuit for extremely narrow pulses  
[NASA-CASE-MSC-14129-1] c 33 N75-18479  
High voltage distributor  
[NASA-CASE-GSC-11849-1] c 33 N76-16332  
Circuit for automatic load sharing in parallel converter modules  
[NASA-CASE-NPO-14056-1] c 33 N79-24257  
Method and apparatus for fabricating improved solar cell modules  
[NASA-CASE-NPO-14416-1] c 44 N81-14389  
Control system for an induction motor with energy recovery  
[NASA-CASE-MFS-25477-1] c 33 N84-14424  
Ladder supported ring bar circuit  
[NASA-CASE-LEW-13570-1] c 33 N84-16452  
Programmable scan/read circuitry for charge coupled device imaging detectors --- spacecraft attitude control and star trackers  
[NASA-CASE-NPO-15345-1] c 74 N84-23247  
Dielectric based submillimeter backward wave oscillator circuit  
[NASA-CASE-LEW-13736-1] c 33 N84-27974  
High voltage power supply  
[NASA-CASE-GSC-12818-1] c 33 N85-29147  
Method and apparatus for transfer function simulator for testing complex systems  
[NASA-CASE-NPO-15696-1] c 33 N85-34333  
Amplifier for measuring low-level signals in the presence of high common mode voltage  
[NASA-CASE-MFS-25868-1] c 33 N86-20670  
Processing circuit with asymmetry corrector and convolutional encoder for digital data  
[NASA-CASE-MSC-20187-1] c 33 N87-25531  
Arcjet power supply and start circuit  
[NASA-CASE-LEW-14374-1] c 09 N88-28939  
Power supply conditioning circuit  
[NASA-CASE-NPO-17233-1-CU] c 33 N88-29095  
Method and circuit for controlling the evolution time interval of a laser output pulse  
[NASA-CASE-LAR-13772-1] c 36 N89-28816  
Method and circuit for shaping laser output pulses  
[NASA-CASE-LAR-14203-1] c 36 N89-28817

**CIRCUIT CONES**

- Optical inspection apparatus Patent  
[NASA-CASE-XMF-00462] c 14 N70-34298

**CIRCUIT CYLINDERS**

- Light intensity modulator controller Patent  
[NASA-CASE-XMS-04300] c 09 N71-19479

**CIRCUIT POLARIZATION**

- Electromagnetic polarization systems and methods Patent  
[NASA-CASE-GSC-10021-1] c 09 N71-24595  
Virtual wall slot circularly polarized planar array antenna  
[NASA-CASE-NPO-10301] c 07 N72-11148  
Circularly polarized antenna  
[NASA-CASE-ERC-10214] c 09 N72-31235

## CIRCULAR TUBES

## CIRCULAR TUBES

- Evacuated displacement compression molding  
[NASA-CASE-LAR-10782-1] c 31 N74-14133  
Segmented tubular cushion springs and spring assembly  
[NASA-CASE-ARC-11349-1] c 37 N86-20797

## CIRCULATION CONTROL AIRFOILS

- Helicopter anti-torque system using strakes  
[NASA-CASE-LAR-13233-1] c 05 N84-33400

## CIRCULATORS (PHASE SHIFT CIRCUITS)

- Circulator having quarter wavelength resonant post and parametric amplifier circuits utilizing the same Patent  
[NASA-CASE-XNP-02140] c 09 N71-23097  
Dielectric-loaded waveguide circulator for cryogenically cooled and cascaded maser waveguide structures  
[NASA-CASE-NPO-14254-1] c 36 N80-18372

## CIRCUMFERENCES

- Circumferential pressure probe  
[NASA-CASE-LAR-13775-1] c 35 N89-14408

## CLADDING

- Seamless metal-clad fiber-reinforced organic matrix composite structures and process for their manufacture  
[NASA-CASE-LAR-13562-1] c 24 N87-18613

## CLAMPING CIRCUITS

- Amplifier clamping circuit for horizon scanner Patent  
[NASA-CASE-XGS-01784] c 10 N71-20782

## CLAMPS

- Portable alignment tool Patent  
[NASA-CASE-XMF-01452] c 15 N70-41371  
Hydraulic grip Patent  
[NASA-CASE-XLA-05100] c 15 N71-17696  
Clamping assembly for inertial components Patent  
[NASA-CASE-XMS-02184] c 15 N71-20813  
Central spar and module joint Patent  
[NASA-CASE-XNP-02341] c 15 N71-21531  
Quick attach mechanism Patent  
[NASA-CASE-XFR-05421] c 15 N71-22994  
Prosthetic occlusive device for an internal passageway  
[NASA-CASE-MFS-25740-1] c 52 N84-11744  
Clamp-mount device  
[NASA-CASE-MFS-25510-1] c 37 N84-16560  
Reusable thermal cycling clamp  
[NASA-CASE-LAR-12868-1] c 37 N85-21651  
Self-clamping arc light reflector for welding torch  
[NASA-CASE-MFS-29207-1] c 74 N87-25843  
Tensile film clamps and mounting block for the rheovibron and autovibron viscoelastometer  
[NASA-CASE-LAR-13696-1] c 37 N89-23880

## CLAYS

- Inorganic thermal control pigment Patent  
[NASA-CASE-XNP-02139] c 18 N71-24184

## CLEAN ROOMS

- Air conditioned suit  
[NASA-CASE-LAR-10076-1] c 05 N73-20137

## CLEANERS

- Purge device for thrust engines Patent  
[NASA-CASE-XMS-04826] c 28 N71-28849  
Noncontaminating swabs  
[NASA-CASE-MFS-18100] c 15 N72-11390  
Apparatus and method to keep the walls of a free-space reactor free from deposits of solid materials  
[NASA-CASE-NPO-15851-1] c 37 N85-21652

## CLEANING

- Disk pack cleaning table Patent Application  
[NASA-CASE-LAR-10590-1] c 15 N70-26819  
System for sterilizing objects --- cleaning space vehicle systems  
[NASA-CASE-KSC-11085-1] c 54 N81-24724  
Apparatus and method to keep the walls of a free-space reactor free from deposits of solid materials  
[NASA-CASE-NPO-15851-1] c 37 N85-21652  
Self-contained, single-use hose and tubing cleaning module  
[NASA-CASE-MSC-20857-1] c 37 N87-17035

## CLEAR AIR TURBULENCE

- Clear air turbulence detector  
[NASA-CASE-ERC-10081] c 14 N72-28437  
Clear air turbulence detector  
[NASA-CASE-MFS-21244-1] c 36 N75-15028  
CAT altitude avoidance system  
[NASA-CASE-NPO-15351-1] c 06 N83-10040

## CLEARANCES

- Active clearance control system for a turbomachine  
[NASA-CASE-LEW-12938-1] c 07 N82-32366  
Control means for a gas turbine engine  
[NASA-CASE-LEW-14586-1] c 07 N83-31603

## CLEAVAGE

- Crystal cleaving machine  
[NASA-CASE-GSC-12584-1] c 37 N82-32730  
Workpiece positioning vise  
[NASA-CASE-GSC-12762-1] c 37 N84-28083

## CLIMBING FLIGHT

- Aircraft instrument Patent  
[NASA-CASE-XLA-00487] c 14 N70-40157

## CLINICAL MEDICINE

- Process for the preparation of brushite crystals  
[NASA-CASE-ERC-10338] c 04 N72-33072  
Measurement of gas production of microorganisms --- using pressure sensors  
[NASA-CASE-LAR-11326-1] c 35 N75-33368  
Production of I-123  
[NASA-CASE-LEW-11390-3] c 25 N76-29379  
Automated clinical system for chromosome analysis  
[NASA-CASE-NPO-13913-1] c 52 N79-12694  
Medical diagnosis system and method with multispectral imaging --- depth of burns and optical density of the skin  
[NASA-CASE-NPO-14402-1] c 52 N81-27783

## Process of making medical clip

- [NASA-CASE-LAR-12650-2] c 52 N84-28389

## CLIPS

- Medical clip  
[NASA-CASE-LAR-12650-1] c 52 N84-28388  
Process of making medical clip  
[NASA-CASE-LAR-12650-2] c 52 N84-28389

## CLOCKS

- Time synchronization system utilizing moon reflected coded signals Patent  
[NASA-CASE-NPO-10143] c 10 N71-26326  
Counter Patent  
[NASA-CASE-XNP-06234] c 10 N71-27137  
Fault tolerant clock apparatus utilizing a controlled minority of clock elements  
[NASA-CASE-MSC-12531-1] c 35 N75-30504  
Clock setter  
[NASA-CASE-LAR-11458-1] c 35 N76-16392

## CLOSED CIRCUIT TELEVISION

- Spacecraft docking and alignment system --- using television camera system  
[NASA-CASE-MSC-12559-1] c 18 N76-14186

## CLOSED CYCLES

- Closed loop ranging system Patent  
[NASA-CASE-XNP-01501] c 21 N70-41930  
Digital phase-locked loop  
[NASA-CASE-GSC-11623-1] c 33 N75-25040  
Lead-oxygen dc power supply system having a closed loop oxygen and water system  
[NASA-CASE-MFS-23059-1] c 44 N76-27664

## CLOSED ECOLOGICAL SYSTEMS

- Recovery of potable water from human wastes in below-G conditions Patent  
[NASA-CASE-XLA-03213] c 05 N71-11207  
Space vehicle with artificial gravity and earth-like environment  
[NASA-CASE-LEW-11101-1] c 31 N73-32750  
Regenerable device for scrubbing breathable air of CO<sub>2</sub> and moisture without special heat exchanger equipment  
[NASA-CASE-MSC-14771-1] c 54 N77-32722  
Cell and method for electrolysis of water and anode  
[NASA-CASE-MSC-16394-1] c 28 N81-24280  
Method and apparatus for bio-regenerative life support system  
[NASA-CASE-MSC-21629-1] c 54 N89-29027

## CLOSTRIDIUM

- Production of butanol by fermentation in the presence of cocultures of clostridium  
[NASA-CASE-NPO-16203-1] c 23 N85-35227

## CLOSURES

- Canister closing device Patent  
[NASA-CASE-XLA-01446] c 15 N71-21528  
Spacesuit torso closure  
[NASA-CASE-ARC-11100-1] c 54 N78-31736

## CLOUD CHAMBERS

- Heat transfer device  
[NASA-CASE-MFS-22938-1] c 34 N76-18374

## CLOUD COVER

- Cloud cover sensor  
[NASA-CASE-NPO-14936-1] c 47 N83-32232

## CLOUDS (METEOROLOGY)

- Rocket borne instrument to measure electric fields inside electrified clouds  
[NASA-CASE-KSC-10730-1] c 14 N73-32318  
Electric field measuring and display system --- for cloud formations  
[NASA-CASE-KSC-10731-1] c 33 N74-27862

## CLUTCHES

- Directional gear ratio transmissions  
[NASA-CASE-LAR-12644-1] c 37 N84-28084  
Non-backdrivable free wheeling coupling  
[NASA-CASE-MSC-20475-1] c 37 N87-17037  
Rotary stepping device with memory metal actuator  
[NASA-CASE-NPO-15482-1] c 37 N87-23970

## CLUTTER

- Clutter free synthetic aperture radar correlator  
[NASA-CASE-NPO-14035-1] c 32 N83-19968  
Method and apparatus for measuring distance  
[NASA-CASE-MSC-20912-1] c 32 N88-26568

## CMOS

- Complementary DMOS-VMOS integrated circuit structure  
[NASA-CASE-GSC-12190-1] c 33 N79-12321

## COAL

- Coal-shale interface detection  
[NASA-CASE-MFS-23720-3] c 43 N79-25443  
Thickness measurement system  
[NASA-CASE-MFS-23721-1] c 31 N79-28370  
Coal-rock interface detector  
[NASA-CASE-MFS-23725-1] c 43 N79-31706  
Coal-shale interface detection system  
[NASA-CASE-MFS-23720-2] c 43 N80-14423  
Coal-shale interface detector  
[NASA-CASE-MFS-23720-1] c 43 N80-23711  
Coal desulfurization --- using iron pentacarbonyl  
[NASA-CASE-NPO-14272-1] c 25 N81-33246  
Coal desulfurization by aqueous chlorination  
[NASA-CASE-NPO-14902-1] c 25 N82-29371  
Hydrodesulfurization of chlorinized coal  
[NASA-CASE-NPO-15304-1] c 25 N83-31743  
Supercritical multicomponent solvent coal extraction  
[NASA-CASE-NPO-15767-1] c 23 N84-16255  
Supercritical solvent coal extraction  
[NASA-CASE-NPO-15210-1] c 25 N84-22709  
Longwall shearer tracking system  
[NASA-CASE-MFS-25717-1] c 35 N84-33768  
Shuttle car loading system  
[NASA-CASE-NPO-15949-1] c 85 N85-34722  
Fluidized bed desulfurization  
[NASA-CASE-NPO-15924-1] c 25 N85-35253

## COAL GASIFICATION

- Solar heated fluidized bed gasification system  
[NASA-CASE-NPO-15071-1] c 44 N82-16475  
Pressure letdown method and device for coal conversion systems  
[NASA-CASE-NPO-15100-1] c 44 N84-14583  
Micronized coal burner facility  
[NASA-CASE-LEW-13426-1] c 25 N84-16276  
Liquid hydrogen polygeneration system and process  
[NASA-CASE-KSC-11304-2] c 28 N86-23744

## COAL LIQUEFACTION

- Surfactant-assisted liquefaction of particulate carbonaceous substances  
[NASA-CASE-NPO-13904-1] c 25 N79-11152

## COAL UTILIZATION

- Coal desulfurization process  
[NASA-CASE-NPO-13937-1] c 44 N78-31527  
Continuous coal processing method  
[NASA-CASE-NPO-13758-2] c 31 N81-15154  
Fluidized bed coal combustion reactor  
[NASA-CASE-NPO-14273-1] c 25 N82-11144

## COATING

- Method of coating circuit paths on printed circuit boards with solder Patent  
[NASA-CASE-XMF-01599] c 09 N71-20705  
Process for applying black coating to metals Patent  
[NASA-CASE-XLA-06199] c 15 N71-24875  
Method of forming metal hydride films  
[NASA-CASE-LEW-12083-1] c 37 N78-13436  
Selective coating for solar panels --- using black chrome and black nickel  
[NASA-CASE-LEW-12159-1] c 44 N78-19599  
Boron trifluoride coatings for thermoplastic materials and method of applying same in glow discharge  
[NASA-CASE-ARC-11057-1] c 27 N78-31233  
Process for producing a well-adhered durable optical coating on an optical plastic substrate --- abrasion resistant polymethyl methacrylate lenses  
[NASA-CASE-ARC-11039-1] c 74 N78-32854  
Contactless pellet fabrication  
[NASA-CASE-NPO-15592-1] c 71 N84-16940  
Corrosion resistant coating  
[NASA-CASE-NPO-15928-1] c 26 N85-29005  
Textured carbon surfaces on copper by sputtering  
[NASA-CASE-LEW-14130-1] c 31 N86-32587

## COATINGS

- Bonded solid lubricant coating Patent  
[NASA-CASE-XMS-00259] c 18 N70-36400  
High contrast cathode ray tube  
[NASA-CASE-ERC-10468] c 09 N72-20206  
Durable antistatic coating for polymethylmethacrylate  
[NASA-CASE-NPO-13867-1] c 27 N78-14164  
Edge coating of flat wires  
[NASA-CASE-XMF-05757-1] c 31 N79-21227  
Advanced inorganic separators for alkaline batteries and method of making the same  
[NASA-CASE-LEW-13171-2] c 44 N83-32176  
Diamondlike flake composites  
[NASA-CASE-LEW-13837-1] c 24 N84-22695  
Diamondlike flakes  
[NASA-CASE-LEW-13837-2] c 24 N85-21267  
Method for laminar boundary layer transition visualization in flight  
[NASA-CASE-LAR-13554-1] c 02 N89-12551

## COAXIAL CABLES

- Transmission line thermal short Patent  
[NASA-CASE-XNP-09775] c 09 N71-20445  
Coaxial cable connector Patent  
[NASA-CASE-XNP-04732] c 09 N71-20851

- Transducer circuit and catheter transducer Patent  
[NASA-CASE-ARC-10132-1] c 09 N71-24597
- Collapsible antenna boom and transmission line Patent  
[NASA-CASE-MFS-20068] c 07 N71-27191
- Vibration isolation system using compression springs  
[NASA-CASE-NPO-11012] c 15 N72-11391
- Hermetically sealed semiconductor  
[NASA-CASE-GSC-10791-1] c 15 N73-14469
- System for stabilizing cable phase delay utilizing a coaxial cable under pressure  
[NASA-CASE-NPO-13138-1] c 33 N74-17927
- Refrigerated coaxial coupling --- for microwave equipment  
[NASA-CASE-NPO-13504-1] c 33 N75-30430
- High power RF coaxial switch  
[NASA-CASE-NPO-14229-1] c 33 N80-18285
- Coaxial cable connector  
[NASA-CASE-NPO-16764-1-CU] c 33 N88-14270
- COAXIAL PLASMA ACCELERATORS**  
Self-energized plasma compressor  
[NASA-CASE-MFS-22145-2] c 75 N76-17951
- COBALT**  
Process for improving mechanical properties of epoxy resins by addition of cobalt ions  
[NASA-CASE-LAR-13230-1] c 24 N84-34571
- Metal (2) 4,4',4'',4''' phthalocyanine tetraamines as curing agents for epoxy resins  
[NASA-CASE-ARC-11424-1] c 27 N85-34281
- COBALT ALLOYS**  
High temperature cobalt-base alloy Patent  
[NASA-CASE-XLE-00726] c 17 N71-15644
- High temperature cobalt-base alloy Patent  
[NASA-CASE-XLE-02991] c 17 N71-16025
- High temperature ferromagnetic cobalt-base alloy Patent  
[NASA-CASE-XLE-03629] c 17 N71-23248
- Cobalt-base alloy  
[NASA-CASE-LEW-10436-1] c 17 N73-32415
- COBALT OXIDES**  
High contrast cathode ray tube  
[NASA-CASE-ERC-10468] c 09 N72-20206
- COCKPIT SIMULATORS**  
Controlled visibility device for an aircraft Patent  
[NASA-CASE-XFR-04147] c 11 N71-10748
- COCKPITS**  
Aircraft canopy lock  
[NASA-CASE-FRC-11065-1] c 05 N83-19737
- CODERS**  
Encoder/decoder system for a rapidly synchronizable binary code Patent  
[NASA-CASE-NPO-10342] c 10 N71-33407
- Modular encoder  
[NASA-CASE-NPO-10629] c 08 N72-18184
- Method and apparatus for decoding compatible convolutional codes  
[NASA-CASE-MSC-14070-1] c 32 N74-32598
- Digital plus analog output encoder  
[NASA-CASE-GSC-12115-1] c 62 N76-31946
- Twin-capacitive shaft angle encoder with analog output signal  
[NASA-CASE-ARC-10897-1] c 33 N77-31404
- CODING**  
Error correcting method and apparatus Patent  
[NASA-CASE-XNP-02748] c 08 N71-22749
- Rate data encoder  
[NASA-CASE-LAR-10128-1] c 08 N73-20217
- Binary concatenated coding system  
[NASA-CASE-MSC-14082-1] c 60 N76-23850
- Differential pulse code modulation  
[NASA-CASE-MSC-12506-1] c 32 N77-12239
- Automatic multi-banking of memory for microprocessors  
[NASA-CASE-NPO-15295-1] c 60 N85-21992
- A VLSI single-chip (225,223) Reed-Solomon encoder with interleaver  
[NASA-CASE-NPO-17280-1-CU] c 17 N88-27220
- Method for Viterbi decoding of large constraint length convolutional codes  
[NASA-CASE-NPO-17310-1-CU] c 17 N88-28946
- Computer access security code system  
[NASA-CASE-NPO-17525-1-CU] c 60 N89-29955
- COEFFICIENT OF FRICTION**  
Static coefficient test method and apparatus  
[NASA-CASE-GSC-11893-1] c 35 N76-31489
- Locking redundant link  
[NASA-CASE-LAR-11900-1] c 37 N79-14382
- COENZYMES**  
Flavin coenzyme assay  
[NASA-CASE-GSC-10565-1] c 06 N72-25149
- COHERENT ELECTROMAGNETIC RADIATION**  
Folded traveling wave maser structure Patent  
[NASA-CASE-XNP-05219] c 16 N71-15550
- Focused image holography with extended sources Patent  
[NASA-CASE-ERC-10019] c 16 N71-15551
- Off-axis coherently pumped laser  
[NASA-CASE-GSC-12592-1] c 36 N84-28065
- COHERENT LIGHT**  
Hybrid holographic system using reflected and transmitted object beams simultaneously Patent  
[NASA-CASE-MFS-20074] c 16 N71-15565
- Amplitude modulated laser transmitter Patent  
[NASA-CASE-XMS-04269] c 16 N71-22895
- Device for measuring light scattering wherein the measuring beam is successively reflected between a pair of parallel reflectors Patent  
[NASA-CASE-XER-11203] c 14 N71-28994
- COHERENT RADIATION**  
Laser communication system for controlling several functions at a location remote to the laser  
[NASA-CASE-LAR-10311-1] c 16 N73-16536
- Monitoring atmospheric pollutants with a heterodyne radiometer transmitter-receiver  
[NASA-CASE-NPO-11919-1] c 35 N74-11284
- Apparatus for scanning the surface of a cylindrical body  
[NASA-CASE-NPO-11861-1] c 36 N74-20009
- Optically detonated explosive device  
[NASA-CASE-NPO-11743-1] c 28 N74-27425
- Method and apparatus for generating coherent radiation in the ultra-violet region and above by use of distributed feedback  
[NASA-CASE-NPO-13346-1] c 36 N76-29575
- Coherently pulsed laser source  
[NASA-CASE-NPO-15111-1] c 36 N82-29589
- COINCIDENCE CIRCUITS**  
Frequency measurement by coincidence detection with standard frequency  
[NASA-CASE-MSC-14649-1] c 33 N76-16331
- COLD CATHODES**  
Meteoroid detector  
[NASA-CASE-LAR-10483-1] c 14 N73-32327
- COLD GAS**  
Annular arc accelerator shock tube  
[NASA-CASE-NPO-13528-1] c 09 N77-10071
- COLD WELDING**  
Method of cold welding using ion beam technology  
[NASA-CASE-LEW-12982-1] c 37 N81-19455
- COLD WORKING**  
Hydroforming techniques using epoxy molds Patent  
[NASA-CASE-XLE-05641-1] c 15 N71-26346
- COLLAPSE**  
Collapsible pistons  
[NASA-CASE-MSC-13789-1] c 11 N73-32152
- COLLECTION**  
Automatic liquid inventory collecting and dispensing unit  
[NASA-CASE-LAR-11071-1] c 35 N75-19611
- Absorbent product to absorb fluids --- for collection of human wastes  
[NASA-CASE-MSC-18223-1] c 24 N82-29362
- Improved method and apparatus for waste collection and storage  
[NASA-CASE-MSC-21025-1] c 31 N87-25495
- COLLIMATION**  
Long range laser traversing system  
[NASA-CASE-GSC-11262-1] c 36 N74-21091
- Optical alignment device  
[NASA-CASE-ARC-10932-1] c 74 N76-22993
- Spatial filter for Q-switched lasers  
[NASA-CASE-LEW-12164-1] c 36 N77-32478
- Dual acting slit control mechanism  
[NASA-CASE-LAR-11370-1] c 35 N80-28686
- Method for shaping and aiming narrow beams --- sonar mapping and target identification  
[NASA-CASE-NPO-14632-1] c 32 N82-18443
- Dual laser optical system and method for studying fluid flow  
[NASA-CASE-MFS-25315-1] c 36 N83-29680
- Ion beam accelerator system  
[NASA-CASE-NPO-15547-1] c 72 N84-16959
- Sonic levitation apparatus  
[NASA-CASE-MFS-25828-1] c 71 N84-28568
- Laser schlieren crystal monitor  
[NASA-CASE-MFS-28060-1] c 76 N87-25862
- Ion generator and ion application system  
[NASA-CASE-MFS-28122-1] c 72 N88-24253
- COLLIMATORS**  
X-ray reflection collimator adapted to focus X-radiation directly on a detector Patent  
[NASA-CASE-XHQ-04106] c 14 N70-40240
- Collimator of multiple plates with axially aligned identical random arrays of apertures  
[NASA-CASE-MFS-20546-2] c 14 N73-30389
- Multiplate focusing collimator --- for scanning small near radiation sources  
[NASA-CASE-MFS-20932-1] c 35 N75-19616
- Method for shaping and aiming narrow beams --- sonar mapping and target identification  
[NASA-CASE-NPO-14632-1] c 32 N82-18443
- Constant magnification optical tracking system  
[NASA-CASE-NPO-14813-1] c 74 N82-24072
- Multiprism collimator  
[NASA-CASE-GSC-12608-1] c 74 N83-10900
- COLLISION AVOIDANCE**  
Cooperative Doppler radar system Patent  
[NASA-CASE-LAR-10403] c 21 N71-11766
- Satellite aided vehicle avoidance system Patent  
[NASA-CASE-ERC-10090] c 21 N71-24948
- Stacked array of omnidirectional antennas  
[NASA-CASE-LAR-10545-1] c 09 N72-21244
- Display research collision warning system  
[NASA-CASE-HQN-10703] c 21 N73-13643
- Apparatus for aiding a pilot in avoiding a midair collision between aircraft  
[NASA-CASE-LAR-10717-1] c 21 N73-30641
- Satellite aided vehicle avoidance system  
[NASA-CASE-ERC-10419-1] c 03 N75-30132
- COLLISIONS**  
Tool and process for miniature explosive joining of tubes  
[NASA-CASE-LAR-13662-1] c 37 N88-14359
- COLLOIDAL GENERATORS**  
Colloid propulsion method and apparatus Patent  
[NASA-CASE-XLE-00817] c 28 N70-33265
- COLLOIDAL PROPELLANTS**  
Colloid propulsion method and apparatus Patent  
[NASA-CASE-XLE-00817] c 28 N70-33265
- Low viscosity magnetic fluid obtained by the colloidal suspension of magnetic particles Patent  
[NASA-CASE-XLE-01512] c 12 N70-40124
- Annular slit colloid thruster Patent  
[NASA-CASE-GSC-10709-1] c 28 N71-25213
- COLLOIDS**  
The 2 deg/90 deg laboratory scattering photometer --- particulate refractivity in hydrosols  
[NASA-CASE-GSC-12088-1] c 74 N78-13874
- COLOR**  
Nondestructive spot test method for magnesium and magnesium alloys  
[NASA-CASE-LAR-10953-1] c 17 N73-27446
- Spectrally balanced chromatic landing approach lighting system  
[NASA-CASE-ARC-10990-1] c 04 N82-16059
- Method for laminar boundary layer transition visualization in flight  
[NASA-CASE-LAR-13554-1] c 02 N89-12551
- COLOR PHOTOGRAPHY**  
Method of recording a gas flow pattern Patent  
[NASA-CASE-XMF-01779] c 12 N71-20815
- Method for retarding dye fading during archival storage of developed color photographic film --- inert atmosphere  
[NASA-CASE-MFS-23250-1] c 35 N82-11432
- COLOR TELEVISION**  
Color television systems using a single gun color cathode ray tube Patent  
[NASA-CASE-ERC-10098] c 09 N71-28618
- Color television system  
[NASA-CASE-MSC-12146-1] c 07 N72-17109
- Scan converting video tape recorder  
[NASA-CASE-NPO-10166-1] c 07 N73-22076
- Scan converting video tape recorder  
[NASA-CASE-NPO-10166-2] c 35 N76-16391
- System for producing chroma signals  
[NASA-CASE-MSC-14683-1] c 74 N77-18893
- Full color hybrid display for aircraft simulators --- landing aids  
[NASA-CASE-ARC-10903-1] c 09 N78-18083
- COLOR VISION**  
Color perception tester  
[NASA-CASE-KSC-10278] c 05 N72-16015
- COLUMNS**  
Lightweight structural columns --- space erectable trusses  
[NASA-CASE-LAR-12095-1] c 31 N81-25258
- COLUMNS (PROCESS ENGINEERING)**  
Micropacked column for a chromatographic system  
[NASA-CASE-XNP-04816] c 06 N69-39936
- COLUMNS (SUPPORTS)**  
Telescoping columns --- parabolic antenna support  
[NASA-CASE-LAR-12195-1] c 31 N81-27324
- COMBINATORIAL ANALYSIS**  
Apparatus for computing square roots Patent  
[NASA-CASE-XGS-04768] c 08 N71-19437
- COMBUSTION**  
Combustion detector  
[NASA-CASE-LAR-10739-1] c 14 N73-16484
- A system for controlling the oxygen content of a gas produced by combustion  
[NASA-CASE-LAR-13257-1] c 25 N84-32447
- COMBUSTION CHAMBERS**  
Rocket chamber leak test fixture  
[NASA-CASE-XFR-09479] c 14 N69-27503
- Rocket propellant injector Patent  
[NASA-CASE-XLE-00103] c 28 N70-33241

## COMBUSTION CONTROL

- Formed metal ribbon wrap Patent  
[NASA-CASE-XLE-00164] c 15 N70-36411
- Injector-valve device Patent  
[NASA-CASE-XLE-00303] c 15 N70-36535
- Ignition system for monopropellant combustion devices Patent  
[NASA-CASE-XNP-00249] c 28 N70-38249
- Method of making a regeneratively cooled combustion chamber Patent  
[NASA-CASE-XLE-00150] c 28 N70-41818
- Control of transverse instability in rocket combustors Patent  
[NASA-CASE-XLE-04603] c 33 N71-21507
- Combustion chamber Patent  
[NASA-CASE-XLE-04857] c 28 N71-23968
- Rocket engine injector Patent  
[NASA-CASE-XLE-03157] c 28 N71-24736
- Coaxial injector for reaction motors  
[NASA-CASE-NPO-11095] c 15 N72-25455
- Swirl can primary combustor  
[NASA-CASE-LEW-11326-1] c 23 N73-30665
- Method of electroforming a rocket chamber  
[NASA-CASE-LEW-11118-1] c 20 N74-32919
- Controlled separation combustor --- airflow distribution in gas turbine engines  
[NASA-CASE-LEW-11593-1] c 20 N76-14190
- Fuel combustor  
[NASA-CASE-LEW-12137-1] c 25 N78-10224
- Direct heating surface combustor  
[NASA-CASE-LEW-11877-1] c 34 N78-27357
- Combustor --- low nitrogen oxide formation  
[NASA-CASE-NPO-13958-1] c 25 N79-11151
- Heat exchanger --- rocket combustion chambers and cooling systems  
[NASA-CASE-LEW-12252-1] c 34 N79-13288
- General purpose rocket furnace  
[NASA-CASE-MFS-23460-1] c 12 N79-26075
- Reduction of nitric oxide emissions from a combustor  
[NASA-CASE-ARC-10814-2] c 07 N80-26298
- Fluidized bed coal combustion reactor  
[NASA-CASE-NPO-14273-1] c 25 N82-11144
- Micronized coal burner facility  
[NASA-CASE-LEW-13426-1] c 25 N84-16276
- Heat pipes to reduce engine exhaust emissions  
[NASA-CASE-LEW-12590-1] c 37 N84-22958
- Combustor liner construction  
[NASA-CASE-LEW-14035-1] c 07 N84-24577
- A system for controlling the oxygen content of a gas produced by combustion  
[NASA-CASE-LAR-13257-1] c 25 N84-32447
- Diesel engine catalytic combustor system --- aircraft engines  
[NASA-CASE-LEW-12995-1] c 37 N84-33808
- Flow modifying device  
[NASA-CASE-LEW-13562-2] c 07 N85-35195
- Low loss injector for liquid propellant rocket engines  
[NASA-CASE-MFS-25989-1] c 20 N87-14420
- Vibration analyzer  
[NASA-CASE-MSC-21408-1] c 37 N89-28829

## COMBUSTION CONTROL

- Burning rate control of solid propellants Patent  
[NASA-CASE-XLE-03494] c 27 N71-21819

## COMBUSTION EFFICIENCY

- Rocket engine injector Patent  
[NASA-CASE-XLE-00111] c 28 N70-38199
- Heat pipes to reduce engine exhaust emissions  
[NASA-CASE-LEW-12590-1] c 37 N84-22958

## COMBUSTION PHYSICS

- Solid propellant rocket motor  
[NASA-CASE-NPO-11559] c 28 N73-24784
- Plasma igniter for internal combustion engine  
[NASA-CASE-NPO-13828-1] c 37 N79-11405

## COMBUSTION PRODUCTS

- Separation nut Patent  
[NASA-CASE-XGS-01971] c 15 N71-15922
- Combustion products generating and metering device  
[NASA-CASE-GSC-11095-1] c 14 N72-10375
- System for minimizing internal combustion engine pollution emission  
[NASA-CASE-NPO-13402-1] c 37 N76-18457
- Coal desulfurization process  
[NASA-CASE-NPO-13937-1] c 44 N78-31527
- Combustor --- low nitrogen oxide formation  
[NASA-CASE-NPO-13958-1] c 25 N79-11151
- A system for controlling the oxygen content of a gas produced by combustion  
[NASA-CASE-LAR-13257-1] c 25 N84-32447

## COMBUSTION STABILITY

- Control of transverse instability in rocket combustors Patent  
[NASA-CASE-XLE-04603] c 33 N71-21507
- Low loss injector for liquid propellant rocket engines  
[NASA-CASE-MFS-25989-1] c 20 N87-14420

## COMET TAILS

- Ion mass spectrometer  
[NASA-CASE-NPO-15423-1] c 35 N84-28016

## COMFORT

- Ride quality meter  
[NASA-CASE-LAR-12882-1] c 35 N84-12445

## COMMAND AND CONTROL

- Multiple rate digital command detection system with range clean-up capability  
[NASA-CASE-NPO-13753-1] c 32 N77-20289
- Common data buffer system --- communication with computational equipment utilized in spacecraft operations  
[NASA-CASE-KSC-11048-1] c 62 N81-24779

## COMMAND MODULES

- Low onset rate energy absorber  
[NASA-CASE-MSC-12279] c 15 N72-17450

## COMMUNICATING

- Communications link for computers  
[NASA-CASE-NPO-11161] c 08 N72-25207

## COMMUNICATION

- Correlation function apparatus Patent  
[NASA-CASE-XNP-00746] c 07 N71-21476
- System for improving signal-to-noise ratio of a communication signal  
[NASA-CASE-MSC-12259-2] c 07 N72-33146

## COMMUNICATION CABLES

- Method of making a molded connector Patent  
[NASA-CASE-XMF-03498] c 15 N71-15986
- Process for making RF shielded cable connector assemblies and the products formed thereby  
[NASA-CASE-GSC-11215-1] c 09 N73-28083
- Fiber distributed feedback laser  
[NASA-CASE-NPO-13531-1] c 36 N76-24553
- High-speed data link for moderate distances and noisy environments  
[NASA-CASE-NPO-14152-1] c 32 N80-18252
- High acceleration cable deployment system  
[NASA-CASE-ARC-11256-1] c 15 N82-24272
- Rotatable electric cable connecting system  
[NASA-CASE-GSC-12899-1] c 33 N86-20669

## COMMUNICATION EQUIPMENT

- Elimination of frequency shift in a multiplex communication system Patent  
[NASA-CASE-XNP-01306] c 07 N71-20814
- Decoder system Patent  
[NASA-CASE-NPO-10118] c 07 N71-24741
- Data-aided carrier tracking loops  
[NASA-CASE-NPO-11282] c 10 N73-16205
- Doppler compensation by shifting transmitted object frequency within limits  
[NASA-CASE-GSC-10087-4] c 07 N73-20174
- Differential phase shift keyed communication system  
[NASA-CASE-MSC-14065-1] c 32 N74-26654
- Doppler-corrected differential detection system  
[NASA-CASE-NPO-16987-1-CU] c 32 N88-30001

## COMMUNICATION SATELLITES

- Passive communication satellite Patent  
[NASA-CASE-XLA-00210] c 30 N70-40309
- Apparatus providing a directive field pattern and attitude sensing of a spin stabilized satellite Patent  
[NASA-CASE-XGS-02607] c 31 N71-23009
- Deep space monitor communication satellite system Patent  
[NASA-CASE-XAC-06029-1] c 31 N71-24813
- Satellite communication system Patent  
[NASA-CASE-XNP-02389] c 07 N71-28900
- Satellite aided vehicle avoidance system  
[NASA-CASE-ERC-10419-1] c 03 N75-30132
- Ultra stable frequency distribution system  
[NASA-CASE-NPO-13836-1] c 32 N78-15323

## COMMUTATION

- High speed low level electrical stepping switch Patent  
[NASA-CASE-XAC-00060] c 09 N70-39915
- Elimination of current spikes in buck power converters  
[NASA-CASE-NPO-14505-1] c 33 N81-19393

## COMMUTATORS

- Scanning aspect sensor employing an apertured disc and a commutator  
[NASA-CASE-XGS-08266] c 14 N69-27432
- Current steering commutator  
[NASA-CASE-NPO-10743] c 08 N72-21199

## COMPARATOR CIRCUITS

- Digital frequency discriminator Patent  
[NASA-CASE-MFS-14322] c 08 N71-18692
- Pulsed differential comparator circuit Patent  
[NASA-CASE-XLE-03804] c 10 N71-19471
- Multi-cell battery protection system  
[NASA-CASE-LEW-12039-1] c 44 N78-14625
- Window comparator  
[NASA-CASE-FRC-10090-1] c 33 N78-18308
- COMPARATORS
- Fluid flow meter with comparator reference means Patent  
[NASA-CASE-XGS-01331] c 14 N71-22996
- Comparator for the comparison of two binary numbers Patent  
[NASA-CASE-XNP-04819] c 08 N71-23295

- High stability buffered phase comparator  
[NASA-CASE-GSC-12645-1] c 33 N84-16454
- Neighborhood comparison operator  
[NASA-CASE-NPO-16464-1CU] c 60 N86-24224
- Comparator with noise suppression  
[NASA-CASE-LAR-13151-1] c 33 N87-21235

## COMPENSATORS

- Star image motion compensator  
[NASA-CASE-LAR-10523-1] c 14 N72-22444
- Thermal compensator for closed-cycle helium refrigerator --- assuring constant temperature for an infrared laser diode  
[NASA-CASE-GSC-12168-1] c 31 N79-17029
- Apparatus for and method of compensating dynamic unbalance  
[NASA-CASE-GSC-12550-1] c 37 N84-28082
- Compensation for primary reflector wavefront error  
[NASA-CASE-NPO-16869-1CU] c 74 N86-33138

## COMPLEX COMPOUNDS

- Synthesis of polyformals  
[NASA-CASE-ARC-11244-1] c 23 N82-16174

## COMPONENT RELIABILITY

- Acoustic guide for noise-transmission testing of aircraft  
[NASA-CASE-LAR-13111-1-CU] c 71 N87-21652

## COMPOSITE MATERIALS

- Reinforced metallic composites Patent  
[NASA-CASE-XLE-02428] c 17 N70-33288
- Method of making fiber reinforced metallic composites Patent  
[NASA-CASE-XLE-00231] c 17 N70-38198
- Reinforced metallic composites Patent  
[NASA-CASE-XLE-00228] c 17 N70-38490
- Unfired-ceramic flame-resistant insulation and method of making the same Patent  
[NASA-CASE-XMF-01030] c 18 N70-41583
- Process of casting heavy slips Patent  
[NASA-CASE-XLE-00106] c 15 N71-16076
- Lightweight refractory insulation and method of preparing the same Patent  
[NASA-CASE-XMF-05279] c 18 N71-16124
- Flexible composite membrane Patent  
[NASA-CASE-XNP-08837] c 18 N71-16210
- Low temperature flexure fatigue cryostat Patent  
[NASA-CASE-XMF-02964] c 14 N71-17659
- Method for producing fiber reinforced metallic composites Patent  
[NASA-CASE-XLE-03925] c 18 N71-22894
- Solar cell matrix  
[NASA-CASE-NPO-11190] c 03 N71-34044
- Method of forming shapes from planar sheets of thermosetting materials  
[NASA-CASE-NPO-11036] c 15 N72-24522
- Method of making fiber composites  
[NASA-CASE-LEW-10424-2-2] c 18 N72-25539
- Thermal compensating structural member  
[NASA-CASE-MFS-20433] c 15 N72-28496
- Bearing material --- composite material with low friction surface for rolling or sliding contact  
[NASA-CASE-LEW-11930-1] c 24 N76-22309
- Fluid seal for rotating shafts  
[NASA-CASE-LEW-11676-1] c 37 N76-22541
- Non-flammable elastomeric fiber from a fluorinated elastomer and containing an halogenated flame retardant  
[NASA-CASE-MSC-14331-1] c 27 N76-24405
- Method of growing composites of the type exhibiting the Soret effect --- improved structure of eutectic alloy crystals  
[NASA-CASE-MFS-22926-1] c 24 N77-27187
- Hybrid composite laminate structures  
[NASA-CASE-LEW-12118-1] c 24 N77-27188
- Honeycomb-laminate composite structure  
[NASA-CASE-ARC-10913-1] c 24 N78-15180
- High temperature resistant cermet and ceramic compositions --- for thermal resistant insulators and refractory coatings  
[NASA-CASE-NPO-13690-1] c 27 N78-19302
- Molded composite pyrogen igniter for rocket motors --- solid propellant ignition  
[NASA-CASE-LAR-12018-1] c 20 N78-24275
- Atomic hydrogen storage method and apparatus  
[NASA-CASE-LEW-12081-1] c 28 N78-24365
- Method of making bearing materials --- self-lubricating, oxidation resistant composites for high temperature applications  
[NASA-CASE-LEW-11930-4] c 24 N79-17916
- Composite seal for turbomachinery --- backings for turbine engine shrouds  
[NASA-CASE-LEW-12131-1] c 37 N79-18318
- Crystalline polyimides --- reinforcing fibers for high temperature composites and adhesives as well as flame retardation  
[NASA-CASE-LAR-12099-1] c 27 N80-16158

Cork-resin ablative insulation for complex surfaces and method for applying the same  
[NASA-CASE-MFS-23626-1] c 24 N80-26388

Method of making bearing material  
[NASA-CASE-LEW-11930-3] c 24 N80-33482

Tackifier for addition polyimides containing monoethylphthalate  
[NASA-CASE-LAR-12642-1] c 27 N81-29229

Elastomer coated filler and composites thereof comprising at least 60% by weight of a hydrated filler and an elastomer containing an acid substituent  
[NASA-CASE-NPO-14857-1] c 27 N83-19900

Piezoelectric composite materials  
[NASA-CASE-LEW-12582-1] c 76 N83-34796

Pre-stressed thermal protection systems  
[NASA-CASE-MSC-20254-1] c 16 N84-22601

Diamondlike flake composites  
[NASA-CASE-LEW-13837-1] c 24 N84-22695

Chemical approach for controlling nadimide cure temperature and rate with maleimide  
[NASA-CASE-LEW-13770-3] c 27 N85-21350

Chemical approach for controlling nadimide cure temperature and rate with maleimide  
[NASA-CASE-LEW-13770-4] c 27 N85-21351

Process for improving moisture resistance of epoxy resins by addition of chromium ions  
[NASA-CASE-LAR-13226-1] c 27 N85-34282

Toughening reinforced epoxy composites with brominated polymeric additives  
[NASA-CASE-ARC-11427-1] c 24 N86-19380

Carbide-fluoride-silver self-lubricating composite  
[NASA-CASE-LEW-14196-2] c 37 N87-25585

Cryogenic regenerator including saran-carbon heat conduction matrix  
[NASA-CASE-NPO-17291-1-CU] c 34 N88-23946

Graphite fluoride fiber polymer composite material  
[NASA-CASE-LEW-14472-1] c 24 N89-14259

**COMPOSITE PROPELLANTS**  
Ammonium perchlorate composite propellant containing an organic transitional metal chelate catalytic additive Patent  
[NASA-CASE-LAR-10173-1] c 27 N71-14090

Silicone containing solid propellant  
[NASA-CASE-NPO-14477-1] c 28 N80-28536

Recovery of aluminum from composite propellants  
[NASA-CASE-NPO-14110-1] c 28 N81-15119

**COMPOSITE STRUCTURES**  
Inflatable honeycomb Patent  
[NASA-CASE-XLA-00204] c 32 N70-36536

Composite powerplant and shroud therefor Patent  
[NASA-CASE-XLA-01043] c 28 N71-10780

Bonding method in the manufacture of continuous regression rate sensor devices  
[NASA-CASE-LAR-10337-1] c 24 N75-30260

Leading edge protection for composite blades  
[NASA-CASE-LEW-12550-1] c 24 N77-19170

Composite sandwich lattice structure  
[NASA-CASE-LAR-11898-1] c 24 N78-10214

Method of making a composite sandwich lattice structure  
[NASA-CASE-LAR-11898-2] c 24 N78-17149

Low density bismaleimide-carbon microballoon composites --- aircraft and submarine compartment safety  
[NASA-CASE-ARC-11040-2] c 24 N78-27184

Aluminum or copper substrate panel for selective absorption of solar energy  
[NASA-CASE-MFS-23518-3] c 44 N80-16452

Lightweight structural columns --- space erectable trusses  
[NASA-CASE-LAR-12095-1] c 31 N81-25258

Optimized bolted joint  
[NASA-CASE-LAR-13250-1] c 37 N86-27630

Light weight fire resistant graphite composites  
[US-PATENT-4,598,007] c 24 N86-28131

Seamless metal-clad fiber-reinforced organic matrix composite structures and process for their manufacture  
[NASA-CASE-LAR-13562-1] c 24 N87-18613

Ceramic honeycomb structures and the method thereof  
[NASA-CASE-ARC-11652-1] c 27 N87-23737

Composite piston  
[NASA-CASE-LAR-13435-1] c 37 N88-23981

Method of insulating predesigned disbond areas into composite laminates  
[NASA-CASE-LAR-13225-1] c 24 N89-14258

Delamination test apparatus and method  
[NASA-CASE-LAR-13985-1] c 24 N89-28586

**COMPOSITION (PROPERTY)**  
Moving particle composition analyzer  
[NASA-CASE-GSC-11889-1] c 35 N76-16393

**COMPRESSED AIR**  
Valve actuator Patent  
[NASA-CASE-XHQ-01208] c 15 N70-35409

**COMPRESSIBILITY**  
Nozzle extraction process and handmeter for measuring handle  
[NASA-CASE-LAR-12147-1] c 31 N79-11246

Compression pylon  
[NASA-CASE-LAR-13777-1] c 05 N88-29789

**COMPRESSIBLE FLUIDS**  
Apparatus having coaxial capacitor structure for measuring fluid density Patent  
[NASA-CASE-XLE-00143] c 14 N70-36618

Apparatus for tensile testing Patent  
[NASA-CASE-XKS-06250] c 14 N71-15600

**COMPRESSING**  
Refrigeration apparatus Patent  
[NASA-CASE-XNP-08877] c 15 N71-23025

Method for compression molding of thermosetting plastics utilizing a temperature gradient across the plastic to cure the article  
[NASA-CASE-LAR-10489-1] c 31 N74-18124

Dynamic range compression/expansion of light beams by photorefractive crystals  
[NASA-CASE-NPO-17140-1-CU] c 74 N89-14077

**COMPRESSION LOADS**  
Pressure transducer  
[NASA-CASE-NPO-10832] c 14 N72-21405

Solid medium thermal engine  
[NASA-CASE-ARC-10461-1] c 44 N74-33379

Locking redundant link  
[NASA-CASE-LAR-11900-1] c 37 N79-14382

Fixture for environmental exposure of structural materials under compression load  
[NASA-CASE-LAR-12602-1] c 39 N83-32081

Deployable M-braced truss structure  
[NASA-CASE-LAR-13081-1] c 37 N86-32737

**COMPRESSION RATIO**  
Automatic compression adjusting mechanism for internal combustion engines  
[NASA-CASE-MSC-18807-1] c 37 N83-36483

**COMPRESSION TESTS**  
Compression test assembly  
[NASA-CASE-LAR-10440-1] c 14 N73-32323

Anti-buckling fatigue test assembly --- for subjecting metal specimen to tensile and compressive loads at constant temperature  
[NASA-CASE-LAR-10426-1] c 09 N74-19528

Compression test apparatus  
[NASA-CASE-MSC-18723-1] c 35 N83-21312

Bearing-bypass material system test  
[NASA-CASE-LAR-13458-1] c 35 N88-23967

**COMPRESSIVE STRENGTH**  
Truss-core corrugation for compressive loads  
[NASA-CASE-LAR-13438-1] c 31 N89-12786

**COMPRESSOR BLADES**  
Welding blades to rotors  
[NASA-CASE-LEW-10533-1] c 15 N73-28515

Control means for a gas turbine engine  
[NASA-CASE-LEW-14586-1] c 07 N83-31603

**COMPRESSOR ROTORS**  
Active clearance control system for a turbomachine  
[NASA-CASE-LEW-12938-1] c 07 N82-32366

**COMPRESSORS**  
Thermal pump-compressor for space use Patent  
[NASA-CASE-XLA-00377] c 33 N71-17610

Self-energized plasma compressor  
[NASA-CASE-MFS-22145-2] c 75 N76-17951

Gas compression apparatus  
[NASA-CASE-MSC-14757-1] c 35 N78-10428

Composite seal for turbomachinery  
[NASA-CASE-LEW-12131-2] c 37 N80-26658

Cycling Joule Thomson refrigerator  
[NASA-CASE-NPO-15251-1] c 31 N83-31897

Magnetically actuated compressor  
[NASA-CASE-GSC-12799-1] c 31 N85-21404

Oxygen chemisorption cryogenic refrigerator  
[NASA-CASE-NPO-16734-1-CU] c 31 N88-14223

**COMPUTATION**  
Apparatus for computing square roots Patent  
[NASA-CASE-XGS-04768] c 08 N71-19437

Ruler for making navigational computations  
[NASA-CASE-XNP-01458] c 04 N78-17031

**COMPUTER COMPONENTS**  
Counter and shift register Patent  
[NASA-CASE-XNP-01753] c 08 N71-22897

Binary to binary coded decimal converter  
[NASA-CASE-GSC-12044-1] c 60 N78-17691

Computer circuit card puller  
[NASA-CASE-FRC-11042-1] c 60 N82-24839

Control means for a solid state crossbar switch  
[NASA-CASE-NPO-15066-1] c 33 N82-29538

Neighborhood comparison operator  
[NASA-CASE-NPO-16464-1CU] c 60 N86-24224

Real time pipelined system for forming the sum of products in the processing of video data  
[NASA-CASE-NPO-16462-1-CU] c 60 N88-24169

**COMPUTER DESIGN**  
Two-dimensional radiant energy array computers and computing devices  
[NASA-CASE-GSC-11839-1] c 60 N77-14751

Massively parallel processor computer  
[NASA-CASE-GSC-12223-1] c 60 N83-25378

Distributed multipoint memory architecture  
[NASA-CASE-NPO-15342-1] c 60 N83-32342

Automatic multi-banking of memory for microprocessors  
[NASA-CASE-NPO-15295-1] c 60 N85-21992

**COMPUTER GRAPHICS**  
System for quantizing graphic displays  
[NASA-CASE-NPO-10745] c 08 N72-22164

Airplane runway performance monitoring system  
[NASA-CASE-LAR-13854-1-CU] c 04 N88-24621

**COMPUTER INFORMATION SECURITY**  
Computer access security code system  
[NASA-CASE-NPO-17525-1-CU] c 60 N89-29955

**COMPUTER NETWORKS**  
High-speed data link for moderate distances and noisy environments  
[NASA-CASE-NPO-14152-1] c 32 N80-18252

Common data buffer system --- communication with computational equipment utilized in spacecraft operations  
[NASA-CASE-KSC-11048-1] c 62 N81-24779

Multicomputer communication system  
[NASA-CASE-NPO-15433-1] c 32 N85-21428

Dynamic resource allocation scheme for distributed heterogeneous computer systems  
[NASA-CASE-NPO-17197-1-CU] c 62 N89-29976

**COMPUTER PROGRAMMING**  
Minimal logic block encoder Patent  
[NASA-CASE-NPO-10595] c 10 N71-25917

Priority interrupt system --- comprised of four registers  
[NASA-CASE-NPO-13067-1] c 60 N76-18800

**COMPUTER PROGRAMS**  
Self-testing and repairing computer Patent  
[NASA-CASE-NPO-10567] c 08 N71-24633

Program for computer aided reliability estimation  
[NASA-CASE-NPO-13086-1] c 15 N73-12495

Numerical computer peripheral interactive device with manual controls  
[NASA-CASE-NPO-11497] c 08 N73-25206

Local area network with fault-checking, priorities and redundant backup  
[NASA-CASE-NPO-16949-1-CU] c 62 N87-19021

**COMPUTER STORAGE DEVICES**  
Magnetic matrix memory system Patent  
[NASA-CASE-XMF-05835] c 08 N71-12504

Binary sequence detector Patent  
[NASA-CASE-XNP-05415] c 08 N71-12505

Pulse-type magnetic core memory element circuit with blocking oscillator feedback Patent  
[NASA-CASE-XGS-03303] c 08 N71-18595

Drive circuit utilizing two cores Patent  
[NASA-CASE-XNP-01318] c 10 N71-23033

Programmable telemetry system Patent  
[NASA-CASE-GSC-10131-1] c 07 N71-24624

Serial digital decoder Patent  
[NASA-CASE-NPO-10150] c 08 N71-24650

Digital memory in which the driving of each word location is controlled by a switch core Patent  
[NASA-CASE-XNP-01466] c 10 N71-26434

Redundant memory organization Patent  
[NASA-CASE-GSC-10564] c 10 N71-29135

Semiconductor-ferroelectric memory device  
[NASA-CASE-ERC-10307] c 08 N72-21198

Shared memory for a fault-tolerant computer  
[NASA-CASE-NPO-13139-1] c 60 N76-21914

Distributed multipoint memory architecture  
[NASA-CASE-NPO-15342-1] c 60 N83-32342

Method of and apparatus for generating an interstitial point in a data stream having an even number of data points  
[NASA-CASE-MFS-25319-1] c 60 N85-33701

**COMPUTER SYSTEMS DESIGN**  
Adaptive voting computer system  
[NASA-CASE-MSC-13932-1] c 62 N74-14920

Computer interface system  
[NASA-CASE-NPO-13428-1] c 60 N77-12721

Local area network with fault-checking, priorities and redundant backup  
[NASA-CASE-NPO-16949-1-CU] c 62 N87-19021

**COMPUTER TECHNIQUES**  
Automated system for identifying traces of organic chemical compounds in aqueous solutions  
[NASA-CASE-NPO-13063-1] c 25 N76-18245

Apparatus for determining thermophysical properties of test specimens  
[NASA-CASE-LAR-11883-1] c 09 N77-27131

Computerized system for translating a torch head  
[NASA-CASE-MFS-23620-1] c 37 N79-10421

Automatic flowmeter calibration system  
[NASA-CASE-KSC-11076-1] c 34 N81-26402



- Method and apparatus for transfer function simulator for testing complex systems  
[NASA-CASE-NPO-15696-1] c 33 N85-34333
- Auto covariance computer  
[NASA-CASE-LAR-12968-1] c 60 N86-21154
- Remote object configuration/orientation determination  
[NASA-CASE-NPO-17436-1-CU] c 35 N89-13764
- COMPUTER VISION**
- Optically controlled welding system  
[NASA-CASE-MFS-29291-1] c 37 N89-12868
- COMPUTERIZED SIMULATION**
- Integrated time shared instrumentation display Patent  
[NASA-CASE-XLA-01952] c 08 N71-12507
- Microcomputerized electric field meter diagnostic and calibration system  
[NASA-CASE-KSC-11035-1] c 35 N78-28411
- Simulator method and apparatus for practicing the mating of an observer-controlled object with a target  
[NASA-CASE-MFS-23052-2] c 74 N79-13855
- Method and apparatus for transfer function simulator for testing complex systems  
[NASA-CASE-NPO-15696-1] c 33 N85-34333
- COMPUTERS**
- Telemetry word forming unit  
[NASA-CASE-XNP-09225] c 09 N69-24333
- Data compression processor Patent  
[NASA-CASE-NPO-10068] c 08 N71-19288
- Communications link for computers  
[NASA-CASE-NPO-11161] c 08 N72-25207
- Digital interface for bi-directional communication between a computer and a peripheral device  
[NASA-CASE-MS-C-20258-1] c 60 N84-28492
- Ranging system which compares an object reflected component of a light beam to a reference component of the light beam  
[NASA-CASE-NPO-15865-1] c 74 N85-34629
- Auto covariance computer  
[NASA-CASE-LAR-12968-1] c 60 N86-21154
- Computer access security code system  
[NASA-CASE-NPO-17525-1-CU] c 60 N89-29955
- CONCAVITY**
- Concave grating spectrometer Patent  
[NASA-CASE-XGS-01036] c 14 N70-40003
- CONCENTRATORS**
- Device for directionally controlling electromagnetic radiation Patent  
[NASA-CASE-XLE-01716] c 09 N70-40234
- Thermostatically controlled non-tracking type solar energy concentrator  
[NASA-CASE-NPO-13497-1] c 44 N76-14602
- Three-dimensional tracking solar energy concentrator and method for making same  
[NASA-CASE-NPO-13736-1] c 44 N77-32583
- Non-tracking solar energy collector system  
[NASA-CASE-NPO-13817-1] c 44 N79-11471
- Solar cell module  
[NASA-CASE-NPO-14467-1] c 44 N79-31753
- Solar concentrator  
[NASA-CASE-MFS-23727-1] c 44 N80-14473
- Solar energy receiver for a Stirling engine  
[NASA-CASE-NPO-14619-1] c 44 N81-17518
- Nebulization reflux concentrator  
[NASA-CASE-LAR-13254-1-CU] c 35 N86-29174
- CONCENTRIC CYLINDERS**
- Flow resistivity instrument  
[NASA-CASE-LAR-13053-1] c 43 N83-29783
- CONCENTRIC SPHERES**
- Method and apparatus for producing concentric hollow spheres --- inertial confinement fusion targets  
[NASA-CASE-NPO-14596-1] c 31 N81-33319
- Method and apparatus for producing gas-filled hollow spheres --- target pellets for inertial confinement fusion  
[NASA-CASE-NPO-14596-3] c 31 N83-31896
- CONDENSATES**
- Apparatus for testing polymeric materials Patent  
[NASA-CASE-XNP-09699] c 06 N71-24607
- Condensate removal device for heat exchanger  
[NASA-CASE-MS-C-14143-1] c 77 N75-20139
- Method of evaporation  
[NASA-CASE-NPO-15609-2] c 25 N88-23846
- CONDENSERS (LIQUEFIERS)**
- Condenser - Separator  
[NASA-CASE-XLA-08645] c 15 N69-21465
- Condensate removal device for heat exchanger  
[NASA-CASE-MS-C-14143-1] c 77 N75-20139
- CONDENSING**
- Preparation of heterocyclic block copolymer omega-diamidoximes  
[NASA-CASE-ARC-11060-1] c 27 N79-22300
- CONDUCTING FLUIDS**
- Multiducted electromagnetic pump Patent  
[NASA-CASE-NPO-10755] c 15 N71-27084
- Internally supported flexible duct joint --- device for conducting fluids in high pressure systems  
[NASA-CASE-MFS-19193-1] c 37 N75-19686

**CONDUCTIVE HEAT TRANSFER**

- Enthalpy and stagnation temperature determination of a high temperature laminar flow gas stream Patent  
[NASA-CASE-XLE-00266] c 14 N70-34156
- Space suit heat exchanger Patent  
[NASA-CASE-XMS-09571] c 05 N71-19439
- Compact pulsed laser having improved heat conductance  
[NASA-CASE-NPO-13147-1] c 36 N77-25502
- Automatic thermal switch  
[NASA-CASE-GSC-12415-1] c 33 N82-24419

**CONDUCTIVITY**

- Integrated circuit reliability testing  
[NASA-CASE-NPO-17393-1-CU] c 33 N89-29679

**CONDUCTORS**

- Extensible cable support Patent  
[NASA-CASE-XMF-07587] c 15 N71-18701
- Method for making conductors for ferrite memory arrays --- from pre-formed metal conductors  
[NASA-CASE-LAR-10994-1] c 24 N75-13032

**CONES**

- Conically shaped cavity radiometer with a dual purpose cone winding Patent  
[NASA-CASE-XNP-09701] c 14 N71-26475

**CONFIGURATION MANAGEMENT**

- Reconfigurable work station for a video display unit and keyboard  
[NASA-CASE-MFS-26009-1-SB] c 54 N88-24163

**CONFINEMENT**

- Observation window for a gas confining chamber  
[NASA-CASE-NPO-10890] c 11 N73-12265

**CONICAL BODIES**

- Conical valve plug Patent  
[NASA-CASE-XLE-00715] c 15 N70-34859
- Conical reflector antenna  
[NASA-CASE-NPO-10303] c 07 N72-22127
- Multiple reflection conical microwave antenna  
[NASA-CASE-NPO-11661] c 07 N73-14130
- Almond test body --- for microwave anechoic chambers  
[NASA-CASE-LAR-13747-1-CU] c 32 N89-28672

**CONICAL SCANNING**

- Conical scan tracking system employing a large antenna  
[NASA-CASE-NPO-14009-1] c 32 N79-13214

**CONICAL SHELLS**

- Device for determining the accuracy of the flare on a flared tube  
[NASA-CASE-XKS-03495] c 14 N69-39785
- Foldable solar concentrator Patent  
[NASA-CASE-XLA-04622] c 03 N70-41580
- Apparatus for machining geometric cones Patent  
[NASA-CASE-XMS-04292] c 15 N71-22722

**CONJUGATES**

- Phase conjugation method and apparatus for an active retrodirective antenna array  
[NASA-CASE-NPO-13641-1] c 32 N79-24210

**CONNECTORS**

- Connector strips-positive, negative and T tabs  
[NASA-CASE-XGS-01395] c 03 N69-21539
- Quick release connector Patent  
[NASA-CASE-XLA-01141] c 15 N71-13789
- Flared tube strainer  
[NASA-CASE-XLA-05056] c 15 N72-11389
- Process for making RF shielded cable connector assemblies and the products formed thereby  
[NASA-CASE-GSC-11215-1] c 09 N73-28083
- Low heat leak connector for cryogenic system  
[NASA-CASE-XLE-02367-1] c 31 N79-21225
- Clamp-mount device  
[NASA-CASE-MFS-25510-1] c 37 N84-16560
- Apparatus for releasably connecting first and second objects in predetermined space relationship  
[NASA-CASE-MS-C-18969-1] c 18 N84-22605
- Connection system --- insuring against loss of a tool component without using multiple tethers  
[NASA-CASE-MS-C-20319-1] c 37 N85-21649
- Toggle release  
[NASA-CASE-MS-C-21354-1] c 37 N88-24969
- Collet lock joint for space station truss  
[NASA-CASE-MS-C-21207-1] c 37 N88-29180

**CONSCIOUSNESS**

- EEG sleep analyzer and method of operation Patent  
[NASA-CASE-MS-C-13282-1] c 05 N71-24729

**CONSISTENCY**

- Constant-output atomizer --- Inhalation therapy and aerosol research  
[NASA-CASE-MFS-25631-1] c 34 N84-12406

**CONSOLES**

- Telephone multiline signaling using common signal pair  
[NASA-CASE-KSC-11023-1] c 32 N79-23310

**CONSTANTS**

- Spring operated accelerator and constant force spring mechanism therefor  
[NASA-CASE-ARC-10898-1] c 35 N77-18417

**CONSTRAINTS**

- Passive caging mechanism Patent  
[NASA-CASE-GSC-10306-1] c 15 N71-24694
- Cable restraint  
[NASA-CASE-LAR-10129-1] c 15 N73-25512
- Restraint system for ergometer  
[NASA-CASE-MFS-21046-1] c 14 N73-27377
- Reeling system  
[NASA-CASE-LAR-10129-2] c 37 N74-20063
- Restraining mechanism  
[NASA-CASE-MS-C-13054] c 54 N78-17677
- Spine immobilization apparatus  
[NASA-CASE-ARC-11167-1] c 52 N81-25662

**CONSTRUCTION MATERIALS**

- Foldable construction block  
[NASA-CASE-MS-C-12233-1] c 15 N72-25454
- Foldable construction block  
[NASA-CASE-MS-C-12233-2] c 32 N73-13921
- Structural panels  
[NASA-CASE-ARC-11429-2-CU] c 27 N87-22845

**CONTACT POTENTIALS**

- Ionospheric battery Patent  
[NASA-CASE-XGS-01593] c 03 N70-35408

**CONTAINERLESS MELTS**

- Method of crystallization --- in gravity-free environments  
[NASA-CASE-MFS-23001-1] c 76 N77-32919
- Gas levitator having fixed levitation node for containerless processing  
[NASA-CASE-MFS-25509-1] c 35 N83-24828
- Method and apparatus for supercooling and solidifying substances  
[NASA-CASE-MFS-25242-1] c 35 N83-29650
- Apparatus for production of ultrapure amorphous metals utilizing acoustic cooling  
[NASA-CASE-NPO-15658-1] c 26 N86-32551
- Quasi-containerless glass formation method and apparatus  
[NASA-CASE-MFS-28090-1] c 27 N87-21111
- Apparatus ad method for quiescent containerless processing of high temperature metals and alloys in low gravity  
[NASA-CASE-MFS-28087-1] c 35 N87-23944
- Sample levitation and melt in microgravity  
[NASA-CASE-NPO-17022-1-CU] c 29 N87-25489

**CONTAINERS**

- Fluid containers and resealable septum therefor Patent  
[NASA-CASE-NPO-10123] c 15 N71-24835
- Method for detecting leaks in hermetically sealed containers Patent  
[NASA-CASE-ERC-10045] c 15 N71-24910
- Apparatus for detecting the amount of material in a resonant cavity container Patent  
[NASA-CASE-XNP-02500] c 18 N71-27397

**CONTAINMENT**

- Hemispherical latching apparatus  
[NASA-CASE-MFS-25837-1] c 18 N85-29991

**CONTAMINANTS**

- Apparatus for purging systems handling toxic, corrosive, noxious and other fluids Patent  
[NASA-CASE-XMS-01905] c 12 N71-21089
- Method and apparatus for mapping the distribution of chemical elements in an extended medium  
[NASA-CASE-GSC-12808-1] c 25 N85-21279

**CONTAMINATION**

- Spectral method for monitoring atmospheric contamination of inert-gas welding shields Patent  
[NASA-CASE-XMF-02039] c 15 N71-15871
- Separation nut Patent  
[NASA-CASE-XGS-01971] c 15 N71-15922
- Gas liquefaction and dispensing apparatus Patent  
[NASA-CASE-NPO-10070] c 15 N71-27372
- Bacterial contamination monitor  
[NASA-CASE-GSC-10879-1] c 14 N72-25413
- Biocontamination and particulate detection system  
[NASA-CASE-NPO-13953-1] c 35 N79-28527

**CONTINUOUS RADIATION**

- CW ultrasonic bolt tensioning monitor  
[NASA-CASE-LAR-12016-1] c 39 N78-15512
- Pseudo continuous wave instrument --- ultrasonics  
[NASA-CASE-LAR-12260-1] c 35 N79-10390
- Low-frequency radio navigation system  
[NASA-CASE-NPO-15264-1] c 04 N84-27713

**CONTINUOUS WAVE LASERS**

- High power laser apparatus and system  
[NASA-CASE-XLE-2529-2] c 36 N75-27364
- Continuous plasma laser --- method and apparatus for producing intense, coherent, monochromatic light from low temperature plasma  
[NASA-CASE-XNP-04167-3] c 36 N77-19416
- Stark effect spectrophone for continuous absorption spectra monitoring --- a technique for gas analysis  
[NASA-CASE-NPO-15102-1] c 25 N81-25159
- Coherently pulsed laser source  
[NASA-CASE-NPO-15111-1] c 36 N82-29589

- Spectrophone stabilized laser with line center offset frequency control  
[NASA-CASE-NPO-15516-1] c 36 N84-22943
- CONTINUOUS WAVE RADAR**  
Phase-locked loop with sideband rejecting properties Patent  
[NASA-CASE-XNP-02723] c 07 N70-41680  
FM/CW radar system  
[NASA-CASE-MFS-22234-1] c 32 N79-10264  
Method and apparatus for measuring distance  
[NASA-CASE-MSC-20912-1] c 32 N88-26568
- CONTINUOUS FLOW**  
Energy efficient continuous flow ash lockhopper  
[NASA-CASE-NPO-16985-1-CU] c 31 N88-24814
- CONTOUR SENSORS**  
Antenna surface contour control system  
[NASA-CASE-LAR-13798-1] c 32 N89-25363
- CONTOURS**  
Contour surveying system Patent  
[NASA-CASE-XLA-08646] c 14 N71-17586  
Contourgraph system for monitoring electrocardiograms  
[NASA-CASE-MSC-13407-1] c 10 N72-20225  
Variable contour securing system  
[NASA-CASE-MSC-16270-1] c 37 N78-27423  
Device for measuring the contour of a surface  
[NASA-CASE-LAR-11869-1] c 74 N78-27904  
Contour detector and data acquisition system for the left ventricular outline  
[NASA-CASE-ARC-10985-1] c 52 N79-10724  
Contour measurement system  
[NASA-CASE-MFS-23726-1] c 43 N79-26439  
Cork-resin ablative insulation for complex surfaces and method for applying the same  
[NASA-CASE-MFS-23626-1] c 24 N80-26388  
Surface conforming thermal/pressure seal --- tail assemblies of space shuttle orbiters  
[NASA-CASE-MSC-18422-1] c 37 N82-16408  
Method and apparatus for contour mapping using synthetic aperture radar  
[NASA-CASE-NPO-15939-1] c 43 N86-19711
- CONTROL**  
Dual latching solenoid valve Patent  
[NASA-CASE-XMS-05890] c 09 N71-23191  
Apparatus for testing a pressure responsive instrument Patent  
[NASA-CASE-XMF-04134] c 14 N71-23755  
Failure detection and control means for improved drift performance of a gimbaled platform system  
[NASA-CASE-MFS-23551-1] c 04 N76-26175  
Power factor control system for ac induction motors  
[NASA-CASE-MFS-23988-1] c 33 N81-27395  
Control means for a solid state crossbar switch  
[NASA-CASE-NPO-15066-1] c 33 N82-29538  
Television camera video level control system  
[NASA-CASE-MSC-18578-1] c 32 N85-21427  
A digitally controlled system for effecting and presenting a selected electrical resistance  
[NASA-CASE-MFS-29149-1] c 33 N87-29737
- CONTROL BOARDS**  
Pressure monitoring with a plurality of ionization gauges controlled at a central location Patent  
[NASA-CASE-XLE-00787] c 14 N71-21090
- CONTROL DATA (COMPUTERS)**  
Computer interface system  
[NASA-CASE-NPO-13428-1] c 60 N77-12721
- CONTROL EQUIPMENT**  
Stepping motor control circuit Patent  
[NASA-CASE-GSC-10366-1] c 10 N71-18772  
Drift compensation circuit for analog to digital converter Patent  
[NASA-CASE-XNP-04780] c 08 N71-19687  
Attitude controls for VTOL aircraft Patent  
[NASA-CASE-XAC-08972] c 02 N71-20570  
Control device Patent  
[NASA-CASE-XAC-10019] c 15 N71-23809  
Controlled release device Patent  
[NASA-CASE-XKS-03338] c 15 N71-24043  
Dual polarity full wave dc motor drive Patent  
[NASA-CASE-XNP-07477] c 09 N71-26092  
Digital memory in which the driving of each word location is controlled by a switch core Patent  
[NASA-CASE-XNP-01466] c 10 N71-26434  
Fluid jet amplifier Patent  
[NASA-CASE-XLE-09341] c 12 N71-28741  
System for controlling the operation of a variable signal device  
[NASA-CASE-NPO-11064] c 07 N72-11150  
Solid state remote circuit selector switch  
[NASA-CASE-LEW-10387] c 09 N72-22201  
Synchronous orbit battery cyclor  
[NASA-CASE-GSC-11211-1] c 03 N72-25020  
Infinite range electronics gain control circuit  
[NASA-CASE-GSC-10786-1] c 10 N72-28241  
Interferometric rotation sensor  
[NASA-CASE-ARC-10278-1] c 14 N73-25463
- Digital controller for a Baum folding machine --- providing automatic counting and machine shutoff  
[NASA-CASE-LAR-10688-1] c 37 N74-21056  
Flow control valve --- for high temperature fluids  
[NASA-CASE-NPO-11951-1] c 37 N74-21065  
Variable ratio mixed-mode bilateral master-slave control system for shuttle remote manipulator system  
[NASA-CASE-MSC-14245-1] c 18 N75-27041  
Anthropomorphic master/slave manipulator system  
[NASA-CASE-ARC-10756-1] c 54 N77-32721  
Power factor control system for AC induction motors  
[NASA-CASE-MFS-23280-1] c 33 N78-10376  
Variable cycle gas turbine engines  
[NASA-CASE-LEW-12916-1] c 37 N78-17384  
Control for nuclear thermionic power source  
[NASA-CASE-NPO-13114-2] c 73 N78-28913  
Illumination control apparatus for compensating solar light  
[NASA-CASE-KSC-11010-1] c 74 N79-12890  
Dual acting slit control mechanism  
[NASA-CASE-LAR-11370-1] c 35 N80-28686  
Pneumatic inflatable end effector  
[NASA-CASE-MFS-23696-1] c 54 N81-26718  
Means for controlling aerodynamically induced twist  
[NASA-CASE-LAR-12175-1] c 05 N82-28279  
Electronic system for high power load control --- solar arrays  
[NASA-CASE-NPO-15358-1] c 33 N83-27126  
Pulsed thyristor trigger control circuit  
[NASA-CASE-MFS-25616-1] c 33 N84-16455  
Magnetic spin reduction system for free spinning objects  
[NASA-CASE-MFS-25966-1] c 16 N86-26352  
Apparatus and method of capturing an orbiting spacecraft  
[NASA-CASE-MSC-20979-1] c 37 N87-22985  
Controlled sample orientation and rotation in an acoustic levitator  
[NASA-CASE-NPO-17086-1-CU] c 35 N89-14422
- CONTROL ROCKETS**  
Decomposition unit Patent  
[NASA-CASE-XMS-00583] c 28 N70-38504
- CONTROL RODS**  
Null device for hand controller Patent  
[NASA-CASE-XLA-01808] c 15 N71-20740
- CONTROL SIMULATION**  
Helmet weight simulator  
[NASA-CASE-LAR-12320-1] c 54 N81-27806
- CONTROL STABILITY**  
Apparatus for sensor failure detection and correction in a gas turbine engine control system  
[NASA-CASE-LEW-12907-2] c 07 N81-19115  
Apparatus for damping operator induced oscillations of a controlled system --- flight control  
[NASA-CASE-FRC-11041-1] c 33 N82-18493  
Controlled sample orientation and rotation in an acoustic levitator  
[NASA-CASE-NPO-17086-1-CU] c 35 N89-14422
- CONTROL SURFACES**  
Conical valve plug Patent  
[NASA-CASE-XLE-00715] c 15 N70-34859  
Attitude control for spacecraft Patent  
[NASA-CASE-XNP-02982] c 31 N70-41855  
Vortex-lift roll-control device  
[NASA-CASE-LAR-11868-2] c 08 N79-14108  
Aerodynamic side-force alleviator means  
[NASA-CASE-LAR-12326-1] c 02 N81-14968  
Thermal barrier pressure seal --- shielding junctions between spacecraft control surfaces and structures  
[NASA-CASE-MSC-18134-1] c 37 N81-15363  
Control surface actuator  
[NASA-CASE-LAR-12852-1] c 05 N89-11738
- CONTROL SYSTEMS DESIGN**  
Reactant pressure differential control for fuel cell gases  
[NASA-CASE-MSC-20127-2] c 37 N85-34403  
Brushless DC motor control system responsive to control signals generated by a computer or the like  
[NASA-CASE-NPO-16420-1] c 33 N86-20681  
ARC length control for plasma welding  
[NASA-CASE-MSC-20900-1] c 37 N88-30131  
Docking mechanism for spacecraft  
[NASA-CASE-MSC-21386-1] c 18 N89-28552  
Spacecraft component heater control system  
[NASA-CASE-MFS-28327-1] c 18 N89-28556  
Method and circuit for controlling the evolution time interval of a laser output pulse  
[NASA-CASE-LAR-13772-1] c 36 N89-28816  
Robust high-performance control for robotic manipulators  
[NASA-CASE-NPO-17785-1-CU] c 37 N89-28846  
A combined air and water pollution control system  
[NASA-CASE-NST-00007-1] c 45 N89-28967
- CONTROL THEORY**  
Robust high-performance control for robotic manipulators  
[NASA-CASE-NPO-17785-1-CU] c 37 N89-28846
- CONTROL UNITS (COMPUTERS)**  
Self-testing and repairing computer Patent  
[NASA-CASE-NPO-10567] c 08 N71-24633
- CONTROL VALVES**  
Electromechanical actuator  
[NASA-CASE-XNP-05975] c 15 N69-23185  
Full flow with shut off and selective drainage control valve Patent application  
[NASA-CASE-ERC-10208] c 15 N70-10867  
Conical valve plug Patent  
[NASA-CASE-XLE-00715] c 15 N70-34859  
Control valve and co-axial variable injector Patent  
[NASA-CASE-XNP-09702] c 15 N71-17654  
Electrohydrodynamic control valve Patent  
[NASA-CASE-NPO-10416] c 12 N71-27332  
Force-balanced, throttle valve Patent  
[NASA-CASE-NPO-10808] c 15 N71-27432  
Dual stage check valve  
[NASA-CASE-MSC-13587-1] c 15 N73-30459  
Airflow control system for supersonic inlets  
[NASA-CASE-LEW-11188-1] c 02 N74-20646  
Ultrasonically bonded valve assembly  
[NASA-CASE-NPO-13360-1] c 37 N75-25185  
Pressure modulating valve  
[NASA-CASE-MSC-14905-1] c 37 N77-28487  
Fluid valve assembly  
[NASA-CASE-MSC-12731-1] c 37 N78-25426  
Flow diverter valve and flow diversion method  
[NASA-CASE-HQN-00573-1] c 37 N79-33468  
Quartz ball valve  
[NASA-CASE-NPO-14473-1] c 37 N80-23654  
Pressure control valve --- inflating flexible bladders  
[NASA-CASE-ARC-11251-1] c 37 N81-17433  
Electrical servo actuator bracket --- fuel control valves on jet engines  
[NASA-CASE-FRC-11044-1] c 37 N81-33483  
Control means for a gas turbine engine  
[NASA-CASE-LEW-14586-1] c 07 N83-31603  
Slow opening valve --- valve design for shuttle portable oxygen system  
[NASA-CASE-MSC-20112-1] c 37 N85-20338  
Remotely controllable mixing system  
[NASA-CASE-MFS-28153-1] c 31 N86-32589  
Dual motion valve with single motion input  
[NASA-CASE-MFS-28058-1] c 37 N87-21332  
Monogroove cold plate  
[NASA-CASE-MSC-20946-1] c 34 N87-28867
- CONTROLLED ATMOSPHERES**  
Electrical connector Patent Application  
[NASA-CASE-MFS-14741] c 09 N70-20737  
High voltage pulse generator Patent  
[NASA-CASE-MSC-12178-1] c 09 N71-13518  
Exposure system for animals Patent  
[NASA-CASE-XAC-05333] c 11 N71-22875  
Space station architecture, module, berthing hub, shell assembly, berthing mechanism and utility connection channel  
[NASA-CASE-ARC-11505-1] c 18 N84-22612
- CONTROLLERS**  
Three axis controller Patent  
[NASA-CASE-XFR-00181] c 21 N70-33279  
Two-axis controller Patent  
[NASA-CASE-XFR-04104] c 03 N70-42073  
Controllers Patent  
[NASA-CASE-XMS-07487] c 15 N71-23255  
Solid state controller three axes controller  
[NASA-CASE-MSC-12394-1] c 08 N74-10942  
Wide power range microwave feedback controller  
[NASA-CASE-GSC-12146-1] c 33 N78-32340  
Active nutation controller  
[NASA-CASE-GSC-12273-1] c 35 N80-21719  
Phase-angle controller for Stirling engines  
[NASA-CASE-NPO-14388-1] c 37 N81-17432  
Controller for computer control of brushless dc motors --- automobile engines  
[NASA-CASE-NPO-13970-1] c 33 N81-20352  
Motor power factor controller with a reduced voltage starter  
[NASA-CASE-MFS-25586-1] c 33 N82-11360  
Phase detector for three-phase power factor controller  
[NASA-CASE-MFS-25854-1] c 33 N84-27975  
Three-phase power factor controller with induced EMF sensing  
[NASA-CASE-MFS-25852-1] c 33 N84-33661  
Thumb-actuated two-axis controller  
[NASA-CASE-ARC-11372-1] c 08 N86-27288  
Reconfigurable work station for a video display unit and keyboard  
[NASA-CASE-MFS-26009-1-SB] c 54 N88-24163  
A universal computer control system for motors  
[NASA-CASE-NPO-17134-1-CU] c 33 N88-24864



Nanosequencer digital logic controller  
[NASA-CASE-NPO-16116-2] c 60 N88-29310

Fluidic momentum controller  
[NASA-CASE-MSC-20906-2] c 35 N89-15379

Robust high-performance control for robotic manipulators  
[NASA-CASE-NPO-17785-1-CU] c 37 N89-28846

**CONVECTION**  
Method and apparatus for minimizing convection during crystal growth from solution  
[NASA-CASE-NPO-15811-1] c 76 N84-12968

**CONVECTIVE FLOW**  
Geysing inhibitor for vertical cryogenic transfer pipe  
[NASA-CASE-KSC-10615] c 15 N73-12486

Method and apparatus for convection control of metallic halide vapor density in a metallic halide laser  
[NASA-CASE-NPO-15021-1] c 36 N83-10417

Acoustic convective system  
[NASA-CASE-NPO-17278-1-CU] c 31 N88-24818

**CONVECTIVE HEAT TRANSFER**  
Thin film gauge --- for measuring convective heat transfer rates along test surfaces in wind tunnels  
[NASA-CASE-NPO-10617-1] c 35 N74-22095

Acoustic convective system  
[NASA-CASE-NPO-17278-1-CU] c 31 N88-24818

**CONVERGENCE**  
Shock wave convergence apparatus  
[NASA-CASE-MFS-20890] c 14 N72-22439

**CONVERGENT NOZZLES**  
Nozzle extraction process and handlemeter for measuring handle  
[NASA-CASE-LAR-12147-1] c 31 N79-11246

**CONVERGENT-DIVERGENT NOZZLES**  
Gimballed, partially submerged rocket nozzle Patent  
[NASA-CASE-XMF-01544] c 28 N70-34162

Combustion chamber Patent  
[NASA-CASE-XLE-04857] c 28 N71-23968

Aircraft engine nozzle  
[NASA-CASE-ARC-10977-1] c 07 N80-32392

Wind tunnel supplementary Mach number minimum section insert  
[NASA-CASE-LAR-12532-1] c 09 N82-11088

Nozzle fabrication technique  
[NASA-CASE-MSC-21299-1] c 20 N88-24684

**CONVERSION**  
Technique for measuring gas conversion factors  
[NASA-CASE-LAR-13220-1] c 34 N86-12547

**CONVERTERS**  
Scan converting video tape recorder  
[NASA-CASE-NPO-10166-2] c 35 N76-16391

**CONVEYORS**  
System and method for refurbishing and processing parachutes --- monorial conveyor system  
[NASA-CASE-KSC-11042-2] c 02 N81-26073

Method for refurbishing and processing parachutes  
[NASA-CASE-KSC-11042-1] c 09 N82-29330

Static continuous electrophoresis device  
[NASA-CASE-MFS-25306-1] c 25 N83-13187

Acoustic system for material transport  
[NASA-CASE-NPO-15453-1] c 71 N83-32515

Shuttle car loading system  
[NASA-CASE-NPO-15949-1] c 85 N85-34722

**CONVOLUTION INTEGRALS**  
Real time pipelined system for forming the sum of products in the processing of video data  
[NASA-CASE-NPO-16462-1-CU] c 60 N88-24169

**COOLANTS**  
Jet pump-drive system for heat removal  
[NASA-CASE-NPO-16494-1-CU] c 34 N85-29182

**COOLING**  
Microwave power receiving antenna Patent  
[NASA-CASE-MFS-20333] c 09 N71-13486

Voltage regulator with plural parallel power source sections Patent  
[NASA-CASE-GSC-10891-1] c 10 N71-26626

Laser coolant and ultraviolet filter  
[NASA-CASE-MFS-20180] c 16 N72-12440

Compact pulsed laser having improved heat conductance  
[NASA-CASE-NPO-13147-1] c 36 N77-25502

Heating and cooling system --- for fatigue test specimens  
[NASA-CASE-LAR-12393-1] c 34 N83-34221

Tip cap for a rotor blade  
[NASA-CASE-LEW-13654-1] c 07 N84-22560

Combustor liner construction  
[NASA-CASE-LEW-14035-1] c 07 N84-24577

Air modulation apparatus  
[NASA-CASE-LEW-13524-1] c 07 N84-33410

Heat pipe cooled probe  
[NASA-CASE-LAR-12588-1] c 34 N85-21568

High temperature electric arc furnace  
[NASA-CASE-MFS-28281-1] c 09 N88-28938

Thermocouple for heating and cooling of memory metal actuators  
[NASA-CASE-NPO-17068-1-CU] c 35 N88-29151

Surface tension confined liquid cryogen cooler  
[NASA-CASE-GSC-13112-1] c 31 N89-29578

**COOLING SYSTEMS**  
Automatic thermal switch Patent  
[NASA-CASE-XNP-03796] c 23 N71-15467

Differential temperature transducer Patent  
[NASA-CASE-XAC-00812] c 14 N71-15598

Power system with heat pipe liquid coolant lines Patent  
[NASA-CASE-MFS-14114-2] c 09 N71-24807

Cryogenic cooling system Patent  
[NASA-CASE-NPO-10467] c 23 N71-26654

Self-adjusting multisegment, deployable, natural circulation radiator Patent  
[NASA-CASE-XHQ-03673] c 33 N71-29046

Heat conductive resiliently compressible structure for space electronics package modules Patent  
[NASA-CASE-MSC-12389] c 33 N71-29052

Method and device for cooling Patent  
[NASA-CASE-HQN-00938] c 33 N71-29053

Liquid spray cooling method Patent  
[NASA-CASE-XLE-00027] c 33 N71-29152

Radial heat flux transformer  
[NASA-CASE-NPO-10828] c 33 N72-17948

Light shield and cooling apparatus --- high intensity ultraviolet lamp  
[NASA-CASE-LAR-10089-1] c 34 N74-23066

Refrigerated coaxial coupling --- for microwave equipment  
[NASA-CASE-NPO-13504-1] c 33 N75-30430

Rocket chamber and method of making  
[NASA-CASE-LEW-11118-2] c 20 N76-14191

Tubular sublimatory evaporator heat sink  
[NASA-CASE-ARC-10912-1] c 34 N77-19353

Arc control in compact arc lamps  
[NASA-CASE-NPO-10870-1] c 33 N77-22386

Oil cooling system for a gas turbine engine  
[NASA-CASE-LEW-12830-1] c 07 N77-23106

Oil cooling system for a gas turbine engine  
[NASA-CASE-LEW-12321-1] c 37 N78-10467

Closed loop spray cooling apparatus --- for particle accelerator targets  
[NASA-CASE-LEW-11981-1] c 31 N78-17237

Multistage refrigeration system  
[NASA-CASE-NPO-13839-1] c 31 N78-25256

Cooling system for removing metabolic heat from an hermetically sealed spacesuit  
[NASA-CASE-ARC-11059-1] c 54 N78-32721

Heat exchanger --- rocket combustion chambers and cooling systems  
[NASA-CASE-LEW-12252-1] c 34 N79-13288

Closed loop spray cooling apparatus  
[NASA-CASE-LEW-11981-2] c 34 N79-20336

Ozonation of cooling tower waters  
[NASA-CASE-NPO-14340-1] c 45 N80-14579

Heat exchanger and method of making  
[NASA-CASE-LEW-12441-3] c 44 N81-24519

Cooling system for high speed aircraft  
[NASA-CASE-LAR-12406-1] c 05 N81-26114

Waveguide cooling system  
[NASA-CASE-NPO-15401-1] c 32 N83-27085

Cooling by conversion of para to ortho-hydrogen  
[NASA-CASE-GSC-12770-1] c 25 N83-29324

Radiative cooler --- spacecraft radiators  
[NASA-CASE-NPO-15465-1] c 34 N84-22903

Combustor liner construction  
[NASA-CASE-LEW-14035-1] c 07 N84-24577

High thermal power density heat transfer apparatus providing electrical isolation at high temperature using heat pipes  
[NASA-CASE-LEW-12950-2] c 34 N85-29179

Jet pump-drive system for heat removal  
[NASA-CASE-NPO-16494-1-CU] c 34 N85-29182

Precision manipulator heating and cooling apparatus for use in UHV systems with sample transfer capability  
[NASA-CASE-LAR-13040-1] c 37 N85-29286

Vortex generating flow passage design for increased film cooling effectiveness  
[NASA-CASE-LEW-14039-1] c 34 N85-33433

Monogroove cold plate  
[NASA-CASE-MSC-20946-1] c 34 N87-28867

Capillary heat transport and fluid management device  
[NASA-CASE-MFS-28217-1] c 34 N89-14392

**COORDINATES**  
Mechanical coordinate converter Patent  
[NASA-CASE-XNP-00614] c 14 N70-36907

Lightning tracking system  
[NASA-CASE-KSC-10729-1] c 09 N73-32110

Magnetic heading reference  
[NASA-CASE-LAR-11387-2] c 04 N77-19056

Remote object configuration/orientation determination  
[NASA-CASE-NPO-17436-1-CU] c 35 N89-13764

**COPOLYMERIZATION**  
Chemical approach for controlling nadimide cure temperature and rate  
[NASA-CASE-LEW-13770-1] c 27 N84-27885

Chemical control of nadimide cure temperature and rate  
[NASA-CASE-LEW-13770-2] c 25 N85-28982

Copolymers of vinyl styrylpyridines or vinyl stilbazoles with bismaleimide  
[NASA-CASE-ARC-11429-1-CU] c 27 N86-20560

Process for curing bismaleimide resins  
[NASA-CASE-ARC-11429-4CU] c 27 N87-15304

Polyether-polyester graft copolymer  
[NASA-CASE-LAR-13447-1] c 27 N88-18725

**COPOLYMERS**  
Method of producing alternating ether siloxane copolymers Patent  
[NASA-CASE-XMF-02584] c 06 N71-20905

Dicyanoacetylene polymers Patent  
[NASA-CASE-ARC-103250] c 06 N71-23500

Heat resistant polymers of oxidized styrylphosphine  
[NASA-CASE-MSC-14903-3] c 27 N80-24438

Insoluble polyelectrolyte and ion-exchange hollow fiber impregnated therewith  
[NASA-CASE-NPO-13530-1] c 25 N81-17187

Chemical approach for controlling nadimide cure temperature and rate with maleimide  
[NASA-CASE-LEW-13770-3] c 27 N85-21350

Chemical approach for controlling nadimide cure temperature and rate with maleimide  
[NASA-CASE-LEW-13770-4] c 27 N85-21351

Alkaline battery containing a separator of a cross-linked copolymer of vinyl alcohol and unsaturated carboxylic acid  
[NASA-CASE-LEW-13102-1] c 33 N85-29144

Toughening reinforced epoxy composites with brominated polymeric additives  
[NASA-CASE-ARC-11427-1] c 24 N86-19380

Poly(carbonate-mide) polymer  
[NASA-CASE-LAR-13292-1] c 27 N86-24841

Polyarylene ethers with improved properties  
[NASA-CASE-LAR-13555-1] c 23 N86-32526

Polyether-polyester graft copolymer  
[NASA-CASE-LAR-13447-1] c 27 N88-18725

**COPPER**  
Method for etching copper Patent  
[NASA-CASE-XGS-06306] c 17 N71-16044

Method of plating copper on aluminum Patent  
[NASA-CASE-XLA-08966-1] c 17 N71-25903

Brazing alloy composition  
[NASA-CASE-XMF-06053] c 26 N75-27126

Method for making an aluminum or copper substrate panel for selective absorption of solar energy  
[NASA-CASE-MFS-23518-1] c 44 N79-11469

Metal (2,4,4',4'') phthalocyanine tetraamines as curing agents for epoxy resins  
[NASA-CASE-ARC-11424-1] c 27 N85-34281

**COPPER ALLOYS**  
Zirconium modified nickel-copper alloy  
[NASA-CASE-LEW-12245-1] c 26 N77-20201

Thin film strain transducer  
[NASA-CASE-WLP-10055-1] c 35 N84-28015

Aluminum alloy  
[NASA-CASE-LAR-13924-1-CU] c 26 N89-28621

**COPPER COMPOUNDS**  
Simple method of making photovoltaic junctions Patent  
[NASA-CASE-XNP-01960] c 09 N71-23027

Laser coolant and ultraviolet filter  
[NASA-CASE-MFS-20180] c 16 N72-12440

Brazing alloy  
[NASA-CASE-XNP-03878] c 26 N75-27127

**COPPER FLUORIDES**  
Preparation of high purity copper fluoride  
[NASA-CASE-LEW-10794-1] c 06 N72-17093

**COPPER OXIDES**  
Textured carbon surfaces on copper by sputtering  
[NASA-CASE-LEW-14130-1] c 31 N86-32587

**CORDAGE**  
Method of forming a root cord restrained convolute section  
[NASA-CASE-MSC-12398] c 05 N72-20098

**CORE STORAGE**  
Semiconductor-ferroelectric memory device  
[NASA-CASE-ERC-10307] c 08 N72-21198

**CORES**  
Method of making rolling element bearings  
[NASA-CASE-LEW-11087-2] c 37 N74-15128

Electromagnetic transducer recording head having a laminated core section and tapered gap  
[NASA-CASE-NPO-10711-1] c 35 N77-21392

Superplastically formed diffusion bonded metallic structure  
[NASA-CASE-FRC-11026-1] c 24 N82-24296

Low power consumption current transducer  
[NASA-CASE-NPO-16888-1-CU] c 33 N89-29681

**CORK (MATERIALS)**  
Cork-resin ablative insulation for complex surfaces and method for applying the same  
[NASA-CASE-MFS-23626-1] c 24 N80-26388

**CORRECTION**

Doppler frequency spread correction device for multiplex transmissions  
[NASA-CASE-XGS-02749] c 07 N69-39978

**CORRELATION**

Clutter free synthetic aperture radar correlator  
[NASA-CASE-NPO-14035-1] c 32 N83-19968

**CORRELATION DETECTION**

Correlation type phase detector --- with time correlation integrator for frequency multiplexed signals  
[NASA-CASE-GSC-11744-1] c 33 N75-26243  
Interferometric locating system  
[NASA-CASE-NPO-14173-1] c 04 N80-32359

**CORRELATORS**

Millimeter wave radiometer for radio astronomy Patent  
[NASA-CASE-GSC-12686-1] c 30 N71-23723  
Digital demodulator-correlator  
[NASA-CASE-NPO-13982-1] c 32 N79-14267  
Baseband signal combiner for large aperture antenna array  
[NASA-CASE-NPO-14641-1] c 32 N81-29308  
Serial data correlator/code translator  
[NASA-CASE-KSC-11025-1] c 32 N83-13323

**CORROSION**

Method of neutralizing the corrosive surface of amine-cured epoxy resins  
[NASA-CASE-GSC-12686-1] c 27 N83-34039

**CORROSION PREVENTION**

Method of coating carbonaceous base to prevent oxidation destruction and coated base Patent  
[NASA-CASE-XLA-00284] c 15 N71-16075  
Method of inhibiting stress corrosion cracks in titanium alloys Patent  
[NASA-CASE-NPO-10271] c 17 N71-16393  
Controlled glass bead peening Patent  
[NASA-CASE-XLA-07390] c 15 N71-18616  
Corrosion resistant beryllium Patent  
[NASA-CASE-LEW-10327] c 17 N71-33408  
Prevention of hydrogen embrittlement of high strength steel by hydrazine compositions --- by adding potassium hydroxide to hydrazine  
[NASA-CASE-NPO-12122-1] c 24 N76-14203  
Ozonation of cooling tower waters  
[NASA-CASE-NPO-14340-1] c 45 N80-14579  
Method of protecting a surface with a silicon-slurry/aluminate coating --- coatings for gas turbine engine blades and vanes  
[NASA-CASE-LEW-13343-1] c 27 N82-28441  
Heat pipes containing alkali metal working fluid  
[NASA-CASE-LEW-12253-1] c 74 N83-19596  
Method of coating a substrate with a rapidly solidified metal  
[NASA-CASE-GSC-12880-1] c 26 N86-32550  
Oxidation protection coatings for polymers  
[NASA-CASE-LEW-14072-1] c 27 N87-23736

**CORROSION RESISTANCE**

High temperature cobalt-base alloy Patent  
[NASA-CASE-XLE-00726] c 17 N71-15644  
Solder flux which leaves corrosion-resistant coating Patent  
[NASA-CASE-XNP-03459-2] c 18 N71-15688  
High temperature cobalt-base alloy Patent  
[NASA-CASE-XLE-02991] c 17 N71-16025  
Soldering with solder flux which leaves corrosion resistant coating Patent  
[NASA-CASE-XNP-03459] c 15 N71-21078  
Method of making bearing material  
[NASA-CASE-LEW-11930-3] c 24 N80-33482  
Corrosion resistant thermal barrier coating --- protecting gas turbines and other engine parts  
[NASA-CASE-LEW-13088-1] c 26 N81-25188  
Sandblasting nozzle  
[NASA-CASE-NPO-13823-1] c 37 N81-25371  
Covering solid, film cooled surfaces with a duplex thermal barrier coating  
[NASA-CASE-LEW-13450-1] c 31 N83-35177  
Carbon granule probe microphone for leak detection --- recovery boilers  
[NASA-CASE-NPO-16027-1] c 35 N85-21597  
Corrosion resistant coating  
[NASA-CASE-NPO-15928-1] c 26 N85-29005  
Castable hot corrosion resistant alloy  
[NASA-CASE-LEW-14134-2] c 26 N89-14303

**CORRUGATED PLATES**

Superplastically formed diffusion bonded metallic structure  
[NASA-CASE-FRC-11026-1] c 24 N82-24296  
Truss-core corrugation for compressive loads  
[NASA-CASE-LAR-13438-1] c 31 N89-12786

**CORRUGATING**

Collapsible corrugated horn antenna  
[NASA-CASE-LAR-11745-1] c 32 N80-29539  
Superplastically formed diffusion bonded metallic structure  
[NASA-CASE-FRC-11026-1] c 24 N82-24296

Curved cap corrugated sheet

[NASA-CASE-LAR-12884-1] c 18 N84-33450

**COSINE SERIES**

Electro-mechanical sine/cosine generator  
[NASA-CASE-LAR-10503-1] c 09 N72-21248  
Function generator for synthesizing complex vibration mode patterns  
[NASA-CASE-LAR-10310-1] c 10 N73-20253

**COSMIC DUST**

Cosmic dust sensor  
[NASA-CASE-GSC-10503-1] c 14 N72-20381  
Cosmic dust or other similar outer space particles impact location detector  
[NASA-CASE-GSC-11291-1] c 25 N72-33696  
Impact position detector for outer space particles  
[NASA-CASE-GSC-11829-1] c 35 N75-27331  
Cosmic dust analyzer  
[NASA-CASE-MSC-13802-2] c 35 N76-15431

**COST ANALYSIS**

Low cost solar energy collection system  
[NASA-CASE-NPO-13579-1] c 44 N78-17460

**COST EFFECTIVENESS**

Glass heating panels and method for preparing the same from architectural reflective glass  
[NASA-CASE-NPO-15753-1] c 27 N84-33589

**COUCHES**

Shock absorbing support and restraint means Patent  
[NASA-CASE-XMS-01240] c 05 N70-35152  
Energy absorbing structure Patent Application  
[NASA-CASE-MSC-12279-1] c 15 N70-35679  
Articulated multiple couch assembly Patent  
[NASA-CASE-MSC-11253] c 05 N71-12343  
Collapsible Apollo couch  
[NASA-CASE-MSC-13140] c 05 N72-11085

**COULOMETERS**

Electrochemical coulometer and method of forming same Patent  
[NASA-CASE-XGS-05434] c 03 N71-20491  
Coulometer and third electrode battery charging circuit Patent  
[NASA-CASE-GSC-10487-1] c 03 N71-24719  
State-of-charge coulometer  
[NASA-CASE-NPO-15759-1] c 35 N85-21596

**COUNTERBALANCES**

Load positioning system with gravity compensation  
[NASA-CASE-ARC-11525-1] c 37 N86-27629

**COUNTERS**

Counter Patent  
[NASA-CASE-XNP-06234] c 10 N71-27137  
Electronic strain-level counter  
[NASA-CASE-LAR-10756-1] c 32 N73-26910  
Electrochemical detection device --- for use in microbiology  
[NASA-CASE-LAR-11922-1] c 25 N79-24073  
Redundant operation of counter modules  
[NASA-CASE-NPO-14162-1] c 60 N81-15706  
Film advance indicator  
[NASA-CASE-LAR-12474-1] c 35 N82-26628  
Apparatus and process for microbial detection and enumeration  
[NASA-CASE-LAR-12709-1] c 35 N82-28604

**COUNTING CIRCUITS**

Scanning aspect sensor employing an apertured disc and a commutator  
[NASA-CASE-XGS-08266] c 14 N69-27432  
Ring counter  
[NASA-CASE-XGS-03095] c 09 N69-27463  
Relay binary circuit Patent  
[NASA-CASE-XMF-00421] c 09 N70-34502  
Reversible ring counter employing cascaded single SCR stages Patent  
[NASA-CASE-XGS-01473] c 09 N71-10673  
Meteoroid sensing apparatus having a coincidence network connected to a pair of capacitors Patent  
[NASA-CASE-XLE-01246] c 14 N71-10797  
Magnetic counter Patent  
[NASA-CASE-XNP-08836] c 09 N71-12515  
Synchronous counter Patent  
[NASA-CASE-XGS-02440] c 08 N71-19432  
Digital cardiometer system Patent  
[NASA-CASE-XMS-02399] c 05 N71-22896  
Counter and shift register Patent  
[NASA-CASE-XNP-01753] c 08 N71-22897  
Noninterruptable digital counting system Patent  
[NASA-CASE-XNP-09759] c 08 N71-24891  
Frequency measurement by coincidence detection with standard frequency  
[NASA-CASE-MSC-14649-1] c 33 N76-16331  
Redundant operation of counter modules  
[NASA-CASE-NPO-14162-1] c 60 N81-15706

**COUPLING**

Coupling for linear shaped charge Patent  
[NASA-CASE-XLA-00189] c 33 N70-36846  
Expansible support means  
[NASA-CASE-NPO-11059] c 15 N72-17454

Coupled cavity traveling wave tube with velocity tapering  
[NASA-CASE-LEW-12296-1] c 33 N82-26568

Electrical power generating system  
[NASA-CASE-MFS-25302-1] c 33 N83-28319  
Coupling an induction motor type generator to ac power lines --- making windmill generators compatible with public power lines  
[NASA-CASE-MFS-25302-2] c 33 N84-33660  
Magnetic drive coupling  
[NASA-CASE-MSC-21171-1] c 37 N88-23973  
Optical pressure sealing coupling apparatus  
[NASA-CASE-MFS-29348-1] c 74 N89-25689

**COUPLING CIRCUITS**

Flipflop interrogator and bi-polar current driver Patent  
[NASA-CASE-XGS-03058] c 10 N71-19547  
Antenna array at focal plane of reflector with coupling network for beam switching Patent  
[NASA-CASE-GSC-10220-1] c 07 N71-27233  
Phase modulator Patent  
[NASA-CASE-MSC-13201-1] c 07 N71-28429  
Signal path series step biased multidevice high efficiency amplifier Patent  
[NASA-CASE-GSC-10668-1] c 07 N71-28430  
Automatic quadrature control and measuring system --- using optical coupling circuitry  
[NASA-CASE-MFS-21660-1] c 35 N74-21017  
Diode-quad bridge circuit means  
[NASA-CASE-ARC-10364-3] c 33 N75-19520  
Non-contacting power transfer device  
[NASA-CASE-GSC-12595-1] c 33 N82-24422

**COUPLINGS**

Coupling device  
[NASA-CASE-XMS-07846-1] c 09 N69-21927  
Tubular coupling having frangible connecting means  
[NASA-CASE-XLA-02854] c 15 N69-27490  
Quick release separation mechanism Patent  
[NASA-CASE-XLA-01441] c 15 N70-41679  
Indexed keyed connection Patent  
[NASA-CASE-XMS-02532] c 15 N70-41808  
Quick attach and release fluid coupling assembly Patent  
[NASA-CASE-XKS-01985] c 15 N71-10782  
Ratchet mechanism Patent  
[NASA-CASE-MFS-12805] c 15 N71-17805  
Split nut separation system Patent  
[NASA-CASE-XNP-06914] c 15 N71-21489  
Duct coupling for single-handed operation Patent  
[NASA-CASE-MFS-20395] c 15 N71-24903  
Isolation coupling arrangement for a torque measuring system  
[NASA-CASE-XLA-04897] c 15 N72-22482  
Refrigerated coaxial coupling --- for microwave equipment  
[NASA-CASE-NPO-13504-1] c 33 N75-30430  
Opto-mechanical subsystem with temperature compensation through isothermal design  
[NASA-CASE-GSC-12059-1] c 35 N77-27366  
Prosthesis coupling  
[NASA-CASE-KSC-11069-1] c 52 N79-26772  
Coupling device for moving vehicles  
[NASA-CASE-GSC-12322-1] c 37 N80-14398  
Device for coupling a first vehicle to a second vehicle  
[NASA-CASE-GSC-12429-1] c 37 N81-14320  
Micro-fluid exchange coupling apparatus  
[NASA-CASE-ARC-11114-1] c 51 N81-14605  
Reusable captive blind fastener  
[NASA-CASE-MSC-18742-1] c 37 N82-26673  
Apparatus for releasably connecting first and second objects in predetermined space relationship  
[NASA-CASE-MSC-18969-1] c 18 N84-22605  
Connection system --- insuring against loss of a tool component without using multiple tethers  
[NASA-CASE-MSC-20319-1] c 37 N85-21649  
Non-backdrivable free wheeling coupling  
[NASA-CASE-MSC-20475-1] c 37 N87-17037  
Tube coupling device  
[NASA-CASE-MFS-25964-2] c 37 N87-22977  
Preloaded space structural coupling joints  
[NASA-CASE-LAR-13489-1] c 18 N87-27713  
Docking mechanism for spacecraft  
[NASA-CASE-MSC-21386-1] c 18 N89-28552

**COVARIANCE**

Auto covariance computer  
[NASA-CASE-LAR-12968-1] c 60 N86-21154

**COVERINGS**

Apparatus for ejection of an instrument cover  
[NASA-CASE-XMF-04132] c 15 N69-27502  
Fire blocking systems for aircraft seat cushions  
[NASA-CASE-ARC-11423-1] c 03 N84-33394  
Hatch cover  
[NASA-CASE-MSC-21356-1] c 18 N88-24671

**COWLINGS**

Thrust reverser for a long duct fan engine --- for turbofan engines  
[NASA-CASE-LEW-13199-1] c 07 N82-26293

**CRACK OPENING DISPLACEMENT**

- Ultrasonic method and apparatus for determining crack opening load  
[NASA-CASE-LAR-13889-1] c 39 N88-30160
- CRACK PROPAGATION**  
Fatigue testing apparatus  
[NASA-CASE-LEW-14124-1] c 35 N89-28806
- CRACKING (FRACTURING)**  
Method of inhibiting stress corrosion cracks in titanium alloys Patent  
[NASA-CASE-NPO-10271] c 17 N71-16393  
TV fatigue crack monitoring system  
[NASA-CASE-LAR-11490-1] c 39 N78-16387
- CRACKS**  
Method of repairing hidden leaks in tubes  
[NASA-CASE-MFS-19796-1] c 37 N86-32736
- CRANES**  
Space spider crane  
[NASA-CASE-LAR-13411-1-SB] c 18 N88-23828
- CRASH LANDING**  
Aircraft-mounted crash-activated transmitter device  
[NASA-CASE-MFS-16609-3] c 03 N76-32140
- CREEP RUPTURE STRENGTH**  
Nickel-base alloy containing Mo-W-Al-Cr-Ta-Zr-C-Nb-B Patent  
[NASA-CASE-XLE-02082] c 17 N71-16026  
Heat treatment for superalloy  
[NASA-CASE-LEW-14262-1] c 26 N87-28647
- CREEP TESTS**  
Tensile testing apparatus  
[NASA-CASE-LAR-13243-1] c 35 N85-34375
- CRITICAL EXPERIMENTS**  
Gas liquefaction and dispensing apparatus Patent  
[NASA-CASE-NPO-10070] c 15 N71-27372
- CRITICAL TEMPERATURE**  
Stable superconducting magnet --- high current levels below critical temperature  
[NASA-CASE-XMF-05373-1] c 33 N79-21264
- CROSS CORRELATION**  
Cross correlation anomaly detection system  
[NASA-CASE-NPO-13283] c 38 N78-17395  
Method and apparatus for calibrating the ionosphere and application to surveillance of geophysical events  
[NASA-CASE-NPO-15430-1] c 46 N85-21846
- CROSS FLOW**  
Aerodynamic side-force alleviator means  
[NASA-CASE-LAR-12326-1] c 02 N81-14968  
Wingtip vortex propeller  
[NASA-CASE-LAR-13019-1] c 07 N85-35194  
Crossflow vorticity sensor  
[NASA-CASE-LAR-13436-1-CU] c 02 N88-23759
- CROSS POLARIZATION**  
Adaptive polarization separation  
[NASA-CASE-LAR-12196-1] c 33 N81-26358
- CROSSED FIELDS**  
Plasma accelerator Patent  
[NASA-CASE-XLA-00675] c 25 N70-33267  
Energy conversion apparatus Patent  
[NASA-CASE-XLE-00212] c 03 N70-34134  
Crossed-field MHD plasma generator/accelerator Patent  
[NASA-CASE-XLA-03374] c 25 N71-15562
- CROSSLINKING**  
Trifunctional alcohol  
[NASA-CASE-NPO-10714] c 06 N69-31244  
Trimerization of aromatic nitriles  
[NASA-CASE-LEW-12053-1] c 27 N78-15276  
Polymeric foams from cross-linkable poly-n-arylenebenzimidazoles  
[NASA-CASE-ARC-11008-1] c 27 N78-31232  
In situ self cross-linking of polyvinyl alcohol battery separators  
[NASA-CASE-LEW-12972-1] c 44 N79-25481  
Catalytic trimerization of aromatic nitriles and triaryl-s-triazine ring cross-linked high temperature resistant polymers and copolymers made thereby  
[NASA-CASE-LEW-12053-2] c 27 N79-28307  
Method of cross-linking polyvinyl alcohol and other water soluble resins  
[NASA-CASE-LEW-13103-1] c 27 N80-32516  
Process for the preparation of fluorine containing crosslinked elastomeric polytriazine and product so produced  
[NASA-CASE-ARC-11248-1] c 27 N81-17259  
The 1,2,4-oxadiazole elastomers --- heat resistant polymers  
[NASA-CASE-ARC-11253-1] c 27 N81-17262  
In-situ cross linking of polyvinyl alcohol --- application to battery separator films  
[NASA-CASE-LEW-13135-2] c 27 N81-24257  
Cross-linked polyvinyl alcohol and method of making same  
[NASA-CASE-LEW-13101-2] c 23 N81-29160  
Polyvinyl alcohol cross-linked with two aldehydes  
[NASA-CASE-LEW-13504-1] c 25 N83-13188

- Elastomer coated filler and composites thereof comprising at least 60% by weight of a hydrated filler and an elastomer containing an acid substituent  
[NASA-CASE-NPO-14857-1] c 27 N83-19900
- Low temperature cross linking polyimides  
[NASA-CASE-LEW-12876-2] c 27 N83-29392
- Mixed polyvalent-monovalent metal coating for carbon-graphite fibers  
[NASA-CASE-NPO-14987-1] c 24 N83-33950
- Polyphenylquinoxalines containing pendant phenylethynyl and ethynyl groups --- for thermoplastic resins  
[NASA-CASE-LAR-12838-1] c 27 N83-34040
- Process for preparing perfluorotriazine elastomers and precursors thereof  
[NASA-CASE-ARC-11402-1] c 27 N84-22744
- Ethynyl and substituted ethynyl-terminated polysulfones  
[NASA-CASE-LAR-12931-1] c 27 N84-22747
- Thermoset-thermoplastic aromatic polyamide containing N-propargyl groups  
[NASA-CASE-LAR-12723-1] c 27 N85-20123
- Chemical approach for controlling nadimide cure temperature and rate  
[NASA-CASE-LEW-13770-5] c 27 N85-21352
- Chemical control of nadimide cure temperature and rate  
[NASA-CASE-LEW-13770-2] c 25 N85-28982
- Process for crosslinking methylene-containing aromatic polymers with ionizing radiation  
[NASA-CASE-LAR-13448-1] c 27 N86-24840
- Laminate comprising fibers embedded in cured amine terminated bis-imide  
[NASA-CASE-ARC-11421-3] c 24 N86-25416
- Process for crosslinking and extending conjugated diene-containing polymers  
[NASA-CASE-LAR-13452-1] c 27 N87-22848
- Semi-2-interpenetrating networks of high temperature systems  
[NASA-CASE-LAR-13450-1] c 27 N87-28657
- Polyether-polyester graft copolymer  
[NASA-CASE-LAR-13447-1] c 27 N88-18725
- CRUCIBLES**  
Evaporant holder  
[NASA-CASE-XLA-03105] c 15 N69-27483
- CRUCIFORM WINGS**  
Solar powered aircraft  
[NASA-CASE-LAR-12615-1] c 05 N84-12154
- CRUDE OIL**  
Decontamination of petroleum products Patent  
[NASA-CASE-XNP-03835] c 06 N71-23499  
Crude oil desulfurization  
[NASA-CASE-NPO-14542-1] c 25 N82-23282
- CRUSTAL FRACTURES**  
System for real-time crustal deformation monitoring  
[NASA-CASE-NPO-14124-1] c 46 N80-14603
- CRYOGENIC COOLING**  
Support assembly for cryogenically coolable low-noise choke waveguide  
[NASA-CASE-NPO-14253-1] c 32 N80-32605  
Low cost cryostat  
[NASA-CASE-NPO-14513-1] c 35 N81-14287  
Stirling cycle cryogenic cooler  
[US-PATENT-4,389,849] c 44 N83-28574  
Oxygen chemisorption cryogenic refrigerator  
[NASA-CASE-NPO-16734-1-CU] c 31 N88-14223  
Krypton based adsorption type cryogenic refrigerator  
[NASA-CASE-NPO-17334-1-CU] c 31 N88-23917  
Cryogenic regenerator including saran-carbon heat conduction matrix  
[NASA-CASE-NPO-17291-1-CU] c 34 N88-23946
- CRYOGENIC EQUIPMENT**  
Refrigeration apparatus  
[NASA-CASE-NPO-10309] c 15 N69-23190  
Piping arrangement through a double chamber structure  
[NASA-CASE-XNP-08882] c 15 N69-39935  
Method and apparatus for cryogenic wire stripping Patent  
[NASA-CASE-MFS-10340] c 15 N71-17628  
Dual solid cryogenics for spacecraft refrigeration Patent  
[NASA-CASE-GSC-10188-1] c 23 N71-24725  
Valving device for automatic refilling in cryogenic liquid systems  
[NASA-CASE-NPO-11177] c 15 N72-17453  
Dual stage check valve  
[NASA-CASE-MS-C-13587-1] c 15 N73-30459  
Heat operated cryogenic electrical generator  
[NASA-CASE-NPO-13303-1] c 20 N75-24837  
Cryostat system for temperatures on the order of 2 deg K or less  
[NASA-CASE-NPO-13459-1] c 31 N77-10229  
Device for tensioning test specimens within an hermetically sealed chamber  
[NASA-CASE-MFS-23281-1] c 35 N77-22450

- Multistation refrigeration system  
[NASA-CASE-NPO-13839-1] c 31 N78-25256
- System for and method of freezing biological tissue  
[NASA-CASE-GSC-12173-1] c 51 N79-10694
- Shock isolator for operating a diode laser on a closed-cycle refrigerator  
[NASA-CASE-GSC-12297-1] c 37 N79-28549
- Low temperature latching solenoid  
[NASA-CASE-MS-C-18106-1] c 33 N82-11357
- Resilient seal ring assembly with spring means applying force to wedge member --- cryogenic applications  
[NASA-CASE-MFS-25678-1] c 37 N84-11497
- Magnetically actuated compressor  
[NASA-CASE-GSC-12799-1] c 31 N85-21404
- Propulsion apparatus and method using boil-off gas from a cryogenic liquid  
[NASA-CASE-MFS-25946-1] c 20 N86-26368
- Low temperature storage container for transporting perishables to space station  
[NASA-CASE-MFS-28248-1] c 31 N88-24817
- Two stage sorption type cryogenic refrigerator including heat regeneration system  
[NASA-CASE-NPO-17630-1-CU] c 31 N89-29577
- Surface tension confined liquid cryogen cooler  
[NASA-CASE-GSC-13112-1] c 31 N89-29576
- CRYOGENIC FLUID STORAGE**  
Apparatus for transferring cryogenic liquids Patent  
[NASA-CASE-XLE-00345] c 15 N70-38020
- Cryogenic storage system Patent  
[NASA-CASE-XMS-04390] c 31 N70-41871
- Techniques for insulating cryogenic fuel containers Patent  
[NASA-CASE-XLA-01967] c 31 N70-42015
- Method of making a filament-wound container Patent  
[NASA-CASE-XLE-03803-2] c 15 N71-17651
- Cryogenic insulation system Patent  
[NASA-CASE-XLE-04222] c 23 N71-22881
- Panelized high performance multilayer insulation Patent  
[NASA-CASE-MFS-14023] c 33 N71-25351
- Cryogenic thermal insulation Patent  
[NASA-CASE-XMF-05046] c 33 N71-28892
- Zero gravity shadow shield aligner  
[NASA-CASE-KSC-10622-1] c 31 N72-21893
- Heater-mixer for stored fluids  
[NASA-CASE-ARC-10442-1] c 35 N74-15093
- Low heat leak connector for cryogenic system  
[NASA-CASE-XLE-02367-1] c 31 N79-21225
- Cryogenic container compound suspension strap  
[NASA-CASE-ARC-11157-1] c 37 N80-18393
- Cryogenic insulation strength and bond tester  
[NASA-CASE-MFS-25910-1] c 39 N86-20841
- Cryogenic insulation system  
[NASA-CASE-LAR-13506-1] c 27 N89-12741
- CRYOGENIC FLUIDS**  
Cryogenic apparatus for measuring the intensity of magnetic fields  
[NASA-CASE-XAC-02407] c 14 N69-27423
- Venting vapor apparatus Patent  
[NASA-CASE-XLE-00288] c 15 N70-34247
- Conical valve plug Patent  
[NASA-CASE-XLE-00715] c 15 N70-34859
- Fluid coupling Patent  
[NASA-CASE-XLE-00397] c 15 N70-36492
- Densitometer Patent  
[NASA-CASE-XLE-00688] c 14 N70-41330
- Cryogenic connector for vacuum use Patent  
[NASA-CASE-XGS-02441] c 15 N70-41629
- Liquid flow sight assembly Patent  
[NASA-CASE-XLE-02998] c 14 N70-42074
- Automatic thermal switch Patent  
[NASA-CASE-XNP-03796] c 23 N71-15467
- Zero gravity separator Patent  
[NASA-CASE-XLE-00586] c 15 N71-15968
- Apparatus for measuring thermal conductivity Patent  
[NASA-CASE-XGS-01052] c 14 N71-15992
- Process of forming particles in a cryogenic path Patent  
[NASA-CASE-NPO-10250] c 23 N71-16212
- Superconducting alternator Patent  
[NASA-CASE-XLE-02823] c 09 N71-23443
- Flow angle sensor and read out system Patent  
[NASA-CASE-XLE-04503] c 14 N71-24864
- Geysering inhibitor for vertical cryogenic transfer pipe  
[NASA-CASE-KSC-10615] c 15 N73-12486
- Magnetocaloric pump --- for cryogenic fluids  
[NASA-CASE-LEW-11672-1] c 37 N74-27904
- Cryogenic liquid sensor  
[NASA-CASE-NPO-10619-1] c 35 N77-21393
- Quick-disconnect inflatable seal assembly  
[NASA-CASE-KSC-11368-1] c 37 N89-13786
- CRYOGENIC GYROSCOPES**  
Cryogenic gyroscope housing --- with annular disks for gas spin-up  
[NASA-CASE-MFS-21136-1] c 35 N74-18323

## CRYOGENIC MAGNETS

Superconducting alternator  
[NASA-CASE-XLE-02824] c 03 N69-39890

## CRYOGENIC ROCKET PROPELLANTS

Quick attach and release fluid coupling assembly  
Patent  
[NASA-CASE-XKS-01985] c 15 N71-10782  
Hot wire liquid level detector for cryogenic fluids  
Patent  
[NASA-CASE-XLE-00454] c 23 N71-17802  
Automatic pump Patent  
[NASA-CASE-XNP-04731] c 15 N71-24042

## CRYOGENIC STORAGE

Insulation system Patent  
[NASA-CASE-XLE-02647] c 18 N71-23658  
Filament wound container Patent  
[NASA-CASE-XLE-03803] c 15 N71-23816

## CRYOGENIC TEMPERATURE

Low noise cryogenic dielectric resonator oscillator  
[NASA-CASE-NPO-17157-1-CU] c 33 N88-26596

## CRYOGENIC WIND TUNNELS

Continuous self-locking spiral wound seal --- for  
maintaining pressure between chambers in cryogenic wind  
tunnels  
[NASA-CASE-LAR-12315-1] c 37 N82-24490  
Miniature remote dead weight calibrator  
[NASA-CASE-LAR-13564-1] c 35 N87-25558  
Method of forming a multiple layer dielectric and a hot  
film sensor therewith  
[NASA-CASE-LAR-13678-1] c 76 N88-25355

## CRYOGENICS

Low temperature aluminum alloy Patent  
[NASA-CASE-XMF-02786] c 17 N71-20743  
Cryogenic cooling system Patent  
[NASA-CASE-NPO-10467] c 23 N71-26654  
Germanium coated microbridge and method  
[NASA-CASE-MFS-23274-1] c 33 N78-13320  
Dielectric-loaded waveguide circulator for cryogenically  
cooled and cascaded maser waveguide structures  
[NASA-CASE-NPO-14254-1] c 36 N80-18372  
High toughness-high strength iron alloy  
[NASA-CASE-LEW-12542-3] c 26 N80-32484  
Multispectral scanner optical system  
[NASA-CASE-MSC-18255-1] c 74 N80-33210  
Polymeric compositions and their method of  
manufacture --- forming filled polymer systems using  
cryogenics  
[NASA-CASE-NPO-10424-1] c 27 N81-24258

## CRYOLITE

Ultraviolet filter  
[NASA-CASE-XNP-02340] c 23 N69-24332

## CRYOSTATS

Low temperature flexure fatigue cryostat Patent  
[NASA-CASE-XMF-02964] c 14 N71-17659  
Horizontal cryostat for fatigue testing Patent  
[NASA-CASE-XMF-10968] c 14 N71-24234  
Heater-mixer for stored fluids  
[NASA-CASE-ARC-10442-1] c 35 N74-15093  
Cryostat system for temperatures on the order of 2 deg  
K or less  
[NASA-CASE-NPO-13459-1] c 31 N77-10229  
Low cost cryostat  
[NASA-CASE-NPO-14513-1] c 35 N81-14287

## CRYOTRAPPING

Atomic hydrogen storage --- cryotrapping and magnetic  
field strength  
[NASA-CASE-LEW-12081-2] c 28 N80-20402

## CRYPTOGRAPHY

Computer access security code system  
[NASA-CASE-NPO-17525-1-CU] c 60 N89-29955

## CRYSTAL DEFECTS

Method of controlling defect orientation in silicon crystal  
ribbon growth  
[NASA-CASE-NPO-13918-1] c 76 N79-11920  
Method for growing low defect, high purity crystalline  
layers utilizing lateral overgrowth of a patterned mask  
[NASA-CASE-NPO-15813-2] c 76 N87-15882

## CRYSTAL FILTERS

Infrared tunable laser  
[NASA-CASE-ARC-10463-1] c 09 N73-32111  
Partial polarizer filter  
[NASA-CASE-GSC-12225-1] c 74 N79-14891

## CRYSTAL GROWTH

Apparatus for producing high purity silicon carbide  
crystals Patent  
[NASA-CASE-XLA-02057] c 26 N70-40015  
Method of producing crystalline materials  
[NASA-CASE-NPO-10440] c 15 N72-21466  
Vapor phase growth of groups 3-5 compounds by  
hydrogen chloride transport of the elements  
[NASA-CASE-LAR-11144-1] c 25 N75-26043  
Process for fabricating SiC semiconductor devices  
[NASA-CASE-LEW-12094-1] c 76 N76-25049  
Method of crystallization --- in gravity-free  
environments  
[NASA-CASE-MFS-23001-1] c 76 N77-32919

Pressure transducer --- using a monomeric charge

transfer complex sensor  
[NASA-CASE-NPO-11150] c 35 N78-17359  
Method of controlling defect orientation in silicon crystal  
ribbon growth  
[NASA-CASE-NPO-13918-1] c 76 N79-11920  
Growth of silicon carbide crystals on a seed while pulling  
silicon crystals from a melt  
[NASA-CASE-NPO-13969-1] c 76 N79-23798  
Method of mitigating titanium impurities effects in p-type  
silicon material for solar cells  
[NASA-CASE-NPO-14635-1] c 44 N80-24741  
Means for growing ribbon crystals without subjecting the  
crystals to thermal shock-induced strains  
[NASA-CASE-NPO-14298-1] c 76 N80-32244  
Method of growing a ribbon crystal particularly suited  
for facilitating automated control of ribbon width  
[NASA-CASE-NPO-14295-1] c 76 N80-32245  
Apparatus for use in the production of ribbon-shaped  
crystals from a silicon melt  
[NASA-CASE-NPO-14297-1] c 33 N81-19389  
Ampoule sealing apparatus and process --- for housing  
a semiconductor growth charge under vacuum  
[NASA-CASE-LAR-12847-1] c 33 N83-16633  
Controlled in situ etch-back  
[NASA-CASE-NPO-15625-1] c 76 N83-20789  
Method and apparatus for supercooling and solidifying  
substances  
[NASA-CASE-MFS-25242-1] c 35 N83-29650  
Method and apparatus for minimizing convection during  
crystal growth from solution  
[NASA-CASE-NPO-15811-1] c 76 N84-12968  
Process and apparatus for growing a crystal ribbon  
[NASA-CASE-NPO-15629-1] c 76 N84-35113  
Method for growth of crystals by pressure reduction of  
supercritical or subcritical solution  
[NASA-CASE-NPO-15772-1] c 76 N85-29800  
Low defect, high purity crystalline layers grown by  
selective deposition  
[NASA-CASE-NPO-15813-1] c 76 N85-30922  
Planar oscillatory stirring apparatus  
[NASA-CASE-MFS-26002-1-CU] c 35 N86-26598  
Method for growing low defect, high purity crystalline  
layers utilizing lateral overgrowth of a patterned mask  
[NASA-CASE-NPO-15813-2] c 76 N87-15882  
Total immersion crystal growth  
[NASA-CASE-NPO-15800-2] c 76 N87-23286  
Apparatus and procedure to detect a liquid-solid  
interface during crystal growth in a bridgman furnace  
[NASA-CASE-LAR-13597-1-CU] c 25 N87-23713  
Liquid encapsulated crystal growth  
[NASA-CASE-NPO-16808-1-CU] c 76 N87-25868  
Procedure to prepare transparent silica gels  
[NASA-CASE-LAR-13476-1-CU] c 76 N87-29360  
Method for investigating the formation of crystals in a  
transparent material  
[NASA-CASE-MFS-26008-1-CU] c 76 N88-14835  
Method and apparatus for growing crystals  
[NASA-CASE-MFS-28137-1] c 76 N88-24544  
Liquid encapsulated float zone process and apparatus  
[NASA-CASE-MFS-28144-1] c 76 N88-24545  
Hanging drop crystal growth apparatus and method  
[NASA-CASE-MFS-28206-1-SB] c 76 N88-25356  
Crystal growth apparatus  
[NASA-CASE-MFS-28182-1] c 76 N88-25357  
High temperature electric arc furnace  
[NASA-CASE-MFS-28281-1] c 09 N88-28938

**CRYSTAL LATTICES**  
Apparatus for use in examining the lattice of a  
semiconductor wafer by X-ray diffraction  
[NASA-CASE-MFS-23315-1] c 76 N78-24950  
Crystal cleaving machine  
[NASA-CASE-GSC-12584-1] c 37 N82-32730

**CRYSTAL OPTICS**  
Optical crystal temperature gauge with fiber optic  
connections  
[NASA-CASE-MSC-18627-1] c 74 N82-30071

**CRYSTAL OSCILLATORS**  
Microbalance including crystal oscillators for measuring  
contaminates in a gas system Patent  
[NASA-CASE-NPO-10144] c 14 N71-17701  
Passive intrusion detection system  
[NASA-CASE-NPO-13804-1] c 33 N80-23559  
Automatic oscillator frequency control system  
[NASA-CASE-GSC-12804-1] c 33 N86-20668

**CRYSTAL RECTIFIERS**  
Turn on transient limiter Patent  
[NASA-CASE-GSC-10413] c 10 N71-26531

**CRYSTAL STRUCTURE**  
Method of growing composites of the type exhibiting  
the Soret effect --- improved structure of eutectic alloy  
crystals  
[NASA-CASE-MFS-22926-1] c 24 N77-27187

## CRYSTALLINITY

Crystalline polyimides --- reinforcing fibers for high  
temperature composites and adhesives as well as flame  
retardation  
[NASA-CASE-LAR-12099-1] c 27 N80-16158  
Method for growing low defect, high purity crystalline  
layers utilizing lateral overgrowth of a patterned mask  
[NASA-CASE-NPO-15813-2] c 76 N87-15882  
Process for developing crystallinity in linear aromatic  
polyimides  
[NASA-CASE-LAR-13732-1] c 27 N87-25474

## CRYSTALLIZATION

Method of crystallization --- in gravity-free  
environments  
[NASA-CASE-MFS-23001-1] c 76 N77-32919  
Total immersion crystal growth  
[NASA-CASE-NPO-15800-2] c 76 N87-23286

## CRYSTALS

Brushless direct current tachometer Patent  
[NASA-CASE-MFS-20385] c 09 N71-24904  
Method and apparatus for slicing crystals  
[NASA-CASE-GSC-12291-1] c 76 N80-18951  
Crystal cleaving machine  
[NASA-CASE-GSC-12584-1] c 37 N82-32730  
Workpiece positioning vise  
[NASA-CASE-GSC-12762-1] c 37 N84-28083  
Dynamic range compression/expansion of light beams  
by photorefractive crystals  
[NASA-CASE-NPO-17140-1-CU] c 74 N89-14077

## CUBIC LATTICES

Stabilized lanthanum sulphur compounds ---  
thermoelectric materials  
[NASA-CASE-NPO-16135-1] c 25 N83-24572

## CUES

Helmet weight simulator  
[NASA-CASE-LAR-12320-1] c 54 N81-27806

## CUFFS

Logic-controlled occlusive cuff system  
[NASA-CASE-MSC-14836-1] c 52 N82-11770  
Prosthetic occlusive device for an internal  
passageway  
[NASA-CASE-MFS-25740-1] c 52 N84-11744

## CULTURE TECHNIQUES

Variable angle tube holder  
[NASA-CASE-LAR-10507-1] c 11 N72-25284  
Automatic inoculating apparatus --- includes movable  
carriage, drive motor, and swabbing motor  
[NASA-CASE-LAR-11074-1] c 51 N75-13502  
Automatic microbial transfer device  
[NASA-CASE-LAR-11354-1] c 35 N75-27330  
Electrochemical detection device --- for use in  
microbiology  
[NASA-CASE-LAR-11922-1] c 25 N79-24073  
Indirect microbial detection  
[NASA-CASE-LAR-12520-1] c 51 N81-28698  
Enhancement of in vitro guayule propagation  
[NASA-CASE-NPO-15213-1] c 51 N83-17045  
Method for detecting coliform organisms  
[NASA-CASE-ARC-11322-1] c 51 N83-28849  
Production of butanol by fermentation in the presence  
of cocultures of clostridium  
[NASA-CASE-NPO-16203-1] c 23 N85-35227  
Horizontally rotated cell culture system  
[NASA-CASE-MSC-21294-1] c 51 N89-13131  
Bio-reactor cell culture process  
[NASA-CASE-MSC-21293-1] c 51 N89-14666  
Spiral vane bioreactor  
[NASA-CASE-MSC-21361-1] c 51 N89-25557  
Hollow fiber cinnostat: Technical abstract  
[NASA-CASE-MFS-28370-1] c 35 N89-28793

## CURIE TEMPERATURE

Manganese bismuth films with narrow transfer  
characteristics for Curie-point switching  
[NASA-CASE-NPO-11336-1] c 76 N79-16678

## CURING

Reaction cured glass and glass coatings  
[NASA-CASE-ARC-11051-1] c 27 N78-32260  
Ambient cure polyimide foams --- thermal resistant  
foams  
[NASA-CASE-ARC-11170-1] c 27 N79-11215  
Curing agent for polyepoxides and epoxy resins and  
composites cured therewith --- preventing carbon fiber  
release  
[NASA-CASE-LEW-13226-1] c 27 N81-17260  
Method of neutralizing the corrosive surface of  
amine-cured epoxy resins  
[NASA-CASE-GSC-12686-1] c 27 N83-34039  
Fluoroether modified epoxy composites  
[NASA-CASE-ARC-11418-1] c 24 N84-11213  
Method and technique for installing light-weight, fragile,  
high-temperature fiber insulation  
[NASA-CASE-MSC-16934-3] c 24 N84-16262  
Chemical approach for controlling nadimide cure  
temperature and rate  
[NASA-CASE-LEW-13770-1] c 27 N84-27885

- Chemical approach for controlling nadimide cure temperature and rate with maleimide  
[NASA-CASE-LEW-13770-3] c 27 N85-21350
- Chemical approach for controlling nadimide cure temperature and rate with maleimide  
[NASA-CASE-LEW-13770-4] c 27 N85-21351
- Chemical control of nadimide cure temperature and rate  
[NASA-CASE-LEW-13770-2] c 25 N85-28982
- Metal (2,4,4',4'') phthalocyanine tetraamines as curing agents for epoxy resins  
[NASA-CASE-ARC-11424-1] c 27 N85-34281
- Toughening reinforced epoxy composites with brominated polymeric additives  
[NASA-CASE-ARC-11427-1] c 24 N86-19380
- High performance mixed bisimide resins and composites based thereon  
[NASA-CASE-ARC-11538-1SB] c 24 N86-21590
- Ethynyl and substituted ethynyl-terminated polysulfones  
[NASA-CASE-LAR-12931-2] c 27 N86-21675
- Process for curing bismaleimide resins  
[NASA-CASE-ARC-11429-4CU] c 27 N87-15304
- Cellular thermosetting fluoropolymers and process for making them  
[NASA-CASE-GSC-13008-1] c 27 N88-23894
- Method of controlling a resin curing process --- for fiber reinforced composites  
[NASA-CASE-MS-C-21169-1] c 27 N89-29539
- CURRENT AMPLIFIERS**
- Multi-channel temperature measurement amplification system --- solar heating systems  
[NASA-CASE-MFS-23775-1] c 44 N82-16474
- Tuned analog network  
[NASA-CASE-GSC-12650-1] c 33 N84-14421
- A dc to dc converter  
[NASA-CASE-MFS-25430-1] c 33 N84-16453
- CURRENT DENSITY**
- Solid state switch  
[NASA-CASE-XNP-09228] c 09 N69-27500
- Method and apparatus for sputtering utilizing an apertured electrode and a pulsed substrate bias  
[NASA-CASE-LEW-10920-1] c 17 N73-24569
- Stable superconducting magnet --- high current levels below critical temperature  
[NASA-CASE-XMF-05373-1] c 33 N79-21264
- Catalyst surfaces for the chromous/chromic redox couple  
[NASA-CASE-LEW-13148-2] c 44 N81-29524
- CURRENT DISTRIBUTION**
- Connector - Electrical  
[NASA-CASE-XLA-01288] c 09 N69-21470
- Electrostatic ion rocket engine Patent  
[NASA-CASE-XLE-02066] c 28 N71-15661
- Reversible current control apparatus Patent  
[NASA-CASE-XLA-09371] c 10 N71-18724
- Polarity sensitive circuit Patent  
[NASA-CASE-XNP-00952] c 10 N71-23271
- Load insensitive electrical device --- power converters for supplying direct current at one voltage from a source at another voltage  
[NASA-CASE-XER-11046-2] c 33 N74-22864
- CURRENT REGULATORS**
- Apparatus for ballasting high frequency transistors  
[NASA-CASE-XGS-05003] c 09 N69-24318
- Baseline stabilization system for ionization detector Patent  
[NASA-CASE-XNP-03128] c 10 N70-41991
- Magnetic core current steering commutator Patent  
[NASA-CASE-NPO-10201] c 08 N71-18694
- Increasing efficiency of switching type regulator circuits Patent  
[NASA-CASE-XMS-09352] c 09 N71-23316
- Saturation current protection apparatus for saturable core transformers Patent  
[NASA-CASE-ERC-10075] c 09 N71-24800
- Drive circuit for minimizing power consumption in inductive load Patent  
[NASA-CASE-NPO-10716] c 09 N71-24892
- Turn on transient limiter Patent  
[NASA-CASE-GSC-10413] c 10 N71-26531
- Current regulating voltage divider  
[NASA-CASE-MFS-20935] c 09 N71-34212
- Ripple indicator  
[NASA-CASE-KSC-10162] c 09 N72-11225
- Inrush current limiter  
[NASA-CASE-GSC-11789-1] c 33 N77-14333
- Circuit for automatic load sharing in parallel converter modules  
[NASA-CASE-NPO-14056-1] c 33 N79-24257
- Three phase power factor controller  
[NASA-CASE-MFS-25535-1] c 33 N81-12330
- Motor power factor controller with a reduced voltage starter  
[NASA-CASE-MFS-25586-1] c 33 N82-11360

- Electronic system for high power load control --- solar arrays  
[NASA-CASE-NPO-15358-1] c 33 N83-27126
- CURVATURE**
- Spin forming tubular elbows Patent  
[NASA-CASE-XMF-01083] c 15 N71-22723
- Two degree inverted flexure  
[NASA-CASE-ARC-10345-1] c 15 N73-12488
- Cylindrical surface profile and diameter measuring tool and method  
[NASA-CASE-MFS-28287-1] c 35 N88-23959
- CURVE FITTING**
- Voltage-current characteristic simulator Patent  
[NASA-CASE-XMS-01554] c 10 N71-10578
- CURVED PANELS**
- Method and apparatus for making curved reflectors Patent  
[NASA-CASE-XLE-08917] c 15 N71-15597
- Radio frequency shielded enclosure Patent  
[NASA-CASE-XMF-09422] c 07 N71-19436
- Roll-up solar array Patent  
[NASA-CASE-NPO-10188] c 03 N71-20273
- Apparatus for making curved reflectors Patent  
[NASA-CASE-XLE-08917-2] c 15 N71-24836
- Variable contour securing system  
[NASA-CASE-MS-C-16270-1] c 37 N78-27423
- CUSHIONS**
- Seat cushion to provide realistic acceleration cues to aircraft simulator pilot  
[NASA-CASE-LAR-12149-2] c 09 N79-31228
- Fire blocking systems for aircraft seat cushions  
[NASA-CASE-ARC-11423-1] c 03 N84-33394
- CUTTERS**
- Aligning and positioning device Patent  
[NASA-CASE-XMS-04178] c 15 N71-22798
- Weld preparation machine Patent  
[NASA-CASE-XKS-07953] c 15 N71-26134
- Microcircuit negative cutter  
[NASA-CASE-XLA-09843] c 15 N72-27485
- Insert facing tool --- manually operated cutting tool for forming studs in honeycomb material  
[NASA-CASE-MFS-21485-1] c 37 N74-25968
- Grinding arrangement for ball nose milling cutters  
[NASA-CASE-LAR-10450-1] c 37 N74-27905
- Ophthalmic liquifaction pump  
[NASA-CASE-LEW-12051-1] c 52 N75-33640
- Coal-shale interface detection  
[NASA-CASE-MFS-23720-3] c 43 N79-25443
- System for slicing silicon wafers  
[NASA-CASE-NPO-14406-1] c 37 N80-29703
- Open ended tubing cutters  
[NASA-CASE-MS-C-18538-1] c 37 N82-26672
- Tubing and cable cutting tool  
[NASA-CASE-LAR-12786-1] c 37 N84-28085
- Cutting head for ultrasonic lithotripsy  
[NASA-CASE-GSC-12944-1] c 52 N86-19885
- CUTTING**
- Ellipsograph for pantograph Patent  
[NASA-CASE-XLA-03102] c 14 N71-21079
- Precision alignment apparatus for cutting a workpiece  
[NASA-CASE-LAR-11658-1] c 37 N77-14478
- Explosively activated egress area  
[NASA-CASE-LAR-12624-1] c 01 N83-35992
- Tubing and cable cutting tool  
[NASA-CASE-LAR-12786-1] c 37 N84-28085
- CYANATES**
- Catalysts for polyimide foams from aromatic isocyanates and aromatic dianhydrides --- flame retardant foams  
[NASA-CASE-ARC-11107-1] c 25 N80-16116
- CYCLES**
- Pneumatic system for controlling and actuating pneumatic cyclic devices  
[NASA-CASE-XMS-04843] c 03 N69-21469
- Feedback shift register with states decomposed into cycles of equal length  
[NASA-CASE-NPO-11082] c 08 N72-22167
- CYCLIC ACCELERATORS**
- Cyclical bi-directional rotary actuator  
[NASA-CASE-GSC-11883-1] c 37 N77-19458
- CYCLIC COMPOUNDS**
- Carboranycyclotriphosphazenes and their polymers --- thermal insulation  
[NASA-CASE-ARC-11176-1] c 27 N82-18389
- Maleimido substituted aromatic cyclotriphosphazenes  
[NASA-CASE-ARC-11428-1] c 23 N86-19376
- Aminophenoxycyclotriphosphazene cured epoxy resins and the composites, laminates, adhesives and structures thereof  
[NASA-CASE-ARC-11548-1] c 27 N87-25469
- Aromatic cyclotriphosphazenes  
[NASA-CASE-ARC-11428-3] c 23 N88-24692
- CYCLIC HYDROCARBONS**
- Intumescent composition, foamed product prepared therewith, and process for making same  
[NASA-CASE-ARC-10304-1] c 18 N73-26572

- Synthesis of 2,4,8,10-tetroxaspiro[5.5]undecane  
[NASA-CASE-ARC-11243-2] c 23 N85-33187
- CYCLIC LOADS**
- Automatic fatigue test temperature programmer Patent  
[NASA-CASE-XLA-02059] c 33 N71-24276
- Low cycle fatigue testing machine  
[NASA-CASE-LAR-10270-1] c 32 N72-25877
- Material fatigue testing system  
[NASA-CASE-MFS-20673] c 14 N73-20476
- Fatigue testing a plurality of test specimens and method  
[NASA-CASE-MFS-28118-1] c 39 N87-25601
- CYCLOTRON RADIATION**
- Targets for producing high purity I-123  
[NASA-CASE-LEW-10518-3] c 25 N78-27226
- CYCLOTRON RESONANCE**
- Miniature cyclotron resonance ion source using small permanent magnet  
[NASA-CASE-NPO-14324-1] c 72 N80-27163
- CYCLOTRON RESONANCE DEVICES**
- Miniature cyclotron resonance ion source using small permanent magnet  
[NASA-CASE-NPO-14324-1] c 72 N80-27163
- Gyrotron transmitting tube  
[NASA-CASE-LEW-13429-1] c 33 N83-31952
- CYLINDRICAL ANTENNAS**
- Variable beamwidth antenna --- with multiple beam, variable feed system  
[NASA-CASE-GSC-11862-1] c 32 N76-18295
- CYLINDRICAL BODIES**
- Apparatus for scanning the surface of a cylindrical body  
[NASA-CASE-NPO-11861-1] c 36 N74-20009
- Aerodynamic side-force alleviator means  
[NASA-CASE-LAR-12326-1] c 02 N81-14968
- Alignment and assembly tool for very large diameter cylinders  
[NASA-CASE-MFS-28001-2] c 37 N88-14360
- Cylindrical surface profile and diameter measuring tool and method  
[NASA-CASE-MFS-28287-1] c 35 N88-23959
- CYLINDRICAL CHAMBERS**
- Modified spiral wound retaining ring  
[NASA-CASE-LAR-12361-1] c 37 N83-19091
- CYLINDRICAL SHELLS**
- Segmented tubular cushion springs and spring assembly  
[NASA-CASE-ARC-11349-1] c 37 N86-20797
- CYSTS**
- Coupling apparatus for ultrasonic medical diagnostic system  
[NASA-CASE-NPO-13935-1] c 52 N79-14751
- CYTOLOGY**
- Spiral vane bioreactor  
[NASA-CASE-MS-C-21361-1] c 51 N89-25557
- CZOCHEWSKI METHOD**
- Electromigration process for the purification of molten silicon during crystal growth  
[NASA-CASE-NPO-14831-1] c 76 N82-30105
- D**
- DAMAGE**
- Method of repairing surface damage to porous refractory substrates --- space shuttle orbiter tiles  
[NASA-CASE-MS-C-18736-1] c 24 N83-13172
- DAMPERS (VALVES)**
- Dual clearance squeeze film damper  
[NASA-CASE-LEW-13506-1] c 37 N85-33490
- DAMPING**
- Dynamic precession damper for spin stabilized vehicles Patent  
[NASA-CASE-XLA-01989] c 21 N70-34295
- Slosh suppressing device and method Patent  
[NASA-CASE-XMF-00658] c 12 N70-38997
- Attitude control and damping system for spacecraft Patent  
[NASA-CASE-XLA-02551] c 21 N71-21708
- Passive caging mechanism Patent  
[NASA-CASE-GSC-10306-1] c 15 N71-24694
- Nutation damper  
[NASA-CASE-GSC-11205-1] c 15 N73-25513
- Parasitic suppressing circuit  
[NASA-CASE-ERC-10403-1] c 10 N73-26228
- Apparatus for disintegrating kidney stones  
[NASA-CASE-GSC-12652-1] c 52 N84-34913
- Arrangement for damping the resonance in a laser diode  
[NASA-CASE-NPO-15980-1] c 36 N85-30305
- Damping seal for turbomachinery  
[NASA-CASE-MFS-25842-2] c 37 N86-20788
- Turbomachinery rotor support with damping  
[NASA-CASE-MFS-28345-1] c 37 N89-28841

**DATA ACQUISITION**

- Analog-to-digital conversion system Patent  
[NASA-CASE-XAC-00404] c 08 N70-40125
- Position location and data collection system and method Patent  
[NASA-CASE-GSC-10083-1] c 30 N71-16090
- Analog signal integration and reconstruction system Patent  
[NASA-CASE-NPO-10344] c 10 N71-26544
- Data transfer system Patent  
[NASA-CASE-NPO-12107] c 08 N71-27255
- Simultaneous acquisition of tracking data from two stations  
[NASA-CASE-NPO-13292-1] c 32 N75-15854
- Contour detector and data acquisition system for the left ventricular outline  
[NASA-CASE-ARC-10985-1] c 52 N79-10724
- Adaptive data acquisition multiplexing system and method  
[NASA-CASE-MS-C-21170-1] c 17 N88-24662

**DATA COLLECTION PLATFORMS**

- Remote platform power conserving system  
[NASA-CASE-GSC-11182-1] c 15 N75-13007

**DATA COMPRESSION**

- Data compression system with a minimum time delay unit Patent  
[NASA-CASE-XNP-08832] c 08 N71-12506
- Data compression processor Patent  
[NASA-CASE-NPO-10068] c 08 N71-19288
- Wide range data compression system Patent  
[NASA-CASE-XGS-02612] c 08 N71-19435
- Method and apparatus for data compression by a decreasing slope threshold test  
[NASA-CASE-NPO-10769] c 08 N72-11171
- Data compression system  
[NASA-CASE-NPO-11243] c 07 N72-20154
- Gated compressor, distortionless signal limiter  
[NASA-CASE-NPO-11820-1] c 32 N74-19788
- Space communication system for compressed data with a concatenated Reed-Solomon-Viterbi coding channel  
[NASA-CASE-NPO-13545-1] c 32 N77-12240
- Sampling video compression system  
[NASA-CASE-ARC-10984-1] c 32 N77-24328

**DATA CONVERTERS**

- Logarithmic converter Patent  
[NASA-CASE-XLA-00471] c 08 N70-34778
- Mechanical coordinate converter Patent  
[NASA-CASE-XNP-00614] c 14 N70-36907
- Analog Signal to Discrete Time Interval Converter (ASDTIC)  
[NASA-CASE-ERC-10048] c 09 N72-25251
- High speed direct binary to binary coded decimal converter and scaler  
[NASA-CASE-KSC-10595] c 08 N73-12176
- Image data rate converter having a drum with a fixed head and a rotatable head  
[NASA-CASE-NPO-11659-1] c 35 N74-11283
- Electronic analog divider  
[NASA-CASE-LEW-11881-1] c 33 N77-17354
- Digital demodulator  
[NASA-CASE-LAR-12659-1] c 33 N82-26570

**DATA CORRELATION**

- Instrument for determining coincidence and elapse time between independent sources of random sequential events  
[NASA-CASE-LAR-12531-1] c 35 N83-29651
- Auto covariance computer  
[NASA-CASE-LAR-12968-1] c 60 N86-21154

**DATA LINKS**

- Multichannel telemetry system  
[NASA-CASE-NPO-11572] c 07 N73-16121
- Automated attendance accounting system  
[NASA-CASE-NPO-11456] c 08 N73-26176
- Multi-computer multiple data path hardware exchange system  
[NASA-CASE-NPO-13422-1] c 60 N76-14818
- Apparatus for simulating optical transmission links  
[NASA-CASE-GSC-11877-1] c 74 N76-18913

**DATA MANAGEMENT**

- Selective data segment monitoring system --- using shift registers  
[NASA-CASE-ARC-10899-1] c 60 N77-19760

**DATA PROCESSING**

- Energy management system for glider type vehicle Patent  
[NASA-CASE-XFR-00756] c 02 N71-13421
- Minimal logic block encoder Patent  
[NASA-CASE-NPO-10595] c 10 N71-25917
- Data transfer system Patent  
[NASA-CASE-NPO-12107] c 08 N71-27255
- Transient augmentation circuit for pulse amplifiers Patent  
[NASA-CASE-XNP-01068] c 10 N71-28739

- Pseudonoise (PN) synchronization of data system with derivation of clock frequency from received signal for clocking receiver PN generator  
[NASA-CASE-XNP-03623] c 09 N73-28084
- Image data rate converter having a drum with a fixed head and a rotatable head  
[NASA-CASE-NPO-11659-1] c 35 N74-11283
- Charge-coupled device data processor for an airborne imaging radar system  
[NASA-CASE-NPO-13587-1] c 32 N77-32342
- Interactive color display for multispectral imagery using correlation clustering  
[NASA-CASE-MS-C-16253-1] c 32 N79-20297
- High-speed multiplexing of keyboard data inputs  
[NASA-CASE-NPO-14554-1] c 60 N81-27814
- Real-time garbage collection for list processing  
[NASA-CASE-MS-C-20964-1] c 60 N87-14863
- Processing circuit with asymmetry corrector and convolutional encoder for digital data  
[NASA-CASE-MS-C-20187-1] c 33 N87-25531
- Laser Doppler velocimeter multiplexer interface for simultaneous measured events  
[NASA-CASE-ARC-11536-1] c 33 N89-14384

**DATA PROCESSING EQUIPMENT**

- Data processor having multiple sections activated at different times by selective power coupling to the sections Patent  
[NASA-CASE-XGS-04767] c 08 N71-12494
- Demodulation system Patent  
[NASA-CASE-XAC-04030] c 10 N71-19472
- Rate augmented digital to analog converter Patent  
[NASA-CASE-XLA-07828] c 08 N71-27057
- Variable digital processor including a register for shifting and rotating bits in either direction Patent  
[NASA-CASE-GSC-10186] c 08 N71-33110
- Flexible computer accessed telemetry  
[NASA-CASE-NPO-11358] c 07 N72-25172
- Versatile arithmetic unit for high speed sequential decoder  
[NASA-CASE-NPO-11371] c 08 N73-12177
- Data processor with conditionally supplied clock signals  
[NASA-CASE-GSC-10975-1] c 08 N73-13187
- Automated attendance accounting system  
[NASA-CASE-NPO-11456] c 08 N73-26176
- Space communication system for compressed data with a concatenated Reed-Solomon-Viterbi coding channel  
[NASA-CASE-NPO-13545-1] c 32 N77-12240
- High-speed multiplexing of keyboard data inputs  
[NASA-CASE-NPO-14554-1] c 60 N81-27814
- Digital interface for bi-directional communication between a computer and a peripheral device  
[NASA-CASE-MS-C-20258-1] c 60 N84-28492
- Neighborhood comparison operator  
[NASA-CASE-NPO-16464-1CU] c 60 N86-24224
- Real time pipelined system for forming the sum of products in the processing of video data  
[NASA-CASE-NPO-16462-1CU] c 60 N88-24169

**DATA PROCESSING TERMINALS**

- Adaptive data acquisition multiplexing system and method  
[NASA-CASE-MS-C-21170-1] c 17 N88-24662

**DATA RECORDERS**

- Data compressor Patent  
[NASA-CASE-XNP-04067] c 08 N71-22707
- Recorder using selective noise filter  
[NASA-CASE-ERC-10112] c 07 N72-21119
- Recorder/processor apparatus --- for optical data processing  
[NASA-CASE-GSC-11553-1] c 35 N74-15831

**DATA RECORDING**

- System for recording and reproducing pulse code modulated data Patent  
[NASA-CASE-XGS-01021] c 08 N71-21042
- Data compressor Patent  
[NASA-CASE-NPO-04067] c 08 N71-22707
- Incremental tape recorder and data rate converter Patent  
[NASA-CASE-XNP-02778] c 08 N71-22710
- Transient video signal recording with expanded playback Patent  
[NASA-CASE-ARC-10003-1] c 09 N71-25866
- On-film optical recording of camera lens settings  
[NASA-CASE-MS-C-12363-1] c 14 N73-26431
- Image data rate converter having a drum with a fixed head and a rotatable head  
[NASA-CASE-NPO-11659-1] c 35 N74-11283
- Holography utilizing surface plasmon resonances  
[NASA-CASE-MFS-22040-1] c 35 N74-26946
- DATA REDUCTION**
- Data compression system  
[NASA-CASE-XNP-09785] c 08 N69-21928
- Method and system for respiration analysis Patent  
[NASA-CASE-XFR-08403] c 05 N71-11202

- Data compression system with a minimum time delay unit Patent  
[NASA-CASE-XNP-08832] c 08 N71-12506
- Data compression processor Patent  
[NASA-CASE-NPO-10068] c 08 N71-19288
- Wide range data compression system Patent  
[NASA-CASE-XGS-02612] c 08 N71-19435
- Data compressor Patent  
[NASA-CASE-XNP-04067] c 08 N71-22707
- Method and apparatus for data compression by a decreasing slope threshold test  
[NASA-CASE-NPO-10769] c 08 N72-11171
- Data compression system  
[NASA-CASE-NPO-11243] c 07 N72-20154
- Digital slope threshold data compressor  
[NASA-CASE-NPO-11630] c 08 N72-33172
- Data volume reduction for imaging radar polarimetry  
[NASA-CASE-NPO-17184-1CU] c 32 N88-26541

**DATA RETRIEVAL**

- Magnetic matrix memory system Patent  
[NASA-CASE-XMF-05835] c 08 N71-12504
- Asynchronous, multiplexing, single line transmission and recovery data system --- for satellite use  
[NASA-CASE-NPO-13321-1] c 32 N75-26195

**DATA SAMPLING**

- Reduced bandwidth video communication system utilizing sampling techniques Patent  
[NASA-CASE-XNP-02791] c 07 N71-23026
- Signal processing apparatus for multiplex transmission Patent  
[NASA-CASE-NPO-10388] c 07 N71-24622
- Television signal processing system Patent  
[NASA-CASE-NPO-10140] c 07 N71-24742
- Method and apparatus for data compression by a decreasing slope threshold test  
[NASA-CASE-NPO-10769] c 08 N72-11171
- Sampling video compression system  
[NASA-CASE-ARC-10984-1] c 32 N77-24328
- CCD correlated quadruple sampling processor  
[NASA-CASE-NPO-14426-1] c 33 N81-27396

**DATA SMOOTHING**

- Variable time constant smoothing circuit Patent  
[NASA-CASE-XGS-01983] c 10 N70-41964
- Smoothing filter for digital to analog conversion  
[NASA-CASE-FRC-11025-1] c 33 N82-24417

**DATA STORAGE**

- Data handling system based on source significance, storage availability and data received from the source Patent Application  
[NASA-CASE-XNP-04162-1] c 08 N70-34675
- Magnetic matrix memory system Patent  
[NASA-CASE-XMF-05835] c 08 N71-12504
- Tape guidance system and apparatus for the provision thereof Patent  
[NASA-CASE-XNP-09453] c 08 N71-19420
- Event recorder Patent  
[NASA-CASE-XLA-01832] c 14 N71-21006
- System for recording and reproducing pulse code modulated data Patent  
[NASA-CASE-XGS-01021] c 08 N71-21042
- Incremental tape recorder and data rate converter Patent  
[NASA-CASE-XNP-02778] c 08 N71-22710
- Multiple hologram recording and readout system Patent  
[NASA-CASE-ERC-10151] c 16 N71-29131
- Dual purpose momentum wheels for spacecraft with magnetic recording  
[NASA-CASE-NPO-11481] c 21 N73-13644
- Data storage, image tube type  
[NASA-CASE-MS-C-14053-1] c 60 N74-12888
- Lightning current waveform measuring system  
[NASA-CASE-KSC-11018-1] c 33 N79-10337

**DATA STRUCTURES**

- Real-time garbage collection for list processing  
[NASA-CASE-MS-C-20964-1] c 60 N87-14863

**DATA SYSTEMS**

- Data handling system based on source significance, storage availability and data received from the source Patent Application  
[NASA-CASE-XNP-04162-1] c 08 N70-34675
- Rate augmented digital to analog converter Patent  
[NASA-CASE-XLA-07828] c 08 N71-27057
- Method and apparatus for decoding compatible convolutional codes  
[NASA-CASE-MS-C-14070-1] c 32 N74-32598

**DATA TRANSFER (COMPUTERS)**

- Data transfer system Patent  
[NASA-CASE-NPO-12107] c 08 N71-27255

**DATA TRANSMISSION**

- Telemetry word forming unit  
[NASA-CASE-XNP-09225] c 09 N69-24333
- Phase-shift data transmission system having a pseudo-noise SYNC code modulated with the data in a single channel Patent  
[NASA-CASE-XNP-00911] c 08 N70-41961



- Data compression system with a minimum time delay unit Patent  
[NASA-CASE-XNP-08832] c 08 N71-12506
- Data compression processor Patent  
[NASA-CASE-NPO-10068] c 08 N71-19288
- Wide range data compression system Patent  
[NASA-CASE-XGS-02612] c 08 N71-19435
- Phase quadrature-plural channel data transmission system Patent  
[NASA-CASE-XAC-06302] c 08 N71-19763
- Reduced bandwidth video communication system utilizing sampling techniques Patent  
[NASA-CASE-XNP-02791] c 07 N71-23026
- Frequency shift keying apparatus Patent  
[NASA-CASE-XGS-01537] c 07 N71-23405
- Decoder system Patent  
[NASA-CASE-NPO-10118] c 07 N71-24741
- Data compression system  
[NASA-CASE-NPO-11243] c 07 N72-20154
- Multichannel telemetry system  
[NASA-CASE-NPO-11572] c 07 N73-16121
- Automated attendance accounting system  
[NASA-CASE-NPO-11456] c 08 N73-26176
- System for generating timing and control signals  
[NASA-CASE-NPO-13125-1] c 33 N75-19519
- Sampling video compression system  
[NASA-CASE-ARC-10984-1] c 32 N77-24328
- Pseudo noise code and data transmission method and apparatus  
[NASA-CASE-GSC-12017-1] c 32 N77-30308
- Multi-channel rotating optical interface for data transmission  
[NASA-CASE-NPO-14066-1] c 74 N79-34011
- System for a displaying at a remote station data generated at a central station and for powering the remote station from the central station  
[NASA-CASE-GSC-12411-1] c 33 N81-14221
- Digital interface for bi-directional communication between a computer and a peripheral device  
[NASA-CASE-MS-C-20258-1] c 60 N84-28492
- Single frequency multitransmitter telemetry  
[NASA-CASE-LAR-13006-1] c 17 N87-16863
- A VLSI single-chip (225,223) Reed-Solomon encoder with interleaver  
[NASA-CASE-NPO-17280-1-CU] c 17 N88-27220
- DAWSONITE**  
Synthesis of dawsonites --- for use in fire extinguishing operations  
[NASA-CASE-ARC-11326-1] c 25 N83-33977
- DEBRIS**  
Counter pumping debris excluder and separator --- gas turbine shaft seals  
[NASA-CASE-LEW-11855-1] c 07 N78-25090
- DECAY RATES**  
Solar sensor having coarse and fine sensing with matched preirradiated cells and method of selecting cells Patent  
[NASA-CASE-XLA-01584] c 14 N71-23269
- DECELERATION**  
Assembly for recovering a capsule Patent  
[NASA-CASE-XMF-00641] c 31 N70-36410
- Discrete local altitude sensing device Patent  
[NASA-CASE-XMS-03792] c 14 N70-41812
- Hot air balloon deceleration and recovery system Patent  
[NASA-CASE-XLA-06824-2] c 02 N71-11037
- Zero gravity apparatus Patent  
[NASA-CASE-XMF-06515] c 14 N71-23227
- DECIMALS**  
High speed direct binary to binary coded decimal converter and scaler  
[NASA-CASE-KSC-10595] c 08 N73-12176
- DECISION MAKING**  
Method and apparatus for decoding compatible convolutional codes  
[NASA-CASE-MS-C-14070-1] c 32 N74-32598
- Method for Viterbi decoding of large constraint length convolutional codes  
[NASA-CASE-NPO-17310-1-CU] c 17 N88-28946
- DECODERS**  
Serial digital decoder Patent  
[NASA-CASE-NPO-10150] c 08 N71-24650
- BCD to decimal decoder Patent  
[NASA-CASE-XKS-06167] c 08 N71-24890
- Encoder/decoder system for a rapidly synchronizable binary code Patent  
[NASA-CASE-NPO-10342] c 10 N71-33407
- Compact-bi-phase pulse coded modulation decoder  
[NASA-CASE-KSC-10834-1] c 33 N76-14371
- Low distortion receiver for bi-level baseband PCM waveforms  
[NASA-CASE-MS-C-14557-1] c 32 N76-16249
- Three phase full wave dc motor decoder  
[NASA-CASE-GSC-11824-1] c 33 N77-26386
- Decommutator patchboard verifier  
[NASA-CASE-KSC-11065-1] c 33 N81-26359
- Reed-Solomon decoder  
[NASA-CASE-NPO-15982-1] c 60 N87-21591
- DECODING**  
Decoder system Patent  
[NASA-CASE-NPO-10118] c 07 N71-24741
- Versatile arithmetic unit for high speed sequential decoder  
[NASA-CASE-NPO-11371] c 08 N73-12177
- Method and apparatus for decoding compatible convolutional codes  
[NASA-CASE-MS-C-14070-1] c 32 N74-32598
- Differential pulse code modulation  
[NASA-CASE-MS-C-12506-1] c 32 N77-12239
- Method for Viterbi decoding of large constraint length convolutional codes  
[NASA-CASE-NPO-17310-1-CU] c 17 N88-28946
- DECOMMUTATORS**  
Decommutator patchboard verifier  
[NASA-CASE-KSC-11065-1] c 33 N81-26359
- Memory-based parallel data output controller  
[NASA-CASE-GSC-12447-2] c 60 N84-28491
- DECONTAMINATION**  
Decontamination of petroleum products Patent  
[NASA-CASE-NPO-03835] c 06 N71-23499
- Helium refrigerator and method for decontaminating the refrigerator  
[NASA-CASE-NPO-10634] c 23 N72-25619
- Plasma cleaning device --- designed for high vacuum environments  
[NASA-CASE-MFS-22906-1] c 75 N78-27913
- DEEP SPACE NETWORK**  
Low phase noise digital frequency divider  
[NASA-CASE-NPO-11569] c 10 N73-26229
- DEFECTS**  
Hybrid holographic non-destructive test system  
[NASA-CASE-MFS-23114-1] c 38 N78-32447
- DEFLECTION**  
Bipropellant injector  
[NASA-CASE-XNP-09461] c 28 N72-23809
- Noncontacting method for measuring angular deflection  
[NASA-CASE-LAR-12178-1] c 74 N80-21138
- DEFLECTORS**  
Inlet deflector for jet engines Patent  
[NASA-CASE-XLE-00388] c 28 N70-34788
- Aircraft wheel spray drag alleviator Patent  
[NASA-CASE-XLA-01583] c 02 N70-36825
- Ion beam deflector Patent  
[NASA-CASE-LEW-10689-1] c 28 N71-26173
- Exhaust flow deflector --- for ducted gas flow  
[NASA-CASE-LAR-11570-1] c 34 N76-18364
- Safety shield for vacuum/pressure chamber viewing port  
[NASA-CASE-GSC-12513-1] c 31 N81-19343
- DEFOCUSING**  
Retrodirective modulator Patent  
[NASA-CASE-GSC-10062] c 14 N71-15605
- DEFORMATION**  
Arbitrarily shaped model survey system Patent  
[NASA-CASE-LAR-10098] c 32 N71-26681
- Low cycle fatigue testing machine  
[NASA-CASE-LAR-10270-1] c 32 N72-25877
- Deformable bearing seat  
[NASA-CASE-LEW-12527-1] c 37 N77-32500
- DEGASSING**  
Degassing and mixing apparatus for liquids --- potable water for spacecraft  
[NASA-CASE-MS-C-18936-1] c 35 N83-29652
- DEGREES OF FREEDOM**  
Training vehicle for controlling attitude Patent  
[NASA-CASE-XMS-02977] c 11 N71-10746
- Dynamic vibration absorber Patent  
[NASA-CASE-LAR-10083-1] c 15 N71-27006
- Kinesthetic control simulator --- for pilot training  
[NASA-CASE-LAR-10276-1] c 09 N75-15662
- DEHUMIDIFICATION**  
Condenser - Separator  
[NASA-CASE-XLA-08645] c 15 N69-21465
- DEHYDRATED FOOD**  
Modification of the physical properties of freeze-dried rice  
[NASA-CASE-MS-C-13540-1] c 05 N72-33096
- DEHYDRATION**  
Process for developing crystallinity in linear aromatic polyimides  
[NASA-CASE-LAR-13732-1] c 27 N87-25474
- DEICERS**  
Piezoelectric deicing device  
[NASA-CASE-LEW-13773-2] c 33 N86-20671
- Electro-expulsive separation system  
[NASA-CASE-ARC-11613-1] c 33 N87-28833
- DELAMINATING**  
Method of inseting predesigned disbond areas into composite laminates  
[NASA-CASE-LAR-13225-1] c 24 N89-14258
- Delamination test apparatus and method  
[NASA-CASE-LAR-13985-1] c 24 N89-28586
- DELAY CIRCUITS**  
Pulsed differential comparator circuit Patent  
[NASA-CASE-XLE-03804] c 10 N71-19471
- Control apparatus for applying pulses of selectively predetermined duration to a sequence of loads Patent  
[NASA-CASE-XGS-04224] c 10 N71-26418
- Telemetry synchronizer  
[NASA-CASE-GSC-11868-1] c 17 N76-22245
- Swept group delay measurement  
[NASA-CASE-NPO-13909-1] c 33 N78-25319
- Pseudonoise code tracking loop  
[NASA-CASE-MS-C-18035-1] c 32 N81-15179
- DELAY LINES**  
A solid state acoustic variable time delay line Patent  
[NASA-CASE-ERC-10032] c 10 N71-25900
- DELTA MODULATION**  
Multifunction audio digitizer --- producing direct delta and pulse code modulation  
[NASA-CASE-MS-C-13855-1] c 35 N74-17885
- DELTA WINGS**  
Variable-geometry winged reentry vehicle Patent  
[NASA-CASE-XLA-00241] c 31 N70-37986
- DEMAGNETIZATION**  
Tumbler system to provide random motion  
[NASA-CASE-XGS-02437] c 15 N69-21472
- DEMODULATION**  
Phase quadrature-plural channel data transmission system Patent  
[NASA-CASE-XAC-06302] c 08 N71-19763
- Facsimile video remodulation network  
[NASA-CASE-GSC-10185-1] c 07 N72-12081
- Quadrature demodulation  
[NASA-CASE-GSC-12137-1] c 33 N78-32338
- Navigation system and method  
[NASA-CASE-GSC-12508-1] c 04 N84-22546
- Digital carrier demodulator employing components working beyond normal limits  
[NASA-CASE-NPO-17628-1-CU] c 32 N89-28684
- DEMODULATORS**  
Telemetry word forming unit  
[NASA-CASE-XNP-09225] c 09 N69-24333
- Frequency shift keyed demodulator Patent  
[NASA-CASE-XGS-02889] c 07 N71-11282
- Bi-carrier demodulator with modulation Patent  
[NASA-CASE-XMF-01160] c 07 N71-11298
- Demodulation system Patent  
[NASA-CASE-XAC-04030] c 10 N71-19472
- Laser calibrator Patent  
[NASA-CASE-XLA-03410] c 16 N71-25914
- Frequency modulation demodulator threshold extension device Patent  
[NASA-CASE-MS-C-12165-1] c 07 N71-33696
- Full wave modulator-demodulator amplifier apparatus --- for generating rectified output signal  
[NASA-CASE-FRC-10072-1] c 33 N74-14939
- Unbalanced quadrature demodulator  
[NASA-CASE-MS-C-14840-1] c 32 N77-24331
- Digital demodulator-correlator  
[NASA-CASE-NPO-13982-1] c 32 N79-14267
- Self-calibrating threshold detector  
[NASA-CASE-MS-C-16370-1] c 35 N81-19427
- Digital demodulator  
[NASA-CASE-LAR-12659-1] c 33 N82-26570
- DENDRITIC CRYSTALS**  
Method of increasing minority carrier lifetime in silicon web or the like  
[NASA-CASE-NPO-15530-1] c 76 N83-35888
- DENSIFICATION**  
Densification of porous refractory substrates --- space shuttle orbiter tiles  
[NASA-CASE-MS-C-18737-1] c 24 N83-13171
- DENSITOMETERS**  
Apparatus having coaxial capacitor structure for measuring fluid density Patent  
[NASA-CASE-XLE-00143] c 14 N70-36618
- Densitometer Patent  
[NASA-CASE-XLE-00688] c 14 N70-41330
- Ultrasonic bone densitometer  
[NASA-CASE-MFS-20994-1] c 35 N75-12271
- DENSITY (MASS/VOLUME)**  
Non-toxic invert analog glass compositions of high modulus  
[NASA-CASE-HQN-10328-2] c 27 N82-29454
- Method and apparatus for minimizing convection during crystal growth from solution  
[NASA-CASE-NPO-15811-1] c 76 N84-12968
- DENSITY DISTRIBUTION**  
Apparatus for increasing ion engine beam density Patent  
[NASA-CASE-XLE-00519] c 28 N70-41576
- Method and apparatus for compensating reflection losses in a path length modulated absorption-absorption trace gas detector --- for determining density of gas  
[NASA-CASE-ARC-10631-1] c 74 N76-20958

**DENSITY MEASUREMENT**

- Apparatus having coaxial capacitor structure for measuring fluid density Patent  
[NASA-CASE-XLE-00143] c 14 N70-36618
- Densitometer Patent  
[NASA-CASE-XLE-00688] c 14 N70-41330
- Determining particle density using known material Hugeniot curves  
[NASA-CASE-LAR-11059-1] c 76 N75-12810
- Selective image area control of X-ray film exposure density  
[NASA-CASE-NPO-13808-1] c 35 N78-15461
- Geodetic distance measuring apparatus  
[NASA-CASE-GSC-12609-2] c 36 N83-29681
- Device for determining frost depth and density  
[NASA-CASE-MFS-25754-1] c 35 N84-28018

**DENTISTRY**

- Process for the preparation of brushite crystals  
[NASA-CASE-ERC-10338] c 04 N72-33072
- Acoustic tooth cleaner  
[NASA-CASE-LAR-12471-1] c 52 N82-29862

**DEOXYGENATION**

- Electrocatalyst for oxygen reduction  
[NASA-CASE-HQN-10537-1] c 06 N72-10138

**DEPLOYMENT**

- Minimech self-deploying boom mechanism  
[NASA-CASE-GSC-10566-1] c 15 N72-18477
- Deployable solar cell array  
[NASA-CASE-NPO-10883] c 31 N72-22874
- Antenna deployment mechanism for use with a spacecraft --- extensible and retractable telescopic antenna mast  
[NASA-CASE-GSC-12331-1] c 18 N80-14183
- High acceleration cable deployment system  
[NASA-CASE-ARC-11256-1] c 15 N82-24272
- Sequentially deployable maneuverable tetrahedral beam  
[NASA-CASE-LAR-13098-1] c 31 N86-19479
- Joint for deployable structures  
[NASA-CASE-NPO-16038-1] c 37 N86-19605
- Latching mechanism for deployable/re-stowable columns useful in satellite construction  
[NASA-CASE-LAR-13169-1] c 37 N86-25791
- Payload deployment method and system  
[NASA-CASE-MSC-21330-1] c 16 N88-24660

**DEPOSITION**

- Means and methods of depositing thin films on substrates Patent  
[NASA-CASE-XNP-00595] c 15 N70-34967
- Monitoring deposition of films  
[NASA-CASE-MFS-20675] c 26 N73-26751
- Production of pure metals  
[NASA-CASE-LEW-10906-1] c 25 N74-30502
- Diamondlike flake composites  
[NASA-CASE-LEW-13837-1] c 24 N84-22695
- Deposition of diamondlike carbon films  
[NASA-CASE-LEW-14080-1] c 31 N85-20153
- Liquid crystal light valve structures  
[NASA-CASE-MSC-20036-1] c 76 N85-33826
- Method of coating a substrate with a rapidly solidified metal  
[NASA-CASE-GSC-12880-1] c 26 N86-32550

**DEPOSITS**

- Apparatus and method to keep the walls of a free-space reactor free from deposits of solid materials  
[NASA-CASE-NPO-15851-1] c 37 N85-21652

**DEPTH**

- Television monitor field shifter and an opto-electronic method for obtaining a stereo image of optimal depth resolution and reduced depth distortion on a single screen  
[NASA-CASE-NPO-17249-1-CU] c 32 N89-28676

**DEPTH MEASUREMENT**

- Device for determining frost depth and density  
[NASA-CASE-MFS-25754-1] c 35 N84-28018
- Mining volume measurement system  
[NASA-CASE-LAR-13519-1] c 35 N88-23963
- Ultrasonic depth gauge for liquids under high pressure  
[NASA-CASE-LAR-13300-1-CU] c 35 N89-14407

**DESCENT**

- Emergency descent device  
[NASA-CASE-MFS-23074-1] c 54 N77-21844

**DESIGN ANALYSIS**

- Airfoil shape for flight at subsonic speeds --- design analysis and aerodynamic characteristics of the GAW-1 airfoil  
[NASA-CASE-LAR-10585-1] c 02 N76-22154
- Snap-in compressible biomedical electrode  
[NASA-CASE-MSC-14623-1] c 52 N77-28717

**DESTRUCTIVE TESTS**

- Aeroelastic instability stoppers for wind tunnel models  
[NASA-CASE-LAR-12458-1] c 44 N83-21503

**DESULFURIZING**

- Coal desulfurization process  
[NASA-CASE-NPO-13937-1] c 44 N78-31527

**Continuous coal processing method**

- [NASA-CASE-NPO-13758-2] c 31 N81-15154
- Coal desulfurization --- using iron pentacarbonyl  
[NASA-CASE-NPO-14272-1] c 25 N81-33246
- Crude oil desulfurization  
[NASA-CASE-NPO-14542-1] c 25 N82-23282
- Coal desulfurization by aqueous chlorination  
[NASA-CASE-NPO-14902-1] c 25 N82-29371
- Hydrodesulfurization of chlorinated coal  
[NASA-CASE-NPO-15304-1] c 25 N83-31743
- Fluidized bed desulfurization  
[NASA-CASE-NPO-15924-1] c 25 N85-35253

**DETECTION**

- Heated element fluid flow sensor Patent  
[NASA-CASE-MSC-12084-1] c 12 N71-17569
- Leak detector Patent  
[NASA-CASE-LAR-10323-1] c 12 N71-17573
- Metallic intrusion detector system  
[NASA-CASE-ARC-10265-1] c 10 N72-28240
- Cosmic dust or other similar outer space particles impact location detector  
[NASA-CASE-GSC-11291-1] c 25 N72-33696
- Bacteria detection instrument and method  
[NASA-CASE-GSC-11533-1] c 14 N73-13435
- Short range laser obstacle detector --- for surface vehicles using laser diode array  
[NASA-CASE-NPO-11856-1] c 36 N74-15145
- Vacuum leak detector  
[NASA-CASE-LAR-11237-1] c 35 N75-19612
- Photoelectric detection system --- manufacturing automation  
[NASA-CASE-MFS-23776-1] c 33 N82-28545
- Apparatus and process for microbial detection and enumeration  
[NASA-CASE-LAR-12709-1] c 35 N82-28604
- Focal plane array optical proximity sensor  
[NASA-CASE-NPO-15155-1] c 74 N85-22139
- Dual differential interferometer  
[NASA-CASE-LAR-12966-1] c 35 N85-30282
- Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NAS 1.71:NPO-15494-2] c 35 N85-34373
- Modulated voltage metastable ionization detector  
[NASA-CASE-ARC-11503-1] c 35 N85-34374
- Spillage detector for liquid chromatography systems  
[NASA-CASE-MSC-20206-1] c 25 N86-27431
- Dynamic range compression/expansion of light beams by photorefractive crystals  
[NASA-CASE-NPO-17140-1-CU] c 74 N89-14077

**DETECTORS**

- Pressurized cell micrometeoroid detector Patent  
[NASA-CASE-XLA-00936] c 14 N71-14996
- Detector panels-micrometeoroid impact Patent  
[NASA-CASE-XLA-05906] c 31 N71-16221
- Pulse activated polarographic hydrogen detector Patent  
[NASA-CASE-XMF-06531] c 14 N71-17575
- Light position locating system Patent  
[NASA-CASE-XNP-01059] c 23 N71-21821
- Method for detecting leaks in hermetically sealed containers Patent  
[NASA-CASE-ERC-10045] c 15 N71-24910
- Precipitation detector Patent  
[NASA-CASE-XLA-02619] c 10 N71-26334
- Hydrogen fire blink detector  
[NASA-CASE-MFS-15063] c 14 N72-25412
- Combustion detector  
[NASA-CASE-LAR-10739-1] c 14 N73-16484
- Multiple pass reimaging optical system  
[NASA-CASE-ARC-10194-1] c 23 N73-20741
- Meteoroid detector  
[NASA-CASE-LAR-10483-1] c 14 N73-32327
- Deployable pressurized cell structure for a micrometeoroid detector  
[NASA-CASE-LAR-10295-1] c 35 N74-21062
- Modulated hydrogen ion flame detector  
[NASA-CASE-ARC-10322-1] c 35 N76-18403
- Coal-rock interface detector  
[NASA-CASE-MFS-23725-1] c 43 N79-31706
- Means and method for calibrating a photon detector utilizing electron-photon coincidence  
[NASA-CASE-NPO-15644-1] c 35 N84-33767

**DETERGENTS**

- Anti-fog composition --- for prevention of fogging on surfaces such as space helmet visors and windshields  
[NASA-CASE-MSC-13530-2] c 23 N75-14834
- Self-contained, single-use hose and tubing cleaning module  
[NASA-CASE-MSC-20857-1] c 37 N87-17035

**DETONATION**

- Optically detonated explosive device  
[NASA-CASE-NPO-11743-1] c 28 N74-27425
- Timing control system  
[NASA-CASE-NPO-16882-1-CU] c 33 N88-24863

**DETONATION WAVES**

- Continuous detonation reaction engine Patent  
[NASA-CASE-XMF-06926] c 28 N71-22983

**DEUTERIUM**

- Analysis of hydrogen-deuterium mixtures  
[NASA-CASE-NPO-11322] c 06 N72-25146
- Deuterium pass through target --- neutron emitting target  
[NASA-CASE-LEW-11866-1] c 72 N76-15860

**DEW POINT**

- Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NAS 1.71:NPO-15494-2] c 35 N85-34373

**DIAGNOSIS**

- Coupling apparatus for ultrasonic medical diagnostic system  
[NASA-CASE-NPO-13935-1] c 52 N79-14751
- Medical diagnosis system and method with multispectral imaging --- depth of burns and optical density of the skin  
[NASA-CASE-NPO-14402-1] c 52 N81-27783

**DIAGRAMS**

- Phototransistor  
[NASA-CASE-MFS-20407] c 09 N73-19235

**DIALYSIS**

- Dialysis system --- using ion exchange resin membranes permeable to urea molecules  
[NASA-CASE-NPO-14101-1] c 52 N80-14687

**DIAMETERS**

- Cylindrical surface profile and diameter measuring tool and method  
[NASA-CASE-MFS-28287-1] c 35 N88-23959

**DIAMINES**

- Elastomeric silazane polymers and process for preparing the same Patent  
[NASA-CASE-XMF-04133] c 06 N71-20717
- Aromatic diamine-aromatic dialdehyde high molecular weight Schiff base polymers prepared in a monofunctional Schiff base Patent  
[NASA-CASE-XMF-03074] c 06 N71-24740
- Siloxane containing epoxide compounds  
[NASA-CASE-MFS-13994-2] c 06 N72-25148
- Preparation of polyimides from mixtures of monomeric diamines and esters of polycarboxylic acids  
[NASA-CASE-LEW-11325-1] c 06 N73-27980
- Mixed diamines for lower melting addition polyimide preparation and utilization  
[NASA-CASE-LAR-12054-1] c 27 N79-33316
- Method for preparing addition type polyimide prepreps  
[NASA-CASE-LAR-12054-2] c 27 N81-14078
- Amine terminated bisaspartimide polymer  
[NASA-CASE-ARC-11421-2] c 27 N86-31726
- Process for preparing highly optically transparent/colorless aromatic polyimide film  
[NASA-CASE-LAR-13351-1] c 27 N86-31727
- Polyenamines from aromatic diacetylenic diketones and diamines  
[NASA-CASE-LAR-13444-1-CU] c 27 N87-22847
- Fire and heat resistant laminating resins based on maleimido and citraconimido substituted 1-(diorgano oxyphosphonyl) methyl -2,4- and -2,6- diaminobenzenes  
[NASA-CASE-ARC-11533-3] c 27 N87-24564
- Polyenamines from aromatic diacetylenic diketones and diamines  
[NASA-CASE-LAR-13444-2-CU] c 23 N89-12667

**DIAMONDS**

- Apparatus for making diamonds  
[NASA-CASE-MFS-20698] c 15 N72-20446
- Process for making diamonds  
[NASA-CASE-MFS-20698-2] c 15 N73-19457
- Diamondlike flakes  
[NASA-CASE-LEW-13837-2] c 24 N85-21267

**DIAPHRAGMS (MECHANICS)**

- Measuring device Patent  
[NASA-CASE-XMS-01546] c 14 N70-40233
- Reinforcing means for diaphragms Patent  
[NASA-CASE-XNP-01962] c 32 N70-41370
- Self-sealing, unbonded, rocket motor nozzle closure Patent  
[NASA-CASE-XLA-02651] c 28 N70-41967
- Means for controlling rupture of shock tube diaphragms Patent  
[NASA-CASE-XAC-00731] c 11 N71-15960
- Fast opening diaphragm Patent  
[NASA-CASE-XLA-03660] c 15 N71-21060
- Inertia diaphragm pressure transducer Patent  
[NASA-CASE-XAC-02981] c 14 N71-21072
- Convoluting device for forming convolutions and the like Patent  
[NASA-CASE-XNP-05297] c 15 N71-23811
- Differential pressure control  
[NASA-CASE-MFS-14216] c 14 N73-13418
- Fluid flow meter for measuring the rate of fluid flow in a conduit  
[NASA-CASE-MFS-28030-1] c 35 N86-25752
- Method of making a flexible diaphragm  
[NASA-CASE-MSC-20797-1] c 37 N87-23981



## DIATOMIC GASES

Diatomic infrared gasdynamic laser --- for producing different wavelengths  
[NASA-CASE-ARC-10370-1] c 36 N75-31426

## DICHROISM

Dichroic plate --- as bandpass filters  
[NASA-CASE-NPO-13506-1] c 35 N76-15435  
Microwave dichroic plate  
[NASA-CASE-GSC-12171-1] c 33 N79-28416

## DICKE RADIOMETERS

Distributed-switch Dicke radiometers  
[NASA-CASE-GSC-12219-1] c 35 N80-18359

## DIDYMIUM

Didymium hydrate additive to nickel hydroxide electrodes Patent  
[NASA-CASE-XGS-03505] c 03 N71-10608

## DIELECTRIC PROPERTIES

Capacitive tank gaging apparatus being independent of liquid distribution  
[NASA-CASE-MFS-21629] c 14 N72-22442  
Fine particulate capture device  
[NASA-CASE-LEW-11583-1] c 35 N79-17192  
Low noise cryogenic dielectric resonator oscillator  
[NASA-CASE-NPO-17157-1-CU] c 33 N88-26596

## DIELECTRICS

Method for producing a solar cell having an integral protective covering  
[NASA-CASE-XGS-04531] c 03 N69-24267  
Temperature sensitive capacitor device  
[NASA-CASE-XNP-09750] c 14 N69-39937  
Space vehicle electrical system Patent  
[NASA-CASE-XMF-00517] c 03 N70-34157  
Nose cone mounted heat resistant antenna Patent  
[NASA-CASE-XMS-04312] c 07 N71-22984  
Broadband microwave waveguide window Patent  
[NASA-CASE-XNP-08880] c 09 N71-24808  
Laser machining apparatus Patent  
[NASA-CASE-HQN-10541-2] c 15 N71-27135  
Quasi-optical microwave component Patent  
[NASA-CASE-ERC-10011] c 07 N71-29065  
Method of manufacturing semiconductor devices using refractory dielectrics  
[NASA-CASE-XER-08476-1] c 26 N72-17820  
Screened circuit capacitors  
[NASA-CASE-LAR-10294-1] c 26 N72-28762  
Low loss dichroic plate  
[NASA-CASE-NPO-13171-1] c 32 N74-11000  
Electrostatic measurement system --- for contact-electrifying a dielectric  
[NASA-CASE-MFS-22129-1] c 33 N75-18477  
Method and apparatus for measurement of trap density and energy distribution in dielectric films  
[NASA-CASE-NPO-13443-1] c 76 N76-20994  
Preparation of dielectric coating of variable dielectric constant by plasma polymerization  
[NASA-CASE-ARC-10892-2] c 27 N79-14214  
Dielectric-loaded waveguide circulator for cryogenically cooled and cascaded maser waveguide structures  
[NASA-CASE-NPO-14254-1] c 36 N80-18372  
Method and apparatus for making an optical element having a dielectric film  
[NASA-CASE-ARC-11611-1] c 74 N87-28416  
Method of forming a multiple layer dielectric and a hot film sensor therewith  
[NASA-CASE-LAR-13678-1] c 76 N88-25355

## DIELS-ALDER REACTIONS

Chemical approach for controlling nadimide cure temperature and rate  
[NASA-CASE-LEW-13770-6] c 25 N85-30039  
Process for crosslinking and extending conjugated diene-containing polymers  
[NASA-CASE-LAR-13452-1] c 27 N87-22848

## DIENES

Process for crosslinking and extending conjugated diene-containing polymers  
[NASA-CASE-LAR-13452-1] c 27 N87-22848

## DIES

Convoluting device for forming convolutions and the like Patent  
[NASA-CASE-XNP-05297] c 15 N71-23811  
Extrusion die for refractory metals Patent  
[NASA-CASE-XLE-06773] c 15 N71-23817  
Holding fixture for a hot stamping press  
[NASA-CASE-GSC-12619-1] c 37 N84-12491  
Ultrasonic angle beam standard reflector --- ultrasonic nondestructive inspection  
[NASA-CASE-LAR-13153-1] c 71 N86-21276  
Pultrusion die assembly  
[NASA-CASE-LAR-13719-1] c 37 N89-12867

## DIESEL ENGINES

Apparatus and method for destructive removal of particles contained in flowing fluid  
[NASA-CASE-NPO-15426-1] c 35 N84-17555  
Diesel engine catalytic combustor system --- aircraft engines  
[NASA-CASE-LEW-12995-1] c 37 N84-33808

## DIETS

Reduction of blood serum cholesterol  
[NASA-CASE-NPO-12119-1] c 52 N75-15270

## DIFFERENCES

Retinally stabilized differential resolution television display  
[NASA-CASE-NPO-15432-1] c 32 N85-29117

## DIFFERENTIAL AMPLIFIERS

Temperature compensated solid state differential amplifier Patent  
[NASA-CASE-XAC-00435] c 09 N70-35440  
Stepping motor control circuit Patent  
[NASA-CASE-GSC-10366-1] c 10 N71-18772  
Multi-channel temperature measurement amplification system --- solar heating systems  
[NASA-CASE-MFS-23775-1] c 44 N82-16474  
Amplifier for measuring low-level signals in the presence of high common mode voltage  
[NASA-CASE-MFS-25868-1] c 33 N86-20670

## DIFFERENTIAL INTERFEROMETRY

Gravimeter Patent  
[NASA-CASE-XMF-05844] c 14 N71-17587

## DIFFERENTIAL PRESSURE

Relief valve  
[NASA-CASE-XMS-05894-1] c 15 N69-21924  
Apparatus for ejection of an instrument cover  
[NASA-CASE-XMF-04132] c 15 N69-27502  
Differential sound level meter  
[NASA-CASE-LAR-12106-1] c 71 N78-14867  
Differential optoacoustic absorption detector  
[NASA-CASE-NPO-13759-1] c 74 N78-17867  
System for use in conducting wake investigation for a wing in flight --- differential pressure measurements for drag investigations  
[NASA-CASE-FRC-11024-1] c 02 N80-28300

## DIFFERENTIATORS

Window comparator  
[NASA-CASE-FRC-10090-1] c 33 N78-18308

## DIFFRACTION

Optical mirror apparatus Patent  
[NASA-CASE-ERC-10001] c 23 N71-24868

## DIFFRACTION PATTERNS

Fringe counter for interferometers Patent  
[NASA-CASE-LAR-10204] c 14 N71-27215

## DIFFRACTOMETERS

Dual purpose optical instrument capable of simultaneously acting as spectrometer and diffractometer  
[NASA-CASE-XNP-05231] c 14 N73-28491

## DIFFUSE RADIATION

Transmitting and reflecting diffuser --- using ultraviolet grade fused silica coatings  
[NASA-CASE-LAR-10385-3] c 74 N78-15879

## DIFFUSERS

Application of semiconductor diffusants to solar cells by screen printing  
[NASA-CASE-LEW-12775-1] c 44 N79-11468  
Diffuser/ejector system for a very high vacuum environment  
[NASA-CASE-MFS-25791-1] c 09 N84-27749

## DIFFUSION

A method for selective gold diffusion of monolithic silicon devices and/or circuits Patent application  
[NASA-CASE-ERC-10072] c 09 N70-11148  
Metallic film diffusion for boundary lubrication Patent  
[NASA-CASE-XLE-10337] c 15 N71-24046  
Transmitting and reflecting diffuser --- for ultraviolet light  
[NASA-CASE-LAR-10385-2] c 70 N74-13436

## DIFFUSION PUMPS

Trap for preventing diffusion pump backstreaming  
[NASA-CASE-GSC-10518-1] c 15 N72-22489  
Programmable physiological infusion  
[NASA-CASE-ARC-10447-1] c 52 N74-22771

## DIFFUSION WELDING

Thermal compression bonding of interconnectors  
[NASA-CASE-GSC-10303] c 15 N72-22487  
Bonding of reinforced Teflon to metals  
[NASA-CASE-MFS-20482] c 15 N72-22492  
Enhanced diffusion welding  
[NASA-CASE-LEW-11388-1] c 15 N73-32358  
Method of fluxless brazing and diffusion bonding of aluminum containing components  
[NASA-CASE-MSC-14435-1] c 37 N76-18455  
Superplastically formed diffusion bonded metallic structure  
[NASA-CASE-FRC-11026-1] c 24 N82-24296

## DIFFUSIVITY

Diffusely reflecting paints including polytetrafluoroethylene and method of manufacture  
[NASA-CASE-GSC-12883-1] c 27 N85-29044

## DIGITAL COMMAND SYSTEMS

Digitally controlled frequency synthesizer Patent  
[NASA-CASE-XGS-02317] c 09 N71-23525

System for maintaining a motor at a predetermined speed utilizing digital feedback means Patent  
[NASA-CASE-XMF-06892] c 09 N71-24805  
Digital filter for reducing sampling jitter in digital control systems Patent  
[NASA-CASE-NPO-11088] c 08 N71-29034

## DIGITAL COMPUTERS

Disk pack cleaning table Patent Application  
[NASA-CASE-LAR-10590-1] c 15 N70-26819  
Binary number sorter Patent  
[NASA-CASE-NPO-10112] c 08 N71-12502  
Binary sequence detector Patent  
[NASA-CASE-XNP-05415] c 08 N71-12505  
Electronic checkout system for space vehicles Patent  
[NASA-CASE-XKS-08012-2] c 31 N71-15566  
Error correcting method and apparatus Patent  
[NASA-CASE-XNP-02748] c 08 N71-22749  
Serial digital decoder Patent  
[NASA-CASE-NPO-10150] c 08 N71-24650  
Digital memory sense amplifying means Patent  
[NASA-CASE-XNP-01012] c 08 N71-28925  
Redundant memory organization Patent  
[NASA-CASE-GSC-10564] c 10 N71-29135  
High speed direct binary to binary coded decimal converter and scaler  
[NASA-CASE-KSC-10595] c 08 N73-12176  
Fault tolerant clock apparatus utilizing a controlled minority of clock elements  
[NASA-CASE-MSC-12531-1] c 35 N75-30504  
Two-dimensional radiant energy array computers and computing devices  
[NASA-CASE-GSC-11839-1] c 60 N77-14751  
Memory device for two-dimensional radiant energy array computers  
[NASA-CASE-GSC-11839-2] c 60 N78-10709  
Environmental fog/rain visual display system for aircraft simulators  
[NASA-CASE-ARC-11158-1] c 09 N82-24212  
Multicomputer communication system  
[NASA-CASE-NPO-15433-1] c 32 N85-21428  
Method and apparatus for transfer function simulator for testing complex systems  
[NASA-CASE-NPO-15696-1] c 33 N85-34333

## DIGITAL DATA

Phase-shift data transmission system having a pseudo-noise SYNC code modulated with the data in a single channel Patent  
[NASA-CASE-XNP-00911] c 08 N70-41961  
Tape guidance system and apparatus for the provision thereof Patent  
[NASA-CASE-XNP-09453] c 08 N71-1942C  
Digital telemetry system Patent  
[NASA-CASE-XGS-01812] c 07 N71-23001  
Transient augmentation circuit for pulse amplifiers Patent  
[NASA-CASE-XNP-01068] c 10 N71-28739  
Transition tracking bit synchronization system  
[NASA-CASE-NPO-10844] c 07 N72-20140  
Digital control and information system  
[NASA-CASE-NPO-11016] c 08 N72-31226  
Digital plus analog output encoder  
[NASA-CASE-GSC-12115-1] c 62 N76-31946  
Digital data reformatter/deserializer  
[NASA-CASE-NPO-13676-1] c 60 N79-20751  
Heads up display  
[NASA-CASE-LAR-12630-1] c 06 N84-27733  
Memory-based parallel data output controller  
[NASA-CASE-GSC-12447-2] c 60 N84-28491

## DIGITAL FILTERS

Signal detection and tracking apparatus Patent  
[NASA-CASE-XGS-03502] c 10 N71-20852  
Digital filter for reducing sampling jitter in digital control systems Patent  
[NASA-CASE-NPO-11088] c 08 N71-29034  
Counting digital filters  
[NASA-CASE-NPO-11821-1] c 08 N73-26175  
Filtering device --- removing electromagnetic noise from voice communication signals  
[NASA-CASE-MFS-22729-1] c 32 N76-21366  
Frequency domain laser velocimeter signal processor  
[NASA-CASE-LAR-13552-1-CU] c 33 N89-14385  
Digital carrier demodulator employing components working beyond normal limits  
[NASA-CASE-NPO-17628-1-CU] c 32 N89-28684

## DIGITAL INTEGRATORS

Digital automatic gain amplifier  
[NASA-CASE-KSC-11008-1] c 33 N79-22373

## DIGITAL RADAR SYSTEMS

Real-time multiple-look synthetic aperture radar processor for spacecraft applications  
[NASA-CASE-NPO-14054-1] c 32 N82-12297

## DIGITAL SPACECRAFT TELEVISION

Digital television camera control system Patent  
[NASA-CASE-XNP-01472] c 14 N70-41807

## DIGITAL SYSTEMS

- Light sensitive digital aspect sensor Patent  
[NASA-CASE-XGS-00359] c 14 N70-34158
- Full binary adder Patent  
[NASA-CASE-XGS-00689] c 08 N70-34787
- Digital telemetry system Patent  
[NASA-CASE-XGS-01812] c 07 N71-23001
- Drive circuit utilizing two cores Patent  
[NASA-CASE-XNP-01318] c 10 N71-23033
- Noninterruptable digital counting system Patent  
[NASA-CASE-XNP-09759] c 08 N71-24891
- Digital memory in which the driving of each word location is controlled by a switch core Patent  
[NASA-CASE-XNP-01466] c 10 N71-26434
- Digital quasi-exponential function generator  
[NASA-CASE-NPO-11130] c 08 N72-20176
- Digital function generator  
[NASA-CASE-NPO-11104] c 08 N72-22165
- Digital video display system using cathode ray tube  
[NASA-CASE-NPO-11342] c 09 N72-25248
- Digital slope threshold data compressor  
[NASA-CASE-NPO-11630] c 08 N72-33172
- Data processor with conditionally supplied clock signals  
[NASA-CASE-GSC-10975-1] c 08 N73-13187
- Low phase noise digital frequency divider  
[NASA-CASE-NPO-11569] c 10 N73-26229
- Pseudonoise (PN) synchronization of data system with derivation of clock frequency from received signal for clocking receiver PN generator  
[NASA-CASE-XNP-03623] c 09 N73-28084
- Digital second-order phase-locked loop  
[NASA-CASE-NPO-11905-1] c 33 N74-12887
- Digital controller for a Baum folding machine --- providing automatic counting and machine shutoff  
[NASA-CASE-LAR-10688-1] c 37 N74-21056
- Digital transmitter for data bus communications system  
[NASA-CASE-MSC-14558-1] c 32 N75-21486
- Automatic character skew and spacing checking network --- of digital tape drive systems  
[NASA-CASE-GSC-11925-1] c 33 N76-18353
- Anti-multipath digital signal detector  
[NASA-CASE-LAR-11827-1] c 32 N77-10392
- Multiple rate digital command detection system with range clean-up capability  
[NASA-CASE-NPO-13753-1] c 32 N77-20289
- Open loop digital frequency multiplier  
[NASA-CASE-MSC-12709-1] c 33 N77-24375
- Bit error rate measurement above and below bit rate tracking threshold  
[NASA-CASE-MSC-12743-1] c 32 N79-10263
- Apparatus and method for stabilized phase detection for binary signal tracking loops  
[NASA-CASE-MSC-16461-1] c 33 N79-11313
- Digital demodulator-correlator  
[NASA-CASE-NPO-13982-1] c 32 N79-14267
- Memory-based frame synchronizer --- for digital communication systems  
[NASA-CASE-GSC-12430-1] c 60 N82-16747
- Digital demodulator  
[NASA-CASE-LAR-12659-1] c 33 N82-26570
- Random digital encryption secure communication system  
[NASA-CASE-MSC-16462-1] c 32 N82-31583
- Error correction method and apparatus for electronic timepieces  
[NASA-CASE-LAR-12654-1] c 33 N83-36357
- Digital control of diode laser for atmospheric spectroscopy  
[NASA-CASE-NPO-16000-1] c 36 N85-29264
- Antimultipath communication by injecting tone into null in signal spectrum  
[NASA-CASE-NPO-16414-1-CU] c 32 N87-25511
- Digital phase-lock loop having an estimator and predictor of error  
[NASA-CASE-NPO-17196-1-CU] c 32 N88-29076
- DIGITAL TECHNIQUES**
- Digital frequency discriminator Patent  
[NASA-CASE-MFS-14322] c 08 N71-18692
- Exclusive-Or digital logic module Patent  
[NASA-CASE-XLA-07732] c 08 N71-18751
- Horizon sensor with a plurality of fixedly positioned radiation compensated radiation sensitive detectors Patent  
[NASA-CASE-XNP-06957] c 14 N71-21088
- Digital cardiometer system Patent  
[NASA-CASE-XMS-02399] c 05 N71-22896
- Digital synchronizer Patent  
[NASA-CASE-NPO-10851] c 07 N71-24613
- Fringe counter for interferometers Patent  
[NASA-CASE-LAR-10204] c 14 N71-27215
- Rate data encoder  
[NASA-CASE-LAR-10128-1] c 08 N73-20217
- Digital communication system  
[NASA-CASE-MSC-13912-1] c 32 N74-30524

- Digital phase-locked loop  
[NASA-CASE-GSC-11623-1] c 33 N75-25040
- Digital numerically controlled oscillator  
[NASA-CASE-MSC-16747-1] c 33 N81-17349
- Random digital encryption secure communication system  
[NASA-CASE-MSC-16462-1] c 32 N82-31583
- Pipelined digital SAR azimuth correlator using hybrid FFT-transversal filter  
[NASA-CASE-NPO-15519-1] c 32 N84-34651
- Brushless DC motor control system responsive to control signals generated by a computer or the like  
[NASA-CASE-NPO-16420-1] c 33 N86-20681
- Nanosequence digital logic controller  
[NASA-CASE-NPO-16116-2] c 60 N88-29310
- Digital carrier demodulator employing components working beyond normal limits  
[NASA-CASE-NPO-17628-1-CU] c 32 N89-28684
- DIGITAL TO ANALOG CONVERTERS**
- Rate augmented digital to analog converter Patent  
[NASA-CASE-XLA-07828] c 08 N71-27057
- Buffered analog converter  
[NASA-CASE-KSC-10397] c 08 N72-25206
- Digital to analog conversion apparatus  
[NASA-CASE-MSC-12458-1] c 08 N73-32081
- Smoothing filter for digital to analog conversion  
[NASA-CASE-FRC-11025-1] c 33 N82-24417
- Memory-based parallel data output controller  
[NASA-CASE-GSC-12447-2] c 60 N84-28491
- Method and apparatus for operating on companded PCM voice data  
[NASA-CASE-KSC-11285-1] c 32 N86-27513
- DIGITAL TRANSDUCERS**
- Digital to analog conversion apparatus  
[NASA-CASE-MSC-12458-1] c 08 N73-32081
- Angle detector  
[NASA-CASE-ARC-11036-1] c 35 N78-32395
- DIISOCYANATES**
- Polyurethanes of fluorine containing polycarbonates  
[NASA-CASE-MFS-10512] c 06 N73-30099
- Polyurethanes from fluoroalkyl propylene glycol polyethers  
[NASA-CASE-MFS-10506] c 06 N73-30100
- Fluorine containing polyurethane  
[NASA-CASE-MFS-10509] c 06 N73-30103
- DILUTION**
- Preparation of dilute magnetic semiconductor films by metalorganic chemical vapor deposition  
[NASA-CASE-NPO-17399-1-CU] c 76 N89-14120
- DIMENSIONAL MEASUREMENT**
- Cervix-to-rectum measuring device in a radiation applicator for use in the treatment of cervical cancer  
[NASA-CASE-GSC-12081-2] c 52 N82-22875
- DIMENSIONS**
- Projection system for display of parallax and perspective  
[NASA-CASE-MFS-23194-1] c 35 N78-17357
- DIODES**
- Diode and protection fuse unit Patent  
[NASA-CASE-XKS-03381] c 09 N71-22796
- Protection of serially connected solar cells against open circuits by the use of shunting diode Patent  
[NASA-CASE-XLE-04535] c 03 N71-23354
- Shielded cathode mode bulk effect devices  
[NASA-CASE-ERC-10119] c 26 N72-21701
- Fast response low power drain logic circuits  
[NASA-CASE-GSC-10878-1] c 10 N72-22236
- Method and apparatus for detecting surface ions on silicon diodes and transistors  
[NASA-CASE-ERC-10325] c 15 N72-25457
- Temperature compensated light source using a light emitting diode  
[NASA-CASE-ARC-10467-1] c 09 N73-14214
- Wide temperature range electronic device with lead attachment  
[NASA-CASE-ERC-10224-2] c 09 N73-27150
- High isolation RF signal selection switches  
[NASA-CASE-NPO-13081-1] c 33 N74-22814
- Logarithmic circuit with wide dynamic range  
[NASA-CASE-GSC-12145-1] c 33 N78-32339
- Regulated high efficiency, lightweight capacitor-diode multiplier dc to dc converter  
[NASA-CASE-LEW-12791-1] c 33 N78-32341
- Thermal compensator for closed-cycle helium refrigerator --- assuring constant temperature for an infrared laser diode  
[NASA-CASE-GSC-12168-1] c 31 N79-17029
- Digital control of diode laser for atmospheric spectroscopy  
[NASA-CASE-NPO-16000-1] c 36 N85-29264
- Arrangement for damping the resonance in a laser diode  
[NASA-CASE-NPO-15980-1] c 36 N85-30305
- DIPHENYL COMPOUNDS**
- Poly(carbonate-mide) polymer  
[NASA-CASE-LAR-13292-1] c 27 N86-24841

- Amine terminated bisapartamide polymer  
[NASA-CASE-ARC-11421-2] c 27 N86-31726
- Aminophenoxycyclotriphosphazene cured epoxy resins and the composites, laminates, adhesives and structures thereof  
[NASA-CASE-ARC-11548-1] c 27 N87-25469
- DIPLOLE ANTENNAS**
- Circularly polarized antenna  
[NASA-CASE-ERC-10214] c 09 N72-31235
- Cavity-backed, micro-strip dipole antenna array  
[NASA-CASE-MSC-18606-1] c 32 N82-11336
- DIRECT CURRENT**
- Regulated dc to dc converter  
[NASA-CASE-XGS-03429] c 03 N69-21330
- Bus voltage compensation circuit for controlling direct current motor  
[NASA-CASE-XMS-04215-1] c 09 N69-39987
- Thermionic diode switch Patent  
[NASA-CASE-NPO-10404] c 03 N71-12255
- A dc-coupled noninverting one-shot Patent  
[NASA-CASE-XNP-09450] c 10 N71-18723
- Stepping motor control circuit Patent  
[NASA-CASE-GSC-10366-1] c 10 N71-18772
- Frequency control network for a current feedback oscillator Patent  
[NASA-CASE-GSC-10041-1] c 10 N71-19418
- Self-repeating plasma generator having communicating annular and linear arc discharge passages Patent  
[NASA-CASE-XLA-03103] c 25 N71-21693
- Positive dc to positive dc converter Patent  
[NASA-CASE-XMF-14301] c 09 N71-23188
- Positive dc to negative dc converter Patent  
[NASA-CASE-XMF-08217] c 03 N71-23239
- Blood pressure measuring system for separating and separately recording dc signal and an ac signal Patent  
[NASA-CASE-XMS-06061] c 05 N71-23317
- Radio frequency coaxial high pass filter Patent  
[NASA-CASE-XGS-01418] c 09 N71-23573
- Brushless direct current tachometer Patent  
[NASA-CASE-MFS-20385] c 09 N71-24904
- Inverter with means for base current shaping for sweeping charge carriers from base region Patent  
[NASA-CASE-XGS-06226] c 10 N71-25950
- Dual polarity full wave dc motor drive Patent  
[NASA-CASE-XNP-07477] c 09 N71-26092
- A dc motor speed control system Patent  
[NASA-CASE-MFS-14610] c 09 N71-28886
- Cyclic switch Patent  
[NASA-CASE-LEW-10155-1] c 09 N71-29035
- Load-insensitive electrical device  
[NASA-CASE-XER-11046] c 09 N72-22203
- A dc to ac to dc converter having transistor synchronous rectifiers  
[NASA-CASE-GSC-11126-1] c 09 N72-25253
- Electric motive machine including magnetic bearing  
[NASA-CASE-XGS-07805] c 15 N72-33476
- Powerplexer  
[NASA-CASE-MSC-12396-1] c 03 N73-31988
- Bio-isolated dc operational amplifier --- for bioelectric measurements  
[NASA-CASE-ARC-10596-1] c 33 N74-21851
- Load insensitive electrical device --- power converters for supplying direct current at one voltage from a source at another voltage  
[NASA-CASE-XER-11046-2] c 33 N74-22864
- Differential pulse code modulation  
[NASA-CASE-MSC-12506-1] c 32 N77-12239
- Three phase full wave dc motor decoder  
[NASA-CASE-GSC-11824-1] c 33 N77-26386
- Time domain phase measuring apparatus  
[NASA-CASE-GSC-12228-1] c 33 N79-10338
- Direct current transformer  
[NASA-CASE-MFS-23659-1] c 33 N79-17133
- Elimination of current spikes in buck power converters  
[NASA-CASE-NPO-14505-1] c 33 N81-19393
- Controller for computer control of brushless dc motors --- automobile engines  
[NASA-CASE-NPO-13970-1] c 33 N81-20352
- Direct current ballast circuit for metal halide lamp  
[NASA-CASE-MSC-18407-1] c 33 N82-24427
- Brushless DC motor control system responsive to control signals generated by a computer or the like  
[NASA-CASE-NPO-16420-1] c 33 N86-20681
- Four quadrant control circuit for a brushless three-phase dc motor  
[NASA-CASE-MFS-28080-1] c 33 N87-21233
- Arctjet power supply and start circuit  
[NASA-CASE-LEW-14374-1] c 09 N88-28939
- DIRECT LIFT CONTROLS**
- Velocity vector control system augmented with direct lift control  
[NASA-CASE-LAR-12268-1] c 08 N81-24106
- DIRECT POWER GENERATORS**
- Energy conversion apparatus Patent  
[NASA-CASE-XLE-00212] c 03 N70-34134

Thermal pump-compressor for space use Patent  
[NASA-CASE-XLA-00377] c 33 N71-17610

Positive dc to negative dc converter Patent  
[NASA-CASE-XMF-08217] c 03 N71-23239

Unsaturating saturable core transformer Patent  
[NASA-CASE-ERC-10125] c 09 N71-24893

Load insensitive electrical device --- power converters for supplying direct current at one voltage from a source at another voltage  
[NASA-CASE-XER-11046-2] c 33 N74-22864

Bidirectional control system for energy flow in solar powered flywheel  
[NASA-CASE-MFS-25978-1] c 44 N87-21410

**DIRECTIONAL ANTENNAS**

Mechanical coordinate converter Patent  
[NASA-CASE-XNP-00614] c 14 N70-36907

Weatherproof helix antenna Patent  
[NASA-CASE-XKS-08485] c 07 N71-19493

Tracking antenna system Patent  
[NASA-CASE-GSC-10553-1] c 07 N71-19854

Reversible motion drive system Patent  
[NASA-CASE-NPO-10173] c 15 N71-24696

Variable beamwidth antenna --- with multiple beam, variable feed system  
[NASA-CASE-GSC-11862-1] c 32 N76-18295

Suspension system for a wheel rolling on a flat track --- bearings for directional antennas  
[NASA-CASE-NPO-14395-1] c 37 N82-21587

**DIRECTIONAL CONTROL**

Gimbaled, partially submerged rocket nozzle Patent  
[NASA-CASE-XMF-01544] c 28 N70-34162

Omnidirectional wheel  
[NASA-CASE-MFS-21309-1] c 37 N74-18125

Velocity vector control system augmented with direct lift control  
[NASA-CASE-LAR-12268-1] c 08 N81-24106

Magnetic heading reference  
[NASA-CASE-LAR-12638-1] c 04 N84-14132

**DIRECTIONAL SOLIDIFICATION (CRYSTALS)**

Preparation of monotelect alloys having a controlled microstructure by directional solidification under dopant-induced interface breakdown  
[NASA-CASE-MFS-23816-1] c 26 N80-23419

High gradient directional solidification furnace  
[NASA-CASE-MFS-25963-1] c 35 N86-20750

**DIRECTIONAL STABILITY**

Nose gear steering system for vehicle with main skids Patent  
[NASA-CASE-XLA-01804] c 02 N70-34160

System for imposing directional stability on a rocket-propelled vehicle  
[NASA-CASE-MFS-21311-1] c 20 N76-21275

**DIRECTIVITY**

Multiprism collimator  
[NASA-CASE-GSC-12608-1] c 74 N83-10900

**DISCONNECT DEVICES**

Gas actuated bolt disconnect Patent  
[NASA-CASE-XLA-00326] c 03 N70-34667

Umbilical disconnect Patent  
[NASA-CASE-XLA-00711] c 03 N71-12258

Remote controlled tubular disconnect Patent  
[NASA-CASE-XLA-01396] c 03 N71-12259

Quick release connector Patent  
[NASA-CASE-XLA-01141] c 15 N71-13789

Split nut separation system Patent  
[NASA-CASE-XNP-06914] c 15 N71-21489

Separation simulator Patent  
[NASA-CASE-XKS-04631] c 10 N71-23663

Duct coupling for single-handed operation Patent  
[NASA-CASE-MFS-20395] c 15 N71-24903

Breakaway connector  
[NASA-CASE-NPO-11140] c 15 N72-17455

Torsional disconnect unit  
[NASA-CASE-NPO-10704] c 15 N72-20445

Frangible link  
[NASA-CASE-MSC-11849-1] c 15 N72-22488

Quick disconnect coupling  
[NASA-CASE-NPO-11202] c 15 N72-25450

Quick disconnect filter coupling  
[NASA-CASE-MFS-22323-1] c 37 N76-14463

Positive isolation disconnect  
[NASA-CASE-MSC-16043-1] c 37 N79-11402

Space probe/satellite ejection apparatus for spacecraft  
[NASA-CASE-MFS-15429-1] c 18 N84-22609

Slide release mechanism --- for space shuttle orbiter/external tank connection device  
[NASA-CASE-MSC-20080-1] c 37 N85-30334

Space probe/satellite ejection apparatus for spacecraft  
[NASA-CASE-MFS-25429-1] c 18 N86-20469

Self-locking double retention redundant full pin release  
[NASA-CASE-NPO-16233-1] c 37 N86-20801

Preloadable vector sensitive latch  
[NASA-CASE-MSC-20910-1] c 37 N87-25582

Toggle release  
[NASA-CASE-MSC-21354-1] c 37 N88-24969

**DISCONTINUITY**

Strain coupled servo control system Patent  
[NASA-CASE-XLA-08530] c 32 N71-25360

**DISCRIMINATORS**

Phase detector assembly Patent  
[NASA-CASE-XMF-00701] c 09 N70-40272

Difference circuit Patent  
[NASA-CASE-XNP-08274] c 10 N71-13537

Digital frequency discriminator Patent  
[NASA-CASE-MFS-14322] c 08 N71-18692

Comparator for the comparison of two binary numbers Patent  
[NASA-CASE-XNP-04819] c 08 N71-23295

Diode-quad bridge circuit means  
[NASA-CASE-ARC-10364-3] c 33 N75-19520

Diode-quad bridge circuit means  
[NASA-CASE-ARC-10364-2] c 33 N75-25041

Discriminator aided phase lock acquisition for suppressed carrier signals  
[NASA-CASE-NPO-14311-1] c 33 N82-29539

**DISPENSERS**

Liquid aerosol dispenser  
[NASA-CASE-MFS-20829] c 12 N72-21310

Potable water dispenser  
[NASA-CASE-MFS-21115-1] c 54 N74-12779

Lyophilized spore dispenser  
[NASA-CASE-LAR-10544-1] c 37 N74-13178

Metering gun for dispensing precisely measured charges of fluid  
[NASA-CASE-MFS-21163-1] c 54 N74-17853

Automatic fluid dispenser  
[NASA-CASE-ARC-10820-1] c 35 N78-19466

Method of dispensing reagent chemicals in space  
[NASA-CASE-LAR-13607-1-CU] c 29 N88-29048

**DISPERSING**

Shock tube powder dispersing apparatus Patent  
[NASA-CASE-XLE-04946] c 17 N71-24911

Powder fed sheared dispersal particle generator  
[NASA-CASE-LAR-12785-1] c 37 N84-16561

**DISPERSIONS**

Preparation of alkali metal dispersions  
[NASA-CASE-XNP-08876] c 17 N73-28573

**DISPLACEMENT**

Bi-metallic fluid displacement apparatus --- for stirring and heating stored gases and liquids  
[NASA-CASE-ARC-10441-1] c 35 N74-15126

**DISPLACEMENT MEASUREMENT**

Null-type vacuum microbalance Patent  
[NASA-CASE-XAC-00472] c 15 N70-40180

Self-calibrating displacement transducer Patent  
[NASA-CASE-XLA-00781] c 09 N71-22999

Angular displacement indicating gas bearing support system Patent  
[NASA-CASE-XLA-09346] c 15 N71-28740

Apparatus for remote measurement of displacement of marks on a specimen undergoing a tensile test  
[NASA-CASE-NPO-10778] c 14 N72-11364

Miniature muscle displacement transducer  
[NASA-CASE-NPO-13519-1] c 33 N76-19338

Simultaneous muscle force and displacement transducer  
[NASA-CASE-NPO-14212-1] c 52 N80-27072

Device for measuring hole elongation in a bolted joint  
[NASA-CASE-LAR-13453-1] c 37 N88-14361

**DISPLAY DEVICES**

Integrated time shared instrumentation display Patent  
[NASA-CASE-XLA-01952] c 08 N71-12507

Energy management system for glider type vehicle Patent  
[NASA-CASE-XFR-00756] c 02 N71-13421

Fluidic-thermochromic display device Patent  
[NASA-CASE-ERC-10031] c 12 N71-18603

Display for binary characters Patent  
[NASA-CASE-XGS-04987] c 08 N71-20571

Optical projector system Patent  
[NASA-CASE-XNP-03853] c 23 N71-21882

Optical monitor panel Patent  
[NASA-CASE-XKS-03509] c 14 N71-23175

BCD to decimal decoder Patent  
[NASA-CASE-XKS-06167] c 08 N71-24890

Noninterruptible digital counting system Patent  
[NASA-CASE-XNP-09759] c 08 N71-24891

Analog signal integration and reconstruction system Patent  
[NASA-CASE-NPO-10344] c 10 N71-26544

Plasma fluidic hybrid display Patent  
[NASA-CASE-ERC-10100] c 09 N71-33519

System for quantizing graphic displays  
[NASA-CASE-NPO-10745] c 08 N72-22164

Digital video display system using cathode ray tube  
[NASA-CASE-NPO-11342] c 09 N72-25248

Scientific experiment flexible mount  
[NASA-CASE-MSC-12372-1] c 31 N72-25842

Display system  
[NASA-CASE-ERC-10350] c 14 N73-20474

Transparent switchboard  
[NASA-CASE-MSC-13746-1] c 10 N73-32143

Recorder/processor apparatus --- for optical data processing  
[NASA-CASE-GSC-11553-1] c 35 N74-15831

Rotating raster generator  
[NASA-CASE-FRC-10071-1] c 32 N74-20813

X-Y alphanumeric character generator for oscilloscopes  
[NASA-CASE-GSC-11582-1] c 33 N75-19517

Binocular device for displaying numerical information in field of view  
[NASA-CASE-LAR-11782-1] c 74 N77-20882

Particle parameter analyzing system --- x-y plotter circuits and display  
[NASA-CASE-XLE-06094] c 33 N78-17293

Projection system for display of parallax and perspective  
[NASA-CASE-MFS-23194-1] c 35 N78-17357

Full color hybrid display for aircraft simulators --- landing aids  
[NASA-CASE-ARC-10903-1] c 09 N78-18083

Miniature implantable ultrasonic echosonometer  
[NASA-CASE-ARC-11035-1] c 52 N79-18580

System and method for obtaining wide screen Schlieren photographs  
[NASA-CASE-NPO-14174-1] c 74 N79-20856

Chromatically corrected virtual image visual display --- reducing eye strain in flight simulators  
[NASA-CASE-LAR-12251-1] c 74 N80-27185

System for a displaying at a remote station data generated at a central station and for powering the remote station from the central station  
[NASA-CASE-GSC-12411-1] c 33 N81-14221

System for providing an integrated display of instantaneous information relative to aircraft attitude heading, altitude, and horizontal situation  
[NASA-CASE-FRC-11005-1] c 06 N82-16075

Environmental fog/rain visual display system for aircraft simulators  
[NASA-CASE-ARC-11158-1] c 09 N82-24212

Synchronized voltage contrast display analysis system  
[NASA-CASE-NPO-14567-1] c 33 N83-18996

Real-time 3-D X-ray and gamma-ray viewer  
[NASA-CASE-GSC-12640-1] c 74 N84-11920

Retinally stabilized differential resolution television display  
[NASA-CASE-NPO-15432-1] c 32 N85-29117

Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NAS 1.71-NPO-15494-2] c 35 N85-34373

Aircraft liftmeter  
[NASA-CASE-LAR-12518-1] c 06 N86-27280

Simulator scene display evaluation device  
[NASA-CASE-ARC-11504-1] c 09 N86-32447

Large TV display system  
[NASA-CASE-NPO-16932-1CU] c 33 N87-15413

Aircraft control position indicator  
[NASA-CASE-LAR-12984-1] c 06 N87-22678

Flat-panel, full-color, electroluminescent display  
[NASA-CASE-LAR-13407-1] c 33 N87-28831

Braille reading system  
[NASA-CASE-LAR-13306-1] c 82 N87-29372

Method and system for monitoring and displaying engine performance parameters  
[NASA-CASE-LAR-14049-1] c 07 N89-23466

**DISSIPATION**

Voltage regulator with plural parallel power source sections Patent  
[NASA-CASE-GSC-10891-1] c 10 N71-26623

Warm fog dissipation using large volume water sprays  
[NASA-CASE-MFS-25962-1] c 09 N89-25242

**DISSOCIATION**

Solar hydrogen generator  
[NASA-CASE-LAR-11361-1] c 44 N77-22607

**DISSOLVING**

Zero gravity liquid mixer  
[NASA-CASE-LAR-10195-1] c 15 N73-19458

**DISTANCE MEASURING EQUIPMENT**

Binary coded sequential acquisition ranging system  
[NASA-CASE-NPO-11194] c 08 N72-25209

Determining distance to lightning strokes from a single station  
[NASA-CASE-KSC-10698] c 07 N73-20175

Terminal guidance sensor system --- space shuttle coupling to orbiting satellites  
[NASA-CASE-NPO-14521-1] c 37 N81-27519

Geodetic distance measuring apparatus  
[NASA-CASE-GSC-12609-2] c 36 N83-29661

Rotary target V-block  
[NASA-CASE-LAR-12007-3] c 35 N84-16523

Method and apparatus for measuring distance  
[NASA-CASE-MSC-20912-1] c 32 N88-26568

**DISTILLATION EQUIPMENT**

- Compact solar still Patent  
[NASA-CASE-XMS-04533] c 15 N71-23086
- Method and apparatus for distillation of liquids Patent  
[NASA-CASE-XNP-08124] c 15 N71-27184
- Method for distillation of liquids  
[NASA-CASE-XNP-08124-2] c 06 N73-13129

**DISTRIBUTED AMPLIFIERS**

- Cascaded complementary pair broadband transistor amplifiers Patent  
[NASA-CASE-NPO-10003] c 10 N71-26415

**DISTRIBUTED PROCESSING**

- Distributed multiport memory architecture  
[NASA-CASE-NPO-15342-1] c 60 N83-32342
- A method of up-front load balancing for local memory parallel processors  
[NASA-CASE-MSC-21348-1] c 62 N89-24084
- Dynamic resource allocation scheme for distributed heterogeneous computer systems  
[NASA-CASE-NPO-17197-1-CU] c 62 N89-29976

**DISTRIBUTION (PROPERTY)**

- Thermionic energy converters  
[NASA-CASE-LEW-12443-1] c 44 N83-32175

**DISTRIBUTORS**

- High voltage distributor  
[NASA-CASE-GSC-11849-1] c 33 N76-16332

**DIVERGENT NOZZLES**

- Jet exhaust noise suppressor  
[NASA-CASE-LEW-11286-1] c 07 N74-27490

**DIVERTERS**

- Flow diverter valve and flow diversion method  
[NASA-CASE-HQN-00573-1] c 37 N79-33468

**DIVIDERS**

- A synchronous binary array divider  
[NASA-CASE-ERC-10180-1] c 60 N74-20836

**DOCUMENT STORAGE**

- File card marker Patent  
[NASA-CASE-XLA-02705] c 08 N71-15908

**DOMES (STRUCTURAL FORMS)**

- Airborne tracking sunphotometer apparatus and system  
[NASA-CASE-ARC-11622-1] c 44 N88-14492

**DOORS**

- Emergency escape system Patent  
[NASA-CASE-MSC-12086-1] c 05 N71-12345
- CAM controlled retractable door latch  
[NASA-CASE-MSC-20304-1] c 37 N82-31690

**DOPES**

- Lithium counterdoped silicon solar cell  
[NASA-CASE-LEW-14177-1] c 44 N86-32875

**DOPPLER EFFECT**

- Doppler frequency spread correction device for multiplex transmissions  
[NASA-CASE-XGS-02749] c 07 N69-39978
- Laser Doppler system for measuring three dimensional vector velocity Patent  
[NASA-CASE-MFS-20386] c 21 N71-19212
- Doppler compensation by shifting transmitted object frequency within limits  
[NASA-CASE-GSC-10087-4] c 07 N73-20174
- Doppler shift system --- system for measuring velocities of radiating particles  
[NASA-CASE-HQN-10740-1] c 72 N74-19310
- Method and apparatus for Doppler frequency modulation of radiation  
[NASA-CASE-NPO-14524-1] c 32 N80-24510
- Servomechanism for Doppler shift compensation in optical correlator for synthetic aperture radar  
[NASA-CASE-NPO-14998-1] c 32 N83-18975
- Vibration-free Raman Doppler velocimeter  
[NASA-CASE-LAR-13268-1] c 35 N87-14669
- Doppler-corrected differential detection system  
[NASA-CASE-NPO-16987-1-CU] c 32 N88-30001

**DOPPLER RADAR**

- Cooperative Doppler radar system Patent  
[NASA-CASE-LAR-10403] c 21 N71-11766
- Doppler radar having phase modulation of both transmitted and reflected return signals  
[NASA-CASE-MSC-18675-1] c 32 N84-22820
- Doppler radar with multiphase modulation of transmitted and reflected signal  
[NASA-CASE-MSC-18808-1] c 32 N88-23923

**DOSIMETERS**

- Dosimeter for high levels of absorbed radiation Patent  
[NASA-CASE-XLA-03645] c 14 N71-20430
- Miniature spectrally selective dosimeter  
[NASA-CASE-LAR-12469-1] c 35 N83-21311

**DOWNLINKING**

- A VLSI single-chip (225,223) Reed-Solomon encoder with interleaver  
[NASA-CASE-NPO-17280-1-CU] c 17 N88-27220

**DRAG CHUTES**

- Flexible wing deployment device Patent  
[NASA-CASE-XLA-01220] c 02 N70-41863

- Lightweight, variable solidity knitted parachute fabric --- for aerodynamic decelerators  
[NASA-CASE-LAR-10776-1] c 02 N74-10034
- Extended moment arm anti-spin device  
[NASA-CASE-LAR-12979-1] c 05 N85-21147

**DRAG MEASUREMENT**

- Air frame drag balance Patent  
[NASA-CASE-XLA-00113] c 14 N70-33386
- Minimum induced drag airfoil body Patent  
[NASA-CASE-XLA-00755] c 01 N71-13410
- Minimum induced drag airfoil body Patent  
[NASA-CASE-XLA-05828] c 01 N71-13411
- Impact energy absorber Patent  
[NASA-CASE-XLA-01530] c 14 N71-23092
- System for use in conducting wake investigation for a wing in flight --- differential pressure measurements for drag investigations  
[NASA-CASE-FRC-11024-1] c 02 N80-28300
- Skin friction measuring device for aircraft  
[NASA-CASE-FRC-11029-1] c 06 N81-17057

**DRAG REDUCTION**

- Propeller blade loading control Patent  
[NASA-CASE-XAC-00139] c 02 N70-34856
- Aircraft wheel spray drag alleviator Patent  
[NASA-CASE-XLA-01583] c 02 N70-36825
- Low-drag ground vehicle particularly suited for use in safely transporting livestock  
[NASA-CASE-FRC-11058-1] c 85 N82-33288
- Wingtip vortex propeller  
[NASA-CASE-LAR-13019-1] c 07 N85-35194
- Active control of boundary layer transition and turbulence  
[NASA-CASE-LAR-13532-1] c 34 N86-26575
- Combined riblet and lebu drag reduction system  
[NASA-CASE-LAR-13286-1] c 02 N88-14071
- Compression pylon  
[NASA-CASE-LAR-13777-1] c 05 N88-29789
- Passive venting technique for shallow cavities  
[NASA-CASE-LAR-14031-1] c 05 N89-14232
- Passive venting technique for shallow cavities  
[NASA-CASE-LAR-13875-1] c 05 N89-14233

**DRIFT (INSTRUMENTATION)**

- Amplifier drift tester  
[NASA-CASE-XMS-05562-1] c 09 N69-39986
- Radiation direction detector including means for compensating for photocell aging Patent  
[NASA-CASE-XLA-00183] c 14 N70-40239
- Failure detection and control means for improved drift performance of a gimbaled platform system  
[NASA-CASE-MFS-23551-1] c 04 N76-26175

**DRILL BITS**

- Sample collecting impact bit Patent  
[NASA-CASE-XNP-01412] c 15 N70-42034
- Hole cutter --- drill bits and rotating shaft  
[NASA-CASE-MFS-22649-1] c 37 N75-25186

**DRILLING**

- Method for milling and drilling glass  
[NASA-CASE-GSC-12636-1] c 31 N83-27058
- Method for machining holes in composite materials  
[NASA-CASE-MFS-28044-1] c 31 N87-25491

**DRILLS**

- Rock drill for recovering samples  
[NASA-CASE-XNP-07478] c 14 N69-21923
- Soil penetrometer  
[NASA-CASE-XNP-05530] c 14 N73-32321

**DRIVES**

- Transistor drive regulator Patent  
[NASA-CASE-LEW-10233] c 10 N71-27126

**DROP TOWERS**

- Method of forming frozen spheres in a force-free drop tower  
[NASA-CASE-NPO-14845-1] c 27 N82-28442
- Sphere forming method and apparatus  
[NASA-CASE-NPO-15070-1] c 31 N83-35176

**DROPS (LIQUIDS)**

- Droplet monitoring probe  
[NASA-CASE-NPO-10985] c 14 N73-20478
- Method of evaporation  
[NASA-CASE-NPO-15609-2] c 25 N88-23846
- Hanging drop crystal growth apparatus and method  
[NASA-CASE-MFS-28206-1-SB] c 76 N88-25356
- Crystal growth apparatus  
[NASA-CASE-MFS-28182-1] c 76 N88-25357

**DRUGS**

- Automated analysis of oxidative metabolites  
[NASA-CASE-ARC-10469-1] c 25 N75-12086

**DRYING**

- Drying apparatus for photographic sheet material  
[NASA-CASE-GSC-11074-1] c 14 N73-28489
- Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NASA-CASE-NPO-15494-1] c 35 N82-25484

**DRYING APPARATUS**

- Gas purged dry box glove Patent  
[NASA-CASE-XLE-02531] c 05 N71-23080

**DUCTED FANS**

- Cam-operated pitch-change apparatus  
[NASA-CASE-LEW-13050-1] c 07 N79-14095

**DUCTILITY**

- Composite seal for turbomachinery  
[NASA-CASE-LEW-12131-3] c 37 N82-19540

**DUCTS**

- Duct coupling for single-handed operation Patent  
[NASA-CASE-MFS-20395] c 15 N71-24903
- Externally supported internally stabilized flexible duct joint  
[NASA-CASE-MFS-19194-1] c 37 N76-14460
- Apparatus for supplying conditioned air at a substantially constant temperature and humidity  
[NASA-CASE-GSC-12191-1] c 31 N80-32583
- Multi-path peristaltic pump  
[NASA-CASE-MSC-20907-1] c 37 N87-18818

**DURABILITY**

- Belt for transmitting power from a cogged driving member to a cogged driven member  
[NASA-CASE-GSC-12289-1] c 37 N80-32717

**DUST COLLECTORS**

- Disk pack cleaning table Patent Application  
[NASA-CASE-LAR-10590-1] c 15 N70-26819
- Acoustic agglomeration methods and apparatus  
[NASA-CASE-NPO-15466-1] c 71 N85-22104

**DYE LASERS**

- Infrared tunable laser  
[NASA-CASE-ARC-10463-1] c 09 N73-32111
- Laser head for simultaneous optical pumping of several dye lasers --- with single flash lamp  
[NASA-CASE-LAR-11341-1] c 36 N75-19655

**DYES**

- Dye penetrant for surfaces subsequently contacted by liquid oxygen Patent  
[NASA-CASE-XMF-02221] c 18 N71-27170
- Method for retarding dye fading during archival storage of developed color photographic film --- inert atmosphere  
[NASA-CASE-MFS-23250-1] c 35 N82-11432

**DYNAMIC CHARACTERISTICS**

- Dynamic sensor Patent  
[NASA-CASE-XAC-02877] c 14 N70-41681
- Alignment apparatus using a laser having a gravitationally sensitive cavity reflector  
[NASA-CASE-ARC-10444-1] c 16 N73-33397
- Apparatus for and method of compensating dynamic unbalance  
[NASA-CASE-GSC-12550-1] c 37 N84-28082

**DYNAMIC CONTROL**

- Motion restraining device  
[NASA-CASE-NPO-13619-1] c 37 N78-16369
- System for controlled acoustic rotation of objects  
[NASA-CASE-NPO-15522-1] c 71 N83-32516

**DYNAMIC LOADS**

- Multilegged support system Patent  
[NASA-CASE-XLA-01326] c 11 N71-21481
- Tension measurement device Patent  
[NASA-CASE-XMS-04545] c 15 N71-22878
- Impact monitoring apparatus  
[NASA-CASE-MSC-15626-1] c 14 N72-25411
- Ultrasonic method and apparatus for determining crack opening load  
[NASA-CASE-LAR-13889-1] c 39 N88-30160

**DYNAMIC MODELS**

- Robust high-performance control for robotic manipulators  
[NASA-CASE-NPO-17785-1-CU] c 37 N89-28846

**DYNAMIC MODULUS OF ELASTICITY**

- Apparatus for positioning and loading a test specimen Patent  
[NASA-CASE-XLE-01300] c 15 N70-41993

**DYNAMIC RESPONSE**

- Impact simulator Patent  
[NASA-CASE-XLA-00493] c 11 N70-34786
- Instrument for measuring the dynamic behavior of liquids Patent  
[NASA-CASE-XLA-05541] c 12 N71-26387
- Response analyzers for sensors Patent  
[NASA-CASE-MFS-11204] c 14 N71-29134
- Cam-operated pitch-change apparatus  
[NASA-CASE-LEW-13050-1] c 07 N79-14095

**DYNAMIC STRUCTURAL ANALYSIS**

- Method and apparatus for measuring the damping characteristics of a structure  
[NASA-CASE-ARC-10154-1] c 14 N72-22440

**DYNAMIC TESTS**

- Support apparatus for dynamic testing Patent  
[NASA-CASE-XMF-01772] c 11 N70-41677
- Hydraulic support for dynamic testing Patent  
[NASA-CASE-XMF-03248] c 11 N71-10604

**DYNAMICAL SYSTEMS**

- Method of forming dynamic membrane on stainless steel support  
[NASA-CASE-MSC-18172-3] c 31 N88-29052

Dynamic range compression/expansion of light beams by photorefractive crystals  
[NASA-CASE-NPO-17140-1-CU] c 74 N89-14077

**DYNAMOMETERS**

Thrust dynamometer Patent  
[NASA-CASE-XLE-00702] c 14 N70-40203  
Thrust dynamometer Patent  
[NASA-CASE-XLE-05260] c 14 N71-20429

**E****EAR**

Method and apparatus for continuously monitoring blood oxygenation, blood pressure, pulse rate and the pressure pulse curve utilizing an ear oximeter as transducer Patent  
[NASA-CASE-XAC-05422] c 04 N71-23185

**EARPHONES**

Multi-adjustable headband --- for headsets  
[NASA-CASE-KSC-11322-1] c 54 N89-29953

**EARTH ATMOSPHERE**

Ablation sensor Patent  
[NASA-CASE-XLA-01791] c 14 N71-22991

**EARTH CRUST**

Seismic vibration source  
[NASA-CASE-NPO-14112-1] c 46 N79-22679

**EARTH IONOSPHERE**

Ionospheric battery Patent  
[NASA-CASE-XGS-01593] c 03 N70-35408

**EARTH ORBITS**

High temperature furnace for melting materials in space  
[NASA-CASE-MFS-20710] c 11 N72-23215  
A method of delivering a vehicle to earth orbit and returning the reusable portion thereof to earth  
[NASA-CASE-MSC-12391] c 30 N73-12884

**ECCENTRICS**

Hot gas engine with dual crankshafts  
[NASA-CASE-NPO-14221-1] c 37 N81-25370

**ECHELLE GRATINGS**

Cooled echelle grating spectrometer --- for space telescope applications  
[NASA-CASE-NPO-14372-1] c 35 N80-26635

**ECHO SOUNDING**

Ultrasonic depth gauge for liquids under high pressure  
[NASA-CASE-LAR-13300-1-CU] c 35 N89-14407

**ECHOES**

Miniature implantable ultrasonic echosonometer  
[NASA-CASE-ARC-11035-1] c 52 N79-18580  
Echo tracker/range finder for radars and sonars  
[NASA-CASE-NPO-14361-1] c 32 N82-23376

**EDDY CURRENTS**

Apparatus and method for inspecting a bearing ball  
[NASA-CASE-MFS-25833-1] c 35 N86-32698

**EDGES**

Method of forming a sharp edge on an optical device  
[NASA-CASE-GSC-12348-1] c 74 N80-24149

**EDUCATION**

Visual accommodation trainer-tester  
[NASA-CASE-LAR-11426-2] c 52 N89-16256

**EFFICIENCY**

Recovery of radiation damaged solar cells through thermal annealing  
[NASA-CASE-XGS-04047-2] c 03 N72-11062  
High efficiency multifrequency feed  
[NASA-CASE-GSC-11909] c 32 N74-20863

**EFFLUENTS**

Vortex generator for controlling the dispersion of effluents in a flowing liquid  
[NASA-CASE-LAR-12045-1] c 34 N77-24423  
Fluid sample collection and distribution system --- qualitative analysis of aqueous samples from several points  
[NASA-CASE-MSC-16841-1] c 34 N79-24285

**EGRESS**

Explosively activated egress area  
[NASA-CASE-LAR-12624-1] c 01 N83-35992  
Emergency egress fixed rocket package  
[NASA-CASE-MSC-21332-1] c 03 N89-11724

**EJECTION**

Apparatus for ejection of an instrument cover  
[NASA-CASE-XMF-04132] c 15 N69-27502

**EJECTION SEATS**

Device for separating occupant from an ejection seat Patent  
[NASA-CASE-XMS-04625] c 05 N71-20718

**EJECTORS**

Ejection unit Patent  
[NASA-CASE-XNP-00676] c 15 N70-38996  
Device for separating occupant from an ejection seat Patent  
[NASA-CASE-XMS-04625] c 05 N71-20718  
Latch/ejector unit Patent  
[NASA-CASE-XLA-03538] c 15 N71-24897

Space probe/satellite ejection apparatus for spacecraft  
[NASA-CASE-MFS-15429-1] c 18 N84-22609  
Diffuser/ejector system for a very high vacuum environment  
[NASA-CASE-MFS-25791-1] c 09 N84-27749  
Space probe/satellite ejection apparatus for spacecraft  
[NASA-CASE-MFS-25429-1] c 18 N86-20469

**ELASTIC BODIES**

Belleville spring assembly with elastic guides  
[NASA-CASE-XNP-09452] c 15 N69-27504  
Means for suppressing or attenuating bending motion of elastic bodies Patent  
[NASA-CASE-XAC-05632] c 32 N71-23971  
Device for measuring tensile forces  
[NASA-CASE-MFS-21728-1] c 35 N74-27865

**ELASTIC DEFORMATION**

Instrument for measuring torsional creep and recovery Patent  
[NASA-CASE-XLE-01481] c 14 N71-10781  
Means for suppressing or attenuating bending motion of elastic bodies Patent  
[NASA-CASE-XAC-05632] c 32 N71-23971

**ELASTIC MEDIA**

Miniature vibration isolator Patent  
[NASA-CASE-XLA-01019] c 15 N70-40156

**ELASTIC PROPERTIES**

Elastic universal joint Patent  
[NASA-CASE-XNP-00416] c 15 N70-36947  
Deformable vehicle wheel Patent  
[NASA-CASE-MFS-20400] c 31 N71-18611  
Threadless fastener apparatus Patent  
[NASA-CASE-XFR-05302] c 15 N71-23254  
Highly fluorinated polyurethanes  
[NASA-CASE-NPO-10767-1] c 06 N73-33076  
Meter for use in detecting tension in straps having predetermined elastic characteristics  
[NASA-CASE-MFS-22189-1] c 35 N75-19615

**ELASTIC SHEETS**

Method for forming plastic materials Patent  
[NASA-CASE-XMS-05516] c 15 N71-17803

**ELASTOMERS**

Metal valve pintle with encapsulated elastomeric body Patent  
[NASA-CASE-MSC-12116-1] c 15 N71-17648  
Extensometer Patent  
[NASA-CASE-XMF-04680] c 15 N71-19489  
Elastomeric silazane polymers and process for preparing the same Patent  
[NASA-CASE-XMF-04133] c 06 N71-20717  
Bonded elastomeric seal for electrochemical cells Patent  
[NASA-CASE-XGS-02631] c 03 N71-23006  
Conductive elastomeric extensometer  
[NASA-CASE-MFS-21049-1] c 52 N74-27864  
Vacuum pressure molding technique  
[NASA-CASE-LAR-10073-1] c 37 N76-24575  
Method of making hollow elastomeric bodies  
[NASA-CASE-NPO-13535-1] c 37 N76-31524  
Process for spinning flame retardant elastomeric compositions --- fabricating synthetic fibers for high oxygen environments  
[NASA-CASE-MSC-14331-3] c 27 N78-32262  
Curable liquid hydrocarbon prepolymers containing hydroxyl groups and process for producing same  
[NASA-CASE-NPO-13137-1] c 27 N80-32514  
Prepolymer dianhydrides  
[NASA-CASE-NPO-13899-1] c 27 N80-32515  
Viscoelastic cationic polymers containing the urethane linkage  
[NASA-CASE-NPO-10830-1] c 27 N81-15104  
Process for the preparation of fluorine containing crosslinked elastomeric polytriazine and product so produced  
[NASA-CASE-ARC-11248-1] c 27 N81-17259  
The 1,2,4-oxadiazole elastomers --- heat resistant polymers  
[NASA-CASE-ARC-11253-1] c 27 N81-17262  
Bifunctional monomers having terminal oxime and cyano or amine groups  
[NASA-CASE-ARC-11253-3] c 27 N81-24256  
Circumferential shaft seal  
[NASA-CASE-LEW-12119-2] c 37 N81-26447  
Heat sealable, flame and abrasion resistant coated fabric --- clothing and containers for space exploration  
[NASA-CASE-MSC-18382-1] c 27 N82-16238  
Preparation of crosslinked 1,2,4-oxadiazole polymer  
[NASA-CASE-ARC-11253-2] c 27 N82-24338  
Method of bonding plasticized elastomer to metal and articles produced thereby  
[NASA-CASE-MFS-25181-1] c 27 N82-24340  
Elastomer toughened polyimide adhesives  
[NASA-CASE-LAR-12775-1] c 27 N83-28240

Elastomer-modified phosphorus-containing imide resins  
[NASA-CASE-ARC-11400-1] c 27 N84-14322  
Process for preparing perfluorotriazine elastomers and precursors thereof  
[NASA-CASE-ARC-11402-1] c 27 N84-22744  
Elastomer toughened polyimide adhesives --- bonding metal and composite material structures for aircraft and spacecraft  
[NASA-CASE-LAR-12775-2] c 27 N85-21349  
Perfluoro (Imidoylamidine) diamidines  
[NASA-CASE-ARC-11402-3] c 23 N86-21582  
Electro-expulsive separation system  
[NASA-CASE-ARC-11613-1] c 33 N87-28833  
Coaxial cable connector  
[NASA-CASE-NPO-16764-1-CU] c 33 N88-14270

**ELBOW (ANATOMY)**

Elbow and knee joint for hard space suits  
[NASA-CASE-ARC-11610-1] c 54 N86-28619

**ELECTRIC ARCS**

Electric-arc heater Patent  
[NASA-CASE-XLA-00330] c 33 N70-34540  
Electric arc welding Patent  
[NASA-CASE-XMF-00392] c 15 N70-34814  
Electric arc driven wind tunnel Patent  
[NASA-CASE-XMF-00411] c 11 N70-36913  
Electric arc device for heating gases Patent  
[NASA-CASE-XAC-00319] c 25 N70-41628  
Electric arc apparatus Patent  
[NASA-CASE-XAC-01677] c 09 N71-20816  
Arc electrode of graphite with ball tip Patent  
[NASA-CASE-XLE-04788] c 09 N71-22987  
High powered arc electrodes --- producing solar simulator radiation  
[NASA-CASE-LEW-11162-1] c 33 N74-12913  
Electric arc light source having undercut recessed anode  
[NASA-CASE-ARC-10266-1] c 33 N75-29318  
Welding torch with arc light reflector  
[NASA-CASE-MFS-29134-1] c 74 N87-17493  
Welding torch gas cup extension  
[NASA-CASE-MFS-29252-1] c 37 N88-23980

**ELECTRIC AUTOMOBILES**

Additive for zinc electrodes --- electric automobiles  
[NASA-CASE-LEW-13286-1] c 33 N84-14422

**ELECTRIC BATTERIES**

Spacecraft battery seals  
[NASA-CASE-XGS-03864] c 15 N69-24320  
Sealed battery gas manifold construction Patent  
[NASA-CASE-XNP-03378] c 03 N71-11051  
Method and apparatus for battery charge control Patent  
[NASA-CASE-XGS-05432] c 03 N71-19438  
Coulometer and third electrode battery charging circuit Patent  
[NASA-CASE-GSC-10487-1] c 03 N71-24719  
Heat activated cell Patent  
[NASA-CASE-LEW-11359] c 03 N71-28579  
Synchronous orbit battery cyclor  
[NASA-CASE-GSC-11211-1] c 03 N72-25020  
Storage battery comprising negative plates of a wedge shaped configuration --- for preventing shape change induced malfunctions  
[NASA-CASE-NPO-11806-1] c 44 N74-19693  
Battery testing device --- for testing cells of multiple-cell battery  
[NASA-CASE-MFS-20761-1] c 44 N74-27519  
Rapid activation and checkout device for batteries  
[NASA-CASE-MFS-22749-1] c 44 N76-14601  
Zinc-halide battery with molten electrolyte  
[NASA-CASE-NPO-11961-1] c 44 N76-18643  
Lead-oxygen dc power supply system having a closed loop oxygen and water system  
[NASA-CASE-MFS-23059-1] c 44 N76-27664  
Voltage regulator for battery power source --- using a bipolar transistor  
[NASA-CASE-FRC-10116-1] c 33 N79-23345  
In-situ cross linking of polyvinyl alcohol --- application to battery separator films  
[NASA-CASE-LEW-13135-2] c 27 N81-24257  
State-of-charge coulometer  
[NASA-CASE-NPO-15759-1] c 35 N85-21596

**ELECTRIC BRIDGES**

Pulsed excitation voltage circuit for transducers  
[NASA-CASE-FRC-10036] c 09 N72-22200  
Infinite range electronics gain control circuit  
[NASA-CASE-GSC-10786-1] c 10 N72-28241  
Diode-quad bridge circuit means  
[NASA-CASE-ARC-10364-2] c 33 N75-25041  
Germanium coated microbridge and method  
[NASA-CASE-MFS-23274-1] c 33 N78-13320  
Power converter  
[NASA-CASE-FRC-11014-1] c 33 N82-18494

**ELECTRIC CELLS**

Connector strips-positive, negative and T tabs  
[NASA-CASE-XGS-01395] c 03 N69-21539

- Heat activated cell with alkali anode and alkali salt electrolyte Patent  
[NASA-CASE-LEW-11358] c 03 N71-26084
- Ion-exchange membrane with platinum electrode assembly Patent  
[NASA-CASE-XMS-02063] c 03 N71-29044
- ELECTRIC CHARGE**  
Method and device for determining battery state of charge Patent  
[NASA-CASE-NPO-10194] c 03 N71-20407
- Automatic battery charger Patent  
[NASA-CASE-XNP-04758] c 03 N71-24605
- FET charge sensor and voltage probe  
[NASA-CASE-NPO-16045-1] c 76 N87-13313
- ELECTRIC CHOPPERS**  
Monostable multivibrator  
[NASA-CASE-GSC-10082-1] c 10 N72-20221
- Transformer regulated self-stabilizing chopper  
[NASA-CASE-XGS-09186] c 33 N78-17295
- ELECTRIC COILS**  
Broadband choke for antenna structure  
[NASA-CASE-XMS-05303] c 07 N69-27462
- Shaft transducer having dc output proportional to angular velocity  
[NASA-CASE-NPO-15706-1] c 35 N84-28017
- Phase sensitive guidance sensor for wire-following vehicles  
[NASA-CASE-NPO-15341-1] c 35 N84-33769
- ELECTRIC CONDUCTORS**  
Electrode and insulator with shielded dielectric junction  
[NASA-CASE-XLE-03778] c 09 N69-21542
- Solar cell matrix Patent  
[NASA-CASE-NPO-10821] c 03 N71-19545
- Electrical switching device Patent  
[NASA-CASE-NPO-10037] c 09 N71-19610
- Flexible conductive disc electrode Patent  
[NASA-CASE-FRC-10029] c 09 N71-24618
- Electrical insulating layer process  
[NASA-CASE-LEW-10489-1] c 15 N72-25447
- Injector for use in high voltage isolators for liquid feed lines  
[NASA-CASE-NPO-11377] c 15 N73-27406
- Solar cell grid patterns  
[NASA-CASE-NPO-13087-2] c 44 N76-31666
- Velocity measurement system  
[NASA-CASE-MFS-23363-1] c 35 N78-32396
- Shielded conductor cable system  
[NASA-CASE-MSC-12745-1] c 33 N81-27397
- ELECTRIC CONNECTORS**  
Connector - Electrical  
[NASA-CASE-XLA-01288] c 09 N69-21470
- Test fixture for pellet-like electrical elements  
[NASA-CASE-XNP-06032] c 09 N69-21926
- Coupling device  
[NASA-CASE-XMS-07846-1] c 09 N69-21927
- Electrical feed-through connection for printed circuit boards and printed cable  
[NASA-CASE-XMF-01483] c 14 N69-27431
- Electrical connector pin with wiping action  
[NASA-CASE-XMF-04238] c 09 N69-39734
- Electrical connector Patent Application  
[NASA-CASE-MFS-14741] c 09 N70-20737
- Electrical connector for flat cables Patent  
[NASA-CASE-XMF-00324] c 09 N70-34596
- Printed cable connector Patent  
[NASA-CASE-XMF-00369] c 09 N70-36494
- Printed circuit board with bellows rivet connection Patent  
[NASA-CASE-XNP-05082] c 15 N70-41960
- Method of making a molded connector Patent  
[NASA-CASE-XMF-03498] c 15 N71-15986
- Coaxial cable connector Patent  
[NASA-CASE-XNP-04732] c 09 N71-20851
- Connector internal force gauge Patent  
[NASA-CASE-XNP-03918] c 14 N71-23087
- Protection of serially connected solar cells against open circuits by the use of shunting diode Patent  
[NASA-CASE-XLE-04535] c 03 N71-23354
- Microelectronic module package Patent  
[NASA-CASE-XMS-02182] c 10 N71-28783
- Breakaway connector  
[NASA-CASE-NPO-11140] c 15 N72-17455
- Electrical connector  
[NASA-CASE-NPO-10694] c 09 N72-20200
- Radio frequency filter device  
[NASA-CASE-XLA-02609] c 09 N72-25256
- Use of unilluminated solar cells as shunt diodes for a solar array  
[NASA-CASE-GSC-10344-1] c 03 N72-27053
- Electrical connector  
[NASA-CASE-MFS-20757] c 09 N72-28225
- Device for configuring multiple leads --- method for connecting electric leads to printed circuit board  
[NASA-CASE-MFS-22133-1] c 33 N74-26977
- Connector --- for connecting circuits on different layers of multilayer printed circuit boards  
[NASA-CASE-LAR-11709-1] c 37 N76-27567
- Percutaneous connector device  
[NASA-CASE-KSC-10849-1] c 52 N77-14738
- Magnetic electrical connectors for biomedical percutaneous implants  
[NASA-CASE-KSC-11030-1] c 52 N77-25772
- Decommutator patchboard verifier  
[NASA-CASE-KSC-11065-1] c 33 N81-26359
- Electrical self-aligning connector --- orbital servicer vehicles  
[NASA-CASE-MFS-25211-2] c 33 N84-14423
- Four-terminal electrical testing device --- initiator bridewire resistance  
[NASA-CASE-MSC-21166-1] c 35 N87-25555
- Coaxial cable connector  
[NASA-CASE-NPO-16764-1-CU] c 33 N88-14270
- ELECTRIC CONTACTS**  
Solid state switch  
[NASA-CASE-XNP-09228] c 09 N69-27500
- Deflective rod switch with elastic support and sealing means Patent  
[NASA-CASE-XNP-09808] c 09 N71-12518
- Method of making electrical contact on silicon solar cell and resultant product Patent  
[NASA-CASE-XLE-04787] c 03 N71-20492
- Continuous turning slip ring assembly Patent  
[NASA-CASE-XMF-01049] c 15 N71-23049
- Electrical connector  
[NASA-CASE-MFS-20757] c 09 N72-28225
- Electrostatic measurement system --- for contact-electrifying a dielectric  
[NASA-CASE-MFS-22129-1] c 33 N75-18477
- Process for preparing liquid metal electrical contact device  
[NASA-CASE-LEW-11978-1] c 33 N77-26385
- Non-contacting power transfer device  
[NASA-CASE-GSC-12595-1] c 33 N82-24422
- Solar cell having improved back surface reflector  
[NASA-CASE-LEW-13620-1] c 44 N83-13579
- Screen printed interdigitated back contact solar cell  
[NASA-CASE-LEW-13414-1] c 44 N85-20530
- Cross-contact chain  
[NASA-CASE-NPO-16784-1] c 33 N87-10231
- ELECTRIC CONTROL**  
Increasing efficiency of switching type regulator circuits Patent  
[NASA-CASE-XMS-09352] c 09 N71-23316
- Adjustable indicating device for load position  
[NASA-CASE-MFS-28008-1] c 35 N85-20300
- ELECTRIC CURRENT**  
Didymium hydrate additive to nickel hydroxide electrodes Patent  
[NASA-CASE-XGS-03505] c 03 N71-10608
- Electrical load protection device Patent  
[NASA-CASE-MSC-12135-1] c 09 N71-12526
- Micro current measuring device using plural logarithmic response heated filamentary type diodes Patent  
[NASA-CASE-XNP-00384] c 09 N71-13530
- Connector internal force gauge Patent  
[NASA-CASE-XNP-03918] c 14 N71-23087
- Pulse modulator providing fast rise and fall times Patent  
[NASA-CASE-XMS-04919] c 09 N71-23270
- Polarity sensitive circuit Patent  
[NASA-CASE-XNP-00952] c 10 N71-23271
- Protection of serially connected solar cells against open circuits by the use of shunting diode Patent  
[NASA-CASE-XLE-04535] c 03 N71-23354
- Color television systems using a single gun color cathode ray tube Patent  
[NASA-CASE-ERC-10098] c 09 N71-28618
- Current dependent filter inductance  
[NASA-CASE-ERC-10139] c 09 N72-17154
- High voltage transistor amplifier with constant current load  
[NASA-CASE-NPO-11023] c 09 N72-17155
- Current steering commutator  
[NASA-CASE-NPO-10743] c 08 N72-21199
- Saturation current protection apparatus for saturable core transformers  
[NASA-CASE-ERC-10075-2] c 09 N72-22196
- Thermal to electrical power conversion system with solid-state switches with Seebeck effect compensation  
[NASA-CASE-NPO-11388] c 03 N72-23048
- Load current sensor for a series pulse width modulated power supply  
[NASA-CASE-GSC-10656-1] c 09 N72-25249
- Method and apparatus for limiting field emission current  
[NASA-CASE-ERC-10015-2] c 10 N72-27246
- Deposition apparatus  
[NASA-CASE-LAR-10541-1] c 15 N72-32487
- Lightning current measuring systems  
[NASA-CASE-KSC-10807-1] c 33 N75-26246
- Overload protection system for power inverter  
[NASA-CASE-NPO-13872-1] c 33 N78-10377
- Shunt regulation electric power system  
[NASA-CASE-GSC-10135] c 33 N78-17296
- Lightning current waveform measuring system  
[NASA-CASE-KSC-11018-1] c 33 N79-10337
- Electroexplosive device  
[NASA-CASE-NPO-13858-1] c 28 N79-11231
- Remote lightning monitor system  
[NASA-CASE-KSC-11031-1] c 33 N79-11315
- Lightning current detector  
[NASA-CASE-KSC-11057-1] c 33 N79-14305
- Driver for solar cell I-V characteristic plots  
[NASA-CASE-NPO-14096-1] c 44 N80-18551
- Electrical power generating system --- for windpowered generation  
[NASA-CASE-MFS-24368-3] c 33 N81-22280
- Trace water sensor  
[NASA-CASE-NPO-15722-1] c 35 N85-29212
- Magnetic spin reduction system for free spinning objects  
[NASA-CASE-MFS-25966-1] c 16 N86-26352
- Four quadrant control circuit for a brushless three-phase dc motor  
[NASA-CASE-MFS-28080-1] c 33 N87-21233
- Electro-expulsive separation system  
[NASA-CASE-ARC-11613-1] c 33 N87-28833
- ELECTRIC DISCHARGES**  
Electrical discharge apparatus for forming Patent  
[NASA-CASE-XMF-00375] c 15 N70-34249
- High voltage pulse generator Patent  
[NASA-CASE-MSC-12178-1] c 09 N71-13518
- Pulse generating circuit employing switch means on ends of delay line for alternately charging and discharging same Patent  
[NASA-CASE-XNP-00745] c 10 N71-28960
- Rapidly pulsed, high intensity, incoherent light source  
[NASA-CASE-XLE-2529-3] c 33 N74-20859
- Voltage feed through apparatus having reduced partial discharge  
[NASA-CASE-GSC-12347-1] c 33 N80-18286
- Electrostatic discharge test apparatus  
[NASA-CASE-MSC-21094-1] c 35 N88-24941
- ELECTRIC ENERGY STORAGE**  
Apparatus for measuring current flow Patent  
[NASA-CASE-XGS-02439] c 14 N71-19431
- Lead-oxygen dc power supply system having a closed loop oxygen and water system  
[NASA-CASE-MFS-23059-1] c 44 N76-27664
- Electrically rechargeable REDOX flow cell  
[NASA-CASE-LEW-12220-1] c 44 N77-14581
- Gels as battery separators for soluble electrode cells  
[NASA-CASE-LEW-12364-1] c 44 N77-22606
- Electrochemical cell for rebalancing REDOX flow system  
[NASA-CASE-LEW-13150-1] c 44 N79-26474
- Toroidal cell and battery --- storage battery for high amp-hour load applications  
[NASA-CASE-LEW-12918-1] c 44 N81-24521
- ELECTRIC EQUIPMENT**  
Ac power amplifier Patent Application  
[NASA-CASE-LAR-10218-1] c 09 N70-34559
- Generator for a space power system Patent  
[NASA-CASE-XLE-04250] c 09 N71-20446
- High impedance measuring apparatus Patent  
[NASA-CASE-XMS-08589-1] c 09 N71-20569
- Regulated power supply Patent  
[NASA-CASE-XMS-01991] c 09 N71-21449
- Method for improving the signal-to-noise ratio of the Wheatstone bridge type bolometer Patent  
[NASA-CASE-XLA-02810] c 14 N71-25901
- Buck boost voltage regulation circuit Patent  
[NASA-CASE-GSC-10735-1] c 10 N71-26085
- Electronically resettable fuse Patent  
[NASA-CASE-XGS-11177] c 09 N71-27001
- Voltage regulator Patent  
[NASA-CASE-ERC-10113] c 09 N71-27053
- Digital pulse width selection circuit Patent  
[NASA-CASE-XLA-07788] c 09 N71-29139
- Solar energy powered heliotrope  
[NASA-CASE-GSC-10945-1] c 21 N72-31637
- Temperature compensated light source using a light emitting diode  
[NASA-CASE-ARC-10467-1] c 09 N73-14214
- Hermetically sealed semiconductor  
[NASA-CASE-GSC-10791-1] c 15 N73-14469
- Overvoltage protection network  
[NASA-CASE-ARC-10197-1] c 33 N74-17929
- Sprag solenoid brake --- development and operations of electrically controlled brake  
[NASA-CASE-MFS-21846-1] c 37 N74-26976
- Shock absorbing mount for electrical components  
[NASA-CASE-NPO-13253-1] c 37 N75-18573
- Self-regulating proportionally controlled heating apparatus and technique  
[NASA-CASE-GSC-11752-1] c 77 N75-20140



## ELECTRIC EQUIPMENT TESTS

- Test fixture for pellet-like electrical elements  
[NASA-CASE-XNP-06032] c 09 N69-21926  
Pulse amplitude and width detector Patent  
[NASA-CASE-XMF-06519] c 09 N71-12519  
High power-high voltage waterload Patent  
[NASA-CASE-XNP-05381] c 09 N71-20842

## ELECTRIC FIELD STRENGTH

- Apparatus for field strength measurement of a space vehicle Patent  
[NASA-CASE-XLE-00820] c 14 N71-16014  
Apparatus for measuring electric field strength on the surface of a model vehicle Patent  
[NASA-CASE-XLE-02038] c 09 N71-16086  
Floating two force component measuring device Patent  
[NASA-CASE-XAC-04885] c 14 N71-23790  
Apparatus for determining the deflection of an electron beam impinging on a target Patent  
[NASA-CASE-XMF-06617] c 09 N71-24843

## ELECTRIC FIELDS

- Minimum induced drag airfoil body Patent  
[NASA-CASE-XLA-00755] c 01 N71-13410  
Minimum induced drag airfoil body Patent  
[NASA-CASE-XLA-05828] c 01 N71-13411  
Instrument for measuring potentials on two dimensional electric field plots Patent  
[NASA-CASE-XLA-08493] c 10 N71-19421  
Electron beam instrument for measuring electric fields Patent  
[NASA-CASE-XMF-10289] c 14 N71-23699  
Field ionization electrodes Patent  
[NASA-CASE-ERC-10013] c 09 N71-26678  
Determining distance to lightning strokes from a single station  
[NASA-CASE-KSC-10698] c 07 N73-20175  
Rocket borne instrument to measure electric fields inside electrified clouds  
[NASA-CASE-KSC-10730-1] c 14 N73-32318  
Electric field measuring and display system --- for cloud formations  
[NASA-CASE-KSC-10731-1] c 33 N74-27862  
Lightning discharge identification system  
[NASA-CASE-KSC-11099-1] c 47 N82-24779  
Maser cavity servo-tuning system  
[NASA-CASE-NPO-15890-1-CU] c 33 N85-29143  
Method of measuring field tunneling and range straggling in semiconductor charge-collecting junctions  
[NASA-CASE-NPO-16584-1-CU] c 76 N86-25269

## ELECTRIC FILTERS

- Static inverters which sum a plurality of waves Patent  
[NASA-CASE-XMF-00663] c 08 N71-18752  
Remodulator filter Patent  
[NASA-CASE-NPO-10198] c 09 N71-24806  
RC networks and amplifiers employing the same  
[NASA-CASE-XAC-05462-2] c 10 N72-17171  
Multiloop RC active filter apparatus having low parameter sensitivity with low amplifier gain  
[NASA-CASE-ARC-10192] c 09 N72-21245  
Radio frequency filter device  
[NASA-CASE-XLA-02609] c 09 N72-25256  
Filter for third order phase locked loops  
[NASA-CASE-NPO-11941-1] c 10 N73-27171

## ELECTRIC FURNACES

- High gradient directional solidification furnace  
[NASA-CASE-MFS-25963-1] c 35 N86-20750

## ELECTRIC FUSES

- Electrical load protection device Patent  
[NASA-CASE-MSC-12135-1] c 09 N71-12526  
Diode and protection fuse unit Patent  
[NASA-CASE-XKS-03381] c 09 N71-22796  
Fused switch  
[NASA-CASE-XMS-01244-1] c 33 N79-33393

## ELECTRIC GENERATORS

- Regulated dc to dc converter  
[NASA-CASE-XGS-03429] c 03 N69-21330  
Generator for a space power system Patent  
[NASA-CASE-XLE-04250] c 09 N71-20446  
Solid state pulse generator with constant output width, for variable input width, in nanosecond range Patent  
[NASA-CASE-XGS-03427] c 10 N71-23029  
Continuous turning slip ring assembly Patent  
[NASA-CASE-XMF-01049] c 15 N71-23049  
Positive dc to positive dc converter Patent  
[NASA-CASE-XMF-14301] c 09 N71-23188  
High temperature ferromagnetic cobalt-base alloy Patent  
[NASA-CASE-XLE-03629] c 17 N71-23248  
Variable width pulse integrator Patent  
[NASA-CASE-XLA-03356] c 10 N71-23315  
Power system with heat pipe liquid coolant lines Patent  
[NASA-CASE-MFS-14114-2] c 09 N71-24807  
RC rate generator for slow speed measurement Patent  
[NASA-CASE-XMF-02966] c 10 N71-24863

- Pulse width inverter Patent  
[NASA-CASE-MFS-10068] c 10 N71-25139  
Multiple varactor frequency doubler Patent  
[NASA-CASE-XMF-04958-1] c 10 N71-26414  
Failure sensing and protection circuit for converter networks Patent  
[NASA-CASE-GSC-10114-1] c 10 N71-27366  
Power system with heat pipe liquid coolant lines Patent  
[NASA-CASE-MFS-14114] c 33 N71-27862  
Load-insensitive electrical device  
[NASA-CASE-XER-11046] c 09 N72-22203  
Controllable load insensitive power converters  
[NASA-CASE-ERC-10268] c 09 N72-25252  
A dc to ac to dc converter having transistor synchronous rectifiers  
[NASA-CASE-GSC-11126-1] c 09 N72-25253  
Electromagnetic wave energy converter  
[NASA-CASE-GSC-11394-1] c 09 N73-32109  
Heat operated cryogenic electrical generator  
[NASA-CASE-NPO-13303-1] c 20 N75-24837  
Electric power generation system directory from laser power  
[NASA-CASE-NPO-13308-1] c 36 N75-30524  
Smoke generator  
[NASA-CASE-ARC-10905-1] c 37 N77-13418  
Electro-mechanical sine/cosine generator  
[NASA-CASE-LAR-11389-1] c 33 N77-26387  
Wind wheel electric power generator  
[NASA-CASE-MFS-23515-1] c 44 N80-21828  
Natural turbulence electrical power generator --- using wave action or random motion  
[NASA-CASE-LAR-11551-1] c 44 N80-29834  
Electrical power generating system --- for windpowered generation  
[NASA-CASE-MFS-24368-3] c 33 N81-22280  
Linear magnetic motor/generator --- to generate electric energy using magnetic flux for spacecraft power supply  
[NASA-CASE-GSC-12518-1] c 33 N82-24421  
Electrical power generating system  
[NASA-CASE-MFS-25302-1] c 33 N83-28319  
Control system for an induction motor with energy recovery  
[NASA-CASE-MFS-25477-1] c 33 N84-14424  
Solar powered actuator with continuously variable auxiliary power control  
[NASA-CASE-MFS-25637-1] c 44 N85-21769  
Liquid hydrogen polygeneration system and process  
[NASA-CASE-KSC-11304-2] c 28 N86-23744

## ELECTRIC IGNITION

- Method of making a solid propellant rocket motor Patent  
[NASA-CASE-XLA-04126] c 28 N71-26779
- ELECTRIC MOTOR VEHICLES**  
Automotive absorption air conditioner utilizing solar and motor waste heat  
[NASA-CASE-NPO-15183-1] c 44 N82-26776

## ELECTRIC MOTORS

- Bus voltage compensation circuit for controlling direct current motor  
[NASA-CASE-XMS-04215-1] c 09 N69-39987  
Electronic motor control system Patent  
[NASA-CASE-XMF-01129] c 09 N70-38712  
Electronic beam switching commutator Patent  
[NASA-CASE-XGS-01451] c 09 N71-10677  
Regenerative braking system Patent  
[NASA-CASE-XMF-01096] c 10 N71-16030  
Angular position and velocity sensing apparatus Patent  
[NASA-CASE-XGS-05680] c 14 N71-17585  
Reversible current control apparatus Patent  
[NASA-CASE-XLA-09371] c 10 N71-18724  
Stepping motor control circuit Patent  
[NASA-CASE-GSC-10366-1] c 10 N71-18772  
Detenting servomotor Patent  
[NASA-CASE-XNP-06936] c 15 N71-24695  
Transistor servo system including a unique differential amplifier circuit Patent  
[NASA-CASE-XMF-05195] c 10 N71-24861  
Velocity limiting safety system Patent  
[NASA-CASE-XLA-07473] c 15 N71-24895  
Direct current motor with stationary armature and field Patent  
[NASA-CASE-XGS-05290] c 09 N71-25999  
Dual polarity full wave dc motor drive Patent  
[NASA-CASE-XNP-07477] c 09 N71-26092  
Control apparatus for applying pulses of selectively predetermined duration to a sequence of loads Patent  
[NASA-CASE-XGS-04224] c 10 N71-26418  
A dc motor speed control system Patent  
[NASA-CASE-MFS-14610] c 09 N71-28886  
Optimal control system for an electric motor driven vehicle  
[NASA-CASE-NPO-11210] c 11 N72-20244  
Electric motive machine including magnetic bearing  
[NASA-CASE-XGS-07805] c 15 N72-33476

- Redundant speed control for brushless Hall effect motor  
[NASA-CASE-MFS-20207-1] c 09 N73-32107  
Three phase full wave dc motor decoder  
[NASA-CASE-GSC-11824-1] c 33 N77-26386  
Rotary electric device  
[NASA-CASE-GSC-12138-1] c 33 N79-20314  
Controller for computer control of brushless dc motors --- automobile engines  
[NASA-CASE-NPO-13970-1] c 33 N81-20352  
Linear magnetic motor/generator --- to generate electric energy using magnetic flux for spacecraft power supply  
[NASA-CASE-GSC-12518-1] c 33 N82-24421  
Four quadrant control circuit for a brushless three-phase dc motor  
[NASA-CASE-MFS-28080-1] c 33 N87-21233  
Reciprocating linear motor  
[NASA-CASE-GSC-12773-2] c 33 N87-23904

## ELECTRIC NETWORKS

- Condition and condition duration indicator Patent  
[NASA-CASE-XMF-01097] c 10 N71-16058  
Solid state pulse generator with constant output width, for variable input width, in nanosecond range Patent  
[NASA-CASE-XGS-03427] c 10 N71-23029  
Increasing efficiency of switching type regulator circuits Patent  
[NASA-CASE-XMS-09352] c 09 N71-23316  
Broadband frequency discriminator Patent  
[NASA-CASE-NPO-10096] c 07 N71-24583  
Test apparatus for locating shorts during assembly of electrical buses  
[NASA-CASE-ARC-11116-1] c 33 N82-24420

## ELECTRIC POTENTIAL

- Method and apparatus for battery charge control Patent  
[NASA-CASE-XGS-05432] c 03 N71-19438  
Positive dc to positive dc converter Patent  
[NASA-CASE-XMF-14301] c 09 N71-23188  
Variable width pulse integrator Patent  
[NASA-CASE-XLA-03356] c 10 N71-23315  
Voltage dropout sensor Patent  
[NASA-CASE-KSC-10020] c 10 N71-27338  
Automated equipotential plotter  
[NASA-CASE-NPO-11134] c 09 N72-21246  
Pulsed excitation voltage circuit for transducers  
[NASA-CASE-FRC-10036] c 09 N72-22200  
Load-insensitive electrical device  
[NASA-CASE-XER-11046] c 09 N72-22203  
Continuously variable voltage controlled phase shifter  
[NASA-CASE-NPO-11129] c 09 N72-33204  
Photoelectron spectrometer with means for stabilizing sample surface potential  
[NASA-CASE-NPO-13772-1] c 35 N78-10429  
Microcomputerized electric field meter diagnostic and calibration system  
[NASA-CASE-KSC-11035-1] c 35 N78-28411  
Driver for solar cell I-V characteristic plots  
[NASA-CASE-NPO-14096-1] c 44 N80-18551  
Microwave integrated circuit for Josephson voltage standards  
[NASA-CASE-MFS-23845-1] c 33 N81-17348  
Synchronized voltage contrast display analysis system  
[NASA-CASE-NPO-14567-1] c 33 N83-18996  
Method for detecting coliform organisms  
[NASA-CASE-ARC-11322-1] c 51 N83-28849  
Phase detector for three-phase power factor controller  
[NASA-CASE-MFS-25854-1] c 33 N84-27975  
Simplified dc to dc converter  
[NASA-CASE-LEW-13495-1] c 33 N84-33663  
High voltage power supply  
[NASA-CASE-GSC-12818-1] c 33 N85-29147  
Modulated voltage metastable ionization detector  
[NASA-CASE-ARC-11503-1] c 35 N85-34374  
Angular measurement system  
[NASA-CASE-MFS-25825-1] c 31 N86-29055  
FET charge sensor and voltage probe  
[NASA-CASE-NPO-16045-1] c 76 N87-13313

## ELECTRIC POWER

- Switching circuit employing regeneratively connected complementary transistors Patent  
[NASA-CASE-XNP-02654] c 10 N70-42032  
High power-high voltage waterload Patent  
[NASA-CASE-XNP-05381] c 09 N71-20842  
Power factor control system for AC induction motors  
[NASA-CASE-MFS-23280-1] c 33 N78-10376  
Shunt regulation electric power system  
[NASA-CASE-GSC-10135] c 33 N78-17296  
Electrical power generating system --- for windpowered generation  
[NASA-CASE-MFS-24368-3] c 33 N81-22280
- ELECTRIC POWER PLANTS**  
Ocean thermal plant  
[NASA-CASE-KSC-11034-1] c 44 N78-32542  
Wind and solar powered turbine  
[NASA-CASE-NPO-15496-1] c 44 N84-23018

**ELECTRIC POWER SUPPLIES**

- Current dependent filter inductance  
[NASA-CASE-ERC-10139] c 09 N72-17154
- Thermal to electrical power conversion system with solid-state switches with Seebeck effect compensation  
[NASA-CASE-NPO-11388] c 03 N72-23048
- Parasitic suppressing circuit  
[NASA-CASE-ERC-10403-1] c 10 N73-26228
- Powerplexer  
[NASA-CASE-MS-12396-1] c 03 N73-31988
- Inherent redundancy electric heater  
[NASA-CASE-MFS-21462-1] c 33 N74-14935
- Temperature compensated current source  
[NASA-CASE-MS-11235] c 33 N78-17294
- High voltage power supply  
[NASA-CASE-GSC-12818-1] c 33 N85-29147
- Arc lamp power supply using a voltage multiplier  
[NASA-CASE-LAR-13202-1] c 33 N88-23942
- Magnetically switched power supply system for lasers  
[NASA-CASE-NPO-16402-2] c 33 N88-24862

**ELECTRIC POWER TRANSMISSION**

- Magnetic power switch Patent  
[NASA-CASE-NPO-10242] c 09 N71-24803
- Failure sensing and protection circuit for converter networks Patent  
[NASA-CASE-GSC-10114-1] c 10 N71-27366
- Powerplexer  
[NASA-CASE-MS-12396-1] c 03 N73-31988
- Microwave power transmission system wherein level of transmitted power is controlled by reflections from receiver  
[NASA-CASE-MFS-21470-1] c 44 N74-19870
- Electrical rotary joint apparatus for large space structures  
[NASA-CASE-MFS-23981-1] c 07 N83-20944

**ELECTRIC PROPULSION**

- Electric propulsion engine test chamber Patent  
[NASA-CASE-XLE-00252] c 11 N70-34844

**ELECTRIC PULSES**

- Pulse counting circuit which simultaneously indicates the occurrence of the nth pulse Patent  
[NASA-CASE-XMF-00906] c 09 N70-41655
- Variable pulse width multiplier Patent  
[NASA-CASE-XLA-02850] c 09 N71-20447
- Phonocardiograph transducer Patent  
[NASA-CASE-XMS-05365] c 14 N71-22993
- Solid state pulse generator with constant output width, for variable input width, in nanosecond range Patent  
[NASA-CASE-XGS-03427] c 10 N71-23029
- Variable width pulse integrator Patent  
[NASA-CASE-XLA-03356] c 10 N71-23315
- Pulse rise time and amplitude detector Patent  
[NASA-CASE-XMF-08804] c 09 N71-24717
- Counter Patent  
[NASA-CASE-XNP-06234] c 10 N71-27137
- Precision rectifier with FET switching means Patent  
[NASA-CASE-ARC-10101-1] c 09 N71-33109
- Phase modulating with odd and even finite power series of a modulating signal  
[NASA-CASE-LAR-11607-1] c 32 N77-14292
- Telephone multiline signaling using common signal pair  
[NASA-CASE-KSC-11023-1] c 32 N79-23310
- Active lamp pulse driver circuit --- optical pumping of laser media  
[NASA-CASE-GSC-12566-1] c 33 N83-34189

**ELECTRIC RELAYS**

- Protective circuit of the spark gap type  
[NASA-CASE-XAC-08981] c 09 N69-39897
- Time-division multiplexer Patent  
[NASA-CASE-XNP-00431] c 09 N70-38998
- Out of tolerance warning alarm system for plurality of monitored circuits Patent  
[NASA-CASE-XMS-10984-1] c 10 N71-19417
- Time division radio relay synchronizing system using different sync code words for in sync and out of sync conditions Patent  
[NASA-CASE-GSC-10373-1] c 07 N71-19773
- Circuit breaker utilizing magnetic latching relays Patent  
[NASA-CASE-MS-11277] c 09 N71-29008
- Multi-cell battery protection system  
[NASA-CASE-LEW-12039-1] c 44 N78-14625

**ELECTRIC ROCKET ENGINES**

- Electron bombardment ion engine Patent  
[NASA-CASE-XNP-04124] c 28 N71-21822

**ELECTRIC SPARKS**

- Method and device for detection of a substance --- determining carbon fiber release in fire situations  
[NASA-CASE-NPO-14940-1] c 33 N83-31954

**ELECTRIC STIMULI**

- Tread drum for animals --- having an electrical shock station  
[NASA-CASE-ARC-10917-1] c 51 N78-27733

**ELECTRIC SWITCHES**

- Thermionic diode switch Patent  
[NASA-CASE-NPO-10404] c 03 N71-12255
- Deflective rod switch with elastic support and sealing means Patent  
[NASA-CASE-XNP-09808] c 09 N71-12518
- Electrical switching device Patent  
[NASA-CASE-NPO-10037] c 09 N71-19610
- Plural position switch status and operativeness checker Patent  
[NASA-CASE-XLA-08799] c 10 N71-27272
- Pulse generating circuit employing switch means on ends of delay line for alternately charging and discharging same Patent  
[NASA-CASE-XNP-00745] c 10 N71-28960
- Cyclic switch Patent  
[NASA-CASE-LEW-10155-1] c 09 N71-29035
- Telemetry actuated switch  
[NASA-CASE-ARC-10105] c 09 N72-17153
- Differential pressure control  
[NASA-CASE-MFS-14216] c 14 N73-13418
- Fused switch  
[NASA-CASE-XMS-01244-1] c 33 N79-33393
- Pulse switching for high energy lasers  
[NASA-CASE-NPO-14556-1] c 33 N82-24418
- Automatic thermal switch --- spacecraft applications  
[NASA-CASE-GSC-12553-1] c 34 N83-28356
- Four quadrant control circuit for a brushless three-phase dc motor  
[NASA-CASE-MFS-28080-1] c 33 N87-21233

**ELECTRIC TERMINALS**

- Electrical connector pin with wiping action  
[NASA-CASE-XMF-04238] c 09 N69-39734
- Electrical connector for flat cables Patent  
[NASA-CASE-XMF-00324] c 09 N70-34596
- Tool attachment for spreading loose elements away from work Patent  
[NASA-CASE-XMF-02107] c 15 N71-10809
- Electrical spot terminal assembly Patent  
[NASA-CASE-NPO-10034] c 15 N71-17685
- Resistance soldering apparatus  
[NASA-CASE-GSC-10913] c 15 N72-22491
- Radio frequency filter device  
[NASA-CASE-XLA-02609] c 09 N72-25256
- Device for configuring multiple leads --- method for connecting electric leads to printed circuit board  
[NASA-CASE-MFS-22133-1] c 33 N74-26977

**ELECTRIC WELDING**

- Electric welding torch Patent  
[NASA-CASE-XMF-02330] c 15 N71-23798
- Butt welder for fine gauge tungsten/rhenium thermocouple wire  
[NASA-CASE-LAR-10103-1] c 15 N73-14468
- Welding blades to rotors  
[NASA-CASE-LEW-10533-1] c 15 N73-28515

**ELECTRIC WIRE**

- Wire grid forming apparatus Patent  
[NASA-CASE-XLE-00023] c 15 N70-33330
- Weld control system using thermocouple wire Patent  
[NASA-CASE-MFS-06074] c 15 N71-20393
- Ablation sensor Patent  
[NASA-CASE-XLA-01794] c 33 N71-21586
- Resistance soldering apparatus  
[NASA-CASE-GSC-10913] c 15 N72-22491
- Lead attachment to high temperature devices  
[NASA-CASE-ERC-10224] c 09 N72-25261
- Means for accommodating large overstrain in lead wires --- by storing extra length of wire in stretchable loop  
[NASA-CASE-LAR-10168-1] c 33 N74-22865
- Device for configuring multiple leads --- method for connecting electric leads to printed circuit board  
[NASA-CASE-MFS-22133-1] c 33 N74-26977
- High current electrical lead --- for thermionic converters  
[NASA-CASE-LEW-10950-1] c 33 N74-27683
- Wire stripper  
[NASA-CASE-FRC-10111-1] c 37 N79-10419
- Method and apparatus for preparing multiconductor cable with flat conductors  
[NASA-CASE-MFS-10946-1] c 31 N79-21226
- Edge coating of flat wires  
[NASA-CASE-XMF-05757-1] c 31 N79-21227
- Thin wire pointing method  
[NASA-CASE-NPO-15789-1] c 31 N83-19947

**ELECTRICAL ENGINEERING**

- Relay binary circuit Patent  
[NASA-CASE-XMF-00421] c 09 N70-34502
- Vibrating element electrometer with output signal magnified over input signal by a function of the mechanical Q of the vibrating element Patent  
[NASA-CASE-XAC-02807] c 09 N71-23021

**ELECTRICAL FAULTS**

- Apparatus for overcurrent protection of a push-pull amplifier Patent  
[NASA-CASE-MS-12033-1] c 09 N71-13531

Failure sensing and protection circuit for converter networks Patent

- [NASA-CASE-GSC-10114-1] c 10 N71-27366
- Solar cell assembly test method  
[NASA-CASE-NPO-10401] c 03 N72-20033
- Shared memory for a fault-tolerant computer  
[NASA-CASE-NPO-13139-1] c 60 N76-21914
- Method and apparatus for transfer function simulator for testing complex systems  
[NASA-CASE-NPO-15696-1] c 33 N85-34333

**ELECTRICAL IMPEDANCE**

- High voltage transistor circuit Patent  
[NASA-CASE-XNP-06937] c 09 N71-19516
- High impedance measuring apparatus Patent  
[NASA-CASE-XMS-08589-1] c 09 N71-20569
- Multialarm summary alarm Patent  
[NASA-CASE-XLE-03061-1] c 10 N71-24798
- Signal conditioning circuit apparatus --- with constant input impedance  
[NASA-CASE-ARC-10348-1] c 33 N75-19518
- Readout electrode assembly for measuring biological impedance  
[NASA-CASE-ARC-10816-1] c 35 N76-24525
- Solid-state current transformer  
[NASA-CASE-MFS-22560-1] c 33 N77-14335

**ELECTRICAL INSULATION**

- Solenoid construction Patent  
[NASA-CASE-XNP-01951] c 09 N70-41929
- Method and apparatus for cryogenic wire stripping Patent  
[NASA-CASE-MFS-10340] c 15 N71-17628
- Plasma device feed system Patent  
[NASA-CASE-XLE-02902] c 25 N71-21694
- Propellant feed isolator Patent  
[NASA-CASE-LEW-10210-1] c 28 N71-26781
- Electrical insulating layer process  
[NASA-CASE-LEW-10489-1] c 15 N72-25447
- Bio-isolated dc operational amplifier --- for bioelectric measurements  
[NASA-CASE-ARC-10596-1] c 33 N74-21851
- Stored charge transistor  
[NASA-CASE-NPO-11156-2] c 33 N75-31331
- Method of making an insulation foil  
[NASA-CASE-LEW-11484-1] c 24 N75-33181
- Gas ion laser construction for electrically isolating the pressure gauge thereof  
[NASA-CASE-MFS-22597] c 36 N78-17366
- Wire stripper  
[NASA-CASE-FRC-10111-1] c 37 N79-10419
- Coaxial cable connector  
[NASA-CASE-NPO-16764-1-CU] c 33 N88-14270

**ELECTRICAL MEASUREMENT**

- Device for determining the accuracy of the flare on a flared tube  
[NASA-CASE-XKS-03495] c 14 N69-39785
- Bootstrap unloader Patent  
[NASA-CASE-NXP-09768] c 09 N71-12516
- Micro current measuring device using plural logarithmic response heated filamentary type diodes Patent  
[NASA-CASE-XNP-00384] c 09 N71-13530
- Apparatus for field strength measurement of a space vehicle Patent  
[NASA-CASE-XLE-00820] c 14 N71-16014
- Apparatus for measuring current flow Patent  
[NASA-CASE-XGS-02439] c 14 N71-19431
- High voltage divider system Patent  
[NASA-CASE-XLE-02008] c 09 N71-21583
- Ablation sensor Patent  
[NASA-CASE-XLA-01794] c 33 N71-21586
- Hall current measuring apparatus having a series resistor for temperature compensation Patent  
[NASA-CASE-XAC-01662] c 14 N71-23037
- Connector internal force gauge Patent  
[NASA-CASE-XNP-03918] c 14 N71-23087
- Automatic signal range selector for metering devices Patent  
[NASA-CASE-XMS-06497] c 14 N71-26244
- Lightning current measuring systems  
[NASA-CASE-KSC-10807-1] c 33 N75-26246
- Rapid activation and checkout device for batteries  
[NASA-CASE-MFS-22749-1] c 44 N76-14601
- Electrical conductivity cell and method for fabricating the same  
[NASA-CASE-ARC-10810-1] c 33 N76-19339
- Trielectrode capacitive pressure transducer  
[NASA-CASE-ARC-10711-2] c 33 N76-21390
- Readout electrode assembly for measuring biological impedance  
[NASA-CASE-ARC-10816-1] c 35 N76-24525
- Apparatus for measuring semiconductor device resistance  
[NASA-CASE-NPO-14424-1] c 33 N80-32650
- Lightning discharge identification system  
[NASA-CASE-KSC-11099-1] c 47 N82-24779
- Pyroelectric detector arrays  
[NASA-CASE-LAR-12363-1] c 35 N82-31659



- Four-terminal electrical testing device --- initiator  
[NASA-CASE-MSC-21166-1] c 35 N87-25555
- ELECTRICAL PROPERTIES**  
Drift compensation circuit for analog to digital converter  
Patent  
[NASA-CASE-XNP-04780] c 08 N71-19687  
Electronically resettable fuse Patent  
[NASA-CASE-XGS-11177] c 09 N71-27001  
Voltage regulator Patent  
[NASA-CASE-ERC-10113] c 09 N71-27053  
Radiometric temperature reference  
Patent  
[NASA-CASE-MSC-13276-1] c 14 N71-27058  
Solar cell matrix  
[NASA-CASE-NPO-11190] c 03 N71-34044  
Storage battery comprising negative plates of a wedge  
shaped configuration --- for preventing shape change  
induced malfunctions  
[NASA-CASE-NPO-11806-1] c 44 N74-19693  
Thermocouple tape --- developed from  
thermoelectrically different metals  
[NASA-CASE-LEW-11072-2] c 35 N76-15434  
Modification of the electrical and optical properties of  
polymers --- ion irradiation to create texture  
[NASA-CASE-LEW-13027-1] c 27 N80-24437
- ELECTRICAL RESISTANCE**  
Positive contact resistance soldering unit  
[NASA-CASE-KSC-10242] c 15 N72-23497  
RF-source resistance meters  
[NASA-CASE-NPO-11291-1] c 14 N73-30388  
Apparatus for measuring semiconductor device  
resistance  
[NASA-CASE-NPO-14424-1] c 33 N80-32650  
Tensile testing apparatus  
[NASA-CASE-LAR-13243-1] c 35 N85-34375  
Four-terminal electrical testing device --- initiator  
bridgewire resistance  
[NASA-CASE-MSC-21166-1] c 35 N87-25555  
A digitally controlled system for effecting and presenting  
a selected electrical resistance  
[NASA-CASE-MFS-29149-1] c 33 N87-29737
- ELECTRICAL RESISTIVITY**  
GaAs solar detector using manganese as a doping agent  
Patent  
[NASA-CASE-XNP-01328] c 26 N71-18064  
Thermopile vacuum gage tube simulator Patent  
[NASA-CASE-XLA-02758] c 14 N71-18481  
Electrically conductive fluorocarbon polymer  
[NASA-CASE-XLE-06774-2] c 06 N72-25150  
Electrical conductivity cell and method for fabricating  
the same  
[NASA-CASE-ARC-10810-1] c 33 N76-19339  
Durable antistatic coating for polymethylmethacrylate  
[NASA-CASE-NPO-13867-1] c 27 N78-14164  
Remote lightning monitor system  
[NASA-CASE-KSC-11031-1] c 33 N79-11315  
Lightweight electrically-powered flexible thermal  
laminate --- made of metal and nonconductive yarns  
[NASA-CASE-MSC-12662-1] c 33 N79-12331  
Electrically conductive thermal control coatings  
[NASA-CASE-GSC-12207-1] c 24 N79-14156  
Electrically conductive palladium containing polyimide  
films  
[NASA-CASE-LAR-12705-1] c 25 N82-26396  
Method of making a high voltage V-groove solar cell  
[NASA-CASE-LEW-13401-1] c 44 N82-29709  
Method and device for detection of a substance ---  
determining carbon fiber release in fire situations  
[NASA-CASE-NPO-14940-1] c 33 N83-31954  
Piezoelectric composite materials  
[NASA-CASE-LEW-12582-1] c 76 N83-34796  
Instrumentation for sensing moisture content of material  
using a transient thermal pulse  
[NAS 1.71-NPO-15494-2] c 35 N85-34373  
High temperature electric arc furnace  
[NASA-CASE-MFS-28281-1] c 09 N88-28938  
Light weight polymer matrix composite material  
[NASA-CASE-LEW-14734-1] c 24 N89-23623
- ELECTRICITY**  
Thermionic converter with current augmented by self  
induced magnetic field Patent  
[NASA-CASE-XLE-01903] c 22 N71-23599  
Heat exchanger for electrothermal devices  
[NASA-CASE-LEW-14037-1] c 20 N87-16875
- ELECTRO-OPTICS**  
Electro-optical scanning apparatus Patent Application  
[NASA-CASE-NPO-11106] c 14 N70-34697  
Electro-optical alignment control system Patent  
[NASA-CASE-XMF-00908] c 14 N70-40238  
Polarimeter for transient measurement Patent  
[NASA-CASE-XNP-08883] c 23 N71-16101  
Light direction sensor  
[NASA-CASE-NPO-11201] c 14 N72-27409  
Ultrastable calibrated light source  
[NASA-CASE-MSC-12293-1] c 14 N72-27411

- Optical conversion method --- for spacecraft television  
[NASA-CASE-MSC-12618-1] c 74 N78-17865  
Noncontacting method for measuring angular  
deflection  
[NASA-CASE-LAR-12178-1] c 74 N80-21138  
Miniature electrooptical air flow sensor  
[NASA-CASE-LAR-13065-1] c 35 N85-20295  
Adjustable mount for electro-optic transducers in an  
evacuated cryogenic system  
[NASA-CASE-LAR-13100-1] c 37 N87-23982  
Photorefractor ocular screening system  
[NASA-CASE-MFS-26011-1-SB] c 52 N87-24874
- ELECTROACOUSTIC TRANSDUCERS**  
Respiration monitor  
[NASA-CASE-FRC-10012] c 14 N72-17329  
Material suspension within an acoustically excited  
resonant chamber --- at near weightless conditions  
[NASA-CASE-NPO-13263-1] c 12 N75-24774  
CDS solid state phase insensitive ultrasonic transducer  
--- annealing dadmium sulfide crystals  
[NASA-CASE-LAR-12304-1] c 35 N80-20559
- ELECTROACOUSTIC WAVES**  
Phonocardiogram simulator Patent  
[NASA-CASE-XKS-10804] c 05 N71-24606
- ELECTROCARDIOGRAPHY**  
Phonocardiogram simulator Patent  
[NASA-CASE-XKS-10804] c 05 N71-24606  
Ratemeter  
[NASA-CASE-MFS-20418] c 14 N73-24473  
Insulated electrocardiographic electrodes --- without  
paste electrolyte  
[NASA-CASE-MSC-14339-1] c 05 N75-24716  
Pocket ECG electrode  
[NASA-CASE-ARC-11258-1] c 52 N80-33081  
Subcutaneous electrode structure  
[NASA-CASE-ARC-11117-1] c 52 N81-14612
- ELECTROCATALYSTS**  
Electrocatalyst for oxygen reduction  
[NASA-CASE-HON-10537-1] c 06 N72-10138  
Catalyst surfaces for the chromous/chromic redox  
couple  
[NASA-CASE-LEW-13148-1] c 33 N80-20487  
Zirconium carbide as an electrocatalyst for the  
chromous-chromic redox couple  
[NASA-CASE-LEW-13246-1] c 44 N83-27344
- ELECTROCHEMICAL CELLS**  
Apparatus for measuring swelling characteristics of  
membranes  
[NASA-CASE-XGS-03865] c 14 N69-21363  
Prevention of pressure build-up in electrochemical cells  
Patent  
[NASA-CASE-XGS-01419] c 03 N70-41864  
Non-magnetic battery case Patent  
[NASA-CASE-XGS-00886] c 03 N71-11053  
Sealing device for an electrochemical cell Patent  
[NASA-CASE-XGS-02630] c 03 N71-22974  
Sealed electrochemical cell provided with a flexible  
casing Patent  
[NASA-CASE-XGS-01513] c 03 N71-23336  
Electric battery and method for operating same Patent  
[NASA-CASE-XGS-01674] c 03 N71-29129  
Frangible electrochemical cell  
[NASA-CASE-XGS-10010] c 03 N72-15986  
Porous electrode comprising a bonded stack of pieces  
of corrugated metal foil  
[NASA-CASE-GSC-11368-1] c 09 N73-32108  
Battery testing device --- for testing cells of multiple-cell  
battery  
[NASA-CASE-MFS-20761-1] c 44 N74-27519  
Electrical conductivity cell and method for fabricating  
the same  
[NASA-CASE-ARC-10810-1] c 33 N76-19339  
Multi-cell battery protection system  
[NASA-CASE-LEW-12039-1] c 44 N78-14625  
Method and device for the detection of phenol and  
related compounds --- in an electrochemical cell  
[NASA-CASE-LEW-12513-1] c 25 N79-22235  
Electrochemical cell for rebalancing REDOX flow  
system  
[NASA-CASE-LEW-13150-1] c 44 N79-26474  
Catalyst surfaces for the chromous/chromic redox  
couple  
[NASA-CASE-LEW-13148-1] c 33 N80-20487  
Alkaline electrochemical cells and method of making  
[NASA-CASE-GSC-10349-1] c 44 N82-24645  
Method for determining the point of zero zeta potential  
of semiconductor  
[NASA-CASE-LAR-12893-1] c 76 N85-30923  
Method and apparatus for rebalancing a REDOX flow  
cell system  
[NASA-CASE-LEW-14127-1] c 33 N86-20680
- ELECTROCHEMICAL MACHINING**  
Apparatus for electrolytically tapered or contoured  
cavities  
[NASA-CASE-XNP-08835-1] c 37 N80-14395

**ELECTROCHEMICAL OXIDATION**

- Method and device for the detection of phenol and  
related compounds --- in an electrochemical cell  
[NASA-CASE-LEW-12513-1] c 25 N79-22235  
Epitaxial thinning process  
[NASA-CASE-NPO-15786-1] c 76 N84-35112

**ELECTROCHEMISTRY**

- Electrode for biological recording  
[NASA-CASE-XMS-02872] c 05 N69-21925  
Electrochemical detection device --- for use in  
microbiology  
[NASA-CASE-LAR-11922-1] c 25 N79-24073

**ELECTRODE FILM BARRIERS**

- Formulated plastic separators for soluble electrode cells  
--- rubber-ion transport membranes  
[NASA-CASE-LEW-12358-1] c 44 N79-17313

**ELECTRODE MATERIALS**

- Electrode carrying wire for GTAW welding  
[NASA-CASE-MFS-29491-1] c 31 N89-23738

**ELECTRODEPOSITION**

- Method of electrolytically binding a layer of  
semiconductors together Patent  
[NASA-CASE-XNP-01959] c 26 N71-23043  
Method of producing crystalline materials  
[NASA-CASE-NPO-10440] c 15 N72-21466  
Electrophoretic sample insertion --- device for uniformly  
distributing samples in flow path  
[NASA-CASE-MFS-21395-1] c 25 N74-26948  
Multitarget sequential sputtering apparatus  
[NASA-CASE-NPO-13345-1] c 37 N75-19684  
Method and device for the detection of phenol and  
related compounds --- in an electrochemical cell  
[NASA-CASE-LEW-12513-1] c 25 N79-22235

**ELECTRODES**

- Electrode and insulator with shielded dielectric  
junction  
[NASA-CASE-XLE-03778] c 09 N69-21542  
Electrode for biological recording  
[NASA-CASE-XMS-02872] c 05 N69-21925  
Bonding thermoelectric elements to nonmagnetic  
refractory metal electrodes  
[NASA-CASE-XGS-04554] c 15 N69-39786  
Ionization vacuum gauge Patent  
[NASA-CASE-XNP-00646] c 14 N70-35666  
Double optic system for ion engine Patent  
[NASA-CASE-XNP-02839] c 28 N70-41922  
Didymium hydrate additive to nickel hydroxide electrodes  
Patent  
[NASA-CASE-XGS-03505] c 03 N71-10608  
Focussing system for an ion source having apertured  
electrodes Patent  
[NASA-CASE-XNP-03332] c 09 N71-10618  
Biomedical electrode arrangement Patent  
[NASA-CASE-XFR-10856] c 05 N71-11189  
Electrode construction Patent  
[NASA-CASE-ARC-10043-1] c 05 N71-11193  
Pressed disc type sensing electrodes with ion- screening  
means Patent  
[NASA-CASE-XMS-04212-1] c 05 N71-12346  
Method of making electrical contact on silicon solar cell  
and resultant product Patent  
[NASA-CASE-XLE-04787] c 03 N71-20492  
Arc electrode of graphite with ball tip Patent  
[NASA-CASE-XLE-04788] c 09 N71-22987  
Sealing member and combination thereof and method  
of producing said sealing member Patent  
[NASA-CASE-XMS-01625] c 15 N71-23022  
Automatic recording McLeod gauge Patent  
[NASA-CASE-XLE-03280] c 14 N71-23093  
Flexible conductive disc electrode Patent  
[NASA-CASE-FRC-10029] c 09 N71-24618  
Plated electrodes Patent  
[NASA-CASE-XMS-04213-1] c 09 N71-26002  
Method and apparatus for attaching physiological  
monitoring electrodes Patent  
[NASA-CASE-XFR-07658-1] c 05 N71-26293  
Field ionization electrodes Patent  
[NASA-CASE-ERC-10013] c 09 N71-26678  
Method of making a perspiration resistant biopotential  
electrode  
[NASA-CASE-MSC-90153-2] c 05 N72-25120  
Method of making dry electrodes  
[NASA-CASE-FRC-10029-2] c 05 N72-25121  
Compressible biomedical electrode  
[NASA-CASE-MSC-13648] c 05 N72-27103  
Method and apparatus for limiting field emission  
current  
[NASA-CASE-ERC-10015-2] c 10 N72-27246  
Coaxial high density, hypervelocity plasma generator and  
accelerator with ionizable metal disc  
[NASA-CASE-MFS-20589] c 25 N72-32688  
Ion thruster with a combination keeper electrode and  
electron baffle  
[NASA-CASE-NPO-11880] c 28 N73-24783

Wide temperature range electronic device with lead attachment  
[NASA-CASE-ERC-10224-2] c 09 N73-27150

Porus electrode comprising a bonded stack of pieces of corrugated metal foil  
[NASA-CASE-GSC-11368-1] c 09 N73-32108

High powered arc electrodes --- producing solar simulator radiation  
[NASA-CASE-LEW-11162-1] c 33 N74-12913

Method of making porous conductive supports for electrodes --- by electroforming and stacking nickel foils  
[NASA-CASE-GSC-11367-1] c 44 N74-19692

Insulated electrocardiographic electrodes --- without paste electrolyte  
[NASA-CASE-MS-C-14339-1] c 05 N75-24716

Readout electrode assembly for measuring biological impedance  
[NASA-CASE-ARC-10816-1] c 35 N76-24525

Gels as battery separators for soluble electrode cells  
[NASA-CASE-LEW-12364-1] c 44 N77-22606

Snap-in compressible biomedical electrode  
[NASA-CASE-MS-C-14623-1] c 52 N77-28717

Apparatus for electrolytically tapered or contoured cavities  
[NASA-CASE-XNP-08835-1] c 37 N80-14395

Toroidal cell and battery --- storage battery for high amp-hour load applications  
[NASA-CASE-LEW-12918-1] c 44 N81-24521

Catalyst surfaces for the chromous/chromic redox couple  
[NASA-CASE-LEW-13148-2] c 44 N81-29524

Method of making formulated plastic separators for soluble electrode cells  
[NASA-CASE-LEW-12358-2] c 25 N82-21268

Multistage depressed collector for dual mode operation --- for microwave transmitting tubes  
[NASA-CASE-LEW-13282-1] c 33 N82-24415

Alkaline electrochemical cells and method of making  
[NASA-CASE-GSC-10349-1] c 44 N82-24645

Thermionic energy converters  
[NASA-CASE-LEW-12443-1] c 44 N83-32175

Photoelectrochemical electrodes  
[NASA-CASE-NPO-15458-1] c 25 N84-12262

Electrodes for solid state devices  
[NASA-CASE-NPO-15161-1] c 33 N84-16456

Method of making a light weight battery plaque  
[NASA-CASE-LEW-13349-1] c 26 N84-22734

Chromium electrodes for REDOX cells  
[NASA-CASE-LEW-13653-1] c 44 N84-28205

Ion sputter textured graphite electrode plates  
[NASA-CASE-LEW-12919-2] c 70 N84-28565

Trace water sensor  
[NASA-CASE-NPO-15722-1] c 35 N85-29212

Negative electrode catalyst for the iron chromium redox energy storage system  
[NASA-CASE-LEW-14028-1] c 44 N86-19721

Discharge cell for optogalvanic spectroscopy having orthogonal relationship between the probe laser and discharge axis  
[NASA-CASE-NPO-16271-1] c 35 N86-25753

Spillage detector for liquid chromatography systems  
[NASA-CASE-MS-C-20206-1] c 25 N86-27431

**ELECTRODIALYSIS**  
Aqueous alkali metal hydroxide insoluble cellulose ether membrane  
[NASA-CASE-XGS-05584-1] c 25 N82-29370

**ELECTROFORMING**  
Method of electroforming a rocket chamber  
[NASA-CASE-LEW-11118-1] c 20 N74-32919

**ELECTROHYDRAULIC FORMING**  
Electrical discharge apparatus for forming Patent  
[NASA-CASE-XMF-00375] c 15 N70-34249

**ELECTROHYDRODYNAMICS**  
Electrohydrodynamic control valve Patent  
[NASA-CASE-NPO-10416] c 12 N71-27332

**ELECTROKINETICS**  
Zeta potential flowmeter Patent  
[NASA-CASE-XNP-06509] c 14 N71-23226

**ELECTROLUMINESCENCE**  
Flat-panel, full-color, electroluminescent display  
[NASA-CASE-LAR-13407-1] c 33 N87-28831

**ELECTROLYSIS**  
Passively regulated water electrolysis rocket engine Patent  
[NASA-CASE-XGS-08729] c 28 N71-14044

Combined electrolysis device and fuel cell and method of operation Patent  
[NASA-CASE-XLE-01645] c 03 N71-20904

Polymeric electrolytic hygrometer  
[NASA-CASE-NPO-13948-1] c 35 N78-25391

**ELECTROLYTES**  
Apparatus for measuring swelling characteristics of membranes  
[NASA-CASE-XGS-03865] c 14 N69-21363

Electrolytically regenerative hydrogen-oxygen fuel cell Patent  
[NASA-CASE-XLE-04526] c 03 N71-11052

Sealed electrochemical cell provided with a flexible casing Patent  
[NASA-CASE-XGS-01513] c 03 N71-23336

Compressible biomedical electrode  
[NASA-CASE-MS-C-13648] c 05 N72-27103

Solid electrolyte cell  
[NASA-CASE-NPO-15269-1] c 44 N82-29710

Chromium electrodes for REDOX cells  
[NASA-CASE-LEW-13653-1] c 44 N84-28205

Trace water sensor  
[NASA-CASE-NPO-15722-1] c 35 N85-29212

**ELECTROLYTIC CELLS**  
Method of making emf cell  
[NASA-CASE-LEW-11359-2] c 03 N72-20034

Electrolytic gas operated actuator  
[NASA-CASE-NPO-11369] c 15 N73-13467

Electrolytic cell structure  
[NASA-CASE-LAR-11042-1] c 33 N75-27252

Reconstituted asbestos matrix --- for use in fuel or electrolysis cells  
[NASA-CASE-MS-C-12568-1] c 24 N76-14204

Catalyst surfaces for the chromous/chromic redox couple  
[NASA-CASE-LEW-13148-1] c 33 N80-20487

Cell and method for electrolysis of water and anode  
[NASA-CASE-MS-C-16394-1] c 28 N81-24280

Toroidal cell and battery --- storage battery for high amp-hour load applications  
[NASA-CASE-LEW-12918-1] c 44 N81-24521

Solid electrolyte cell  
[NASA-CASE-NPO-15269-1] c 44 N82-29710

State-of-charge coulometer  
[NASA-CASE-NPO-15759-1] c 35 N85-21596

**ELECTROMAGNETIC ABSORPTION**  
Multiple pass reimaging optical system  
[NASA-CASE-ARC-10194-1] c 23 N73-20741

Method and apparatus for background signal reduction in opto-acoustic absorption measurement  
[NASA-CASE-NPO-13683-1] c 35 N77-14411

Electromagnetic radiation energy arrangement --- coatings for solar energy absorption and infrared reflection  
[NASA-CASE-WOO-00428-1] c 32 N79-19186

Electromagnetic power absorber  
[NASA-CASE-NPO-13830-1] c 32 N80-14281

Method and apparatus for determining optical absorption and emission characteristics of a crystal or non-crystalline fiber  
[NASA-CASE-LAR-13963-1] c 76 N89-14119

**ELECTROMAGNETIC FIELDS**  
Tumbler system to provide random motion  
[NASA-CASE-XGS-02437] c 15 N69-21472

Vacuum evaporator with electromagnetic ion steering Patent  
[NASA-CASE-NPO-10331] c 09 N71-26701

Metallic intrusion detector system  
[NASA-CASE-ARC-10265-1] c 10 N72-28240

Low power electromagnetic flowmeter providing accurate zero set  
[NASA-CASE-ARC-10362-1] c 14 N73-32326

Electromagnetic flow rate meter --- for liquid metals  
[NASA-CASE-LEW-10981-1] c 35 N74-21018

Microcomputerized electric field meter diagnostic and calibration system  
[NASA-CASE-KSC-11035-1] c 35 N78-28411

**ELECTROMAGNETIC HAMMERS**  
Method and apparatus for precision sizing and joining of large diameter tubes Patent  
[NASA-CASE-XMF-05114] c 15 N71-17650

Magnetomotive metal working device Patent  
[NASA-CASE-XMF-03793] c 15 N71-24833

**ELECTROMAGNETIC INTERFERENCE**  
Sealed cabinetry Patent  
[NASA-CASE-MS-C-12168-1] c 09 N71-18600

Method of treating the surface of a glass member  
[NASA-CASE-GSC-12110-1] c 27 N77-32308

Method and apparatus for enhancing laser absorption sensitivity  
[NASA-CASE-NPO-16567-1-CU] c 36 N87-28006

Method and apparatus for reducing speckle  
[NASA-CASE-LAR-13771-1] c 36 N89-14428

**ELECTROMAGNETIC MEASUREMENT**  
Method and apparatus for determining electromagnetic characteristics of large surface area passive reflectors Patent  
[NASA-CASE-XGS-02608] c 07 N70-41678

Microcomputerized electric field meter diagnostic and calibration system  
[NASA-CASE-KSC-11035-1] c 35 N78-28411

Lightning discharge identification system  
[NASA-CASE-KSC-11099-1] c 47 N82-24779

**ELECTROMAGNETIC NOISE**  
Parametric amplifiers with idler circuit feedback  
[NASA-CASE-LAR-10253-1] c 09 N72-25258

Audio system with means for reducing noise effects  
[NASA-CASE-NPO-11631] c 10 N73-12244

Filtering device --- removing electromagnetic noise from voice communication signals  
[NASA-CASE-MFS-22729-1] c 32 N76-21366

**ELECTROMAGNETIC PROPERTIES**  
Measurement apparatus and procedure for the determination of surface emissivities  
[NASA-CASE-LAR-13455-1] c 32 N87-21206

**ELECTROMAGNETIC PROPULSION**  
Hypervelocity gun --- using both electric and chemical energy for projectile propulsion  
[NASA-CASE-XLE-03186-1] c 09 N79-21084

**ELECTROMAGNETIC PULSES**  
Laser pulse detection method and apparatus  
[NASA-CASE-NPO-16030-1] c 36 N84-25037

**ELECTROMAGNETIC PUMPS**  
Multiducted electromagnetic pump Patent  
[NASA-CASE-NPO-10755] c 15 N71-27084

**ELECTROMAGNETIC RADIATION**  
Inflatable radar reflector unit Patent  
[NASA-CASE-XMS-00893] c 07 N70-40063

Circulator having quarter wavelength resonant post and parametric amplifier circuits utilizing the same Patent  
[NASA-CASE-XNP-02140] c 09 N71-23097

Electromagnetic polarization systems and methods Patent  
[NASA-CASE-GSC-10021-1] c 09 N71-24595

Antenna design for surface wave suppression Patent  
[NASA-CASE-XLA-10772] c 07 N71-28980

Multiple reflection conical microwave antenna  
[NASA-CASE-NPO-11661] c 07 N73-14130

Method and apparatus for measuring electromagnetic radiation  
[NASA-CASE-LEW-11159-1] c 14 N73-28488

Hyperthermia heating apparatus --- cancer therapy  
[NASA-CASE-NPO-14549-2] c 52 N82-33996

Method and apparatus for measuring distance  
[NASA-CASE-MS-C-20912-1] c 32 N88-26568

**ELECTROMAGNETIC SHIELDING**  
Method of making shielded flat cable Patent  
[NASA-CASE-MFS-13687] c 09 N71-28691

Wire stripper  
[NASA-CASE-FRC-10111-1] c 37 N79-10419

Shielded conductor cable system  
[NASA-CASE-MS-C-12745-1] c 33 N81-27397

**ELECTROMAGNETIC WAVE FILTERS**  
Laser camera and diffusion filter therefore Patent  
[NASA-CASE-NPO-10417] c 16 N71-33410

**ELECTROMAGNETIC WAVE TRANSMISSION**  
Method and apparatus for determining electromagnetic characteristics of large surface area passive reflectors Patent  
[NASA-CASE-XGS-02608] c 07 N70-41678

Gyrottron transmitting tube  
[NASA-CASE-LEW-13429-1] c 33 N83-31952

**ELECTROMAGNETISM**  
Detentling servomotor Patent  
[NASA-CASE-XNP-06936] c 15 N71-24695

Linear magnetic bearing  
[NASA-CASE-GSC-12517-1] c 37 N83-32067

Linear magnetic bearings  
[NASA-CASE-GSC-12582-2] c 37 N85-20337

**ELECTROMAGNETS**  
Electromagnetic mirror drive system  
[NASA-CASE-XLA-03724] c 14 N69-27461

Solenoid construction Patent  
[NASA-CASE-XNP-01951] c 09 N70-41929

Position sensing device employing misaligned magnetic field generating and detecting apparatus Patent  
[NASA-CASE-XGS-07514] c 23 N71-16099

Safe-arm initiator Patent  
[NASA-CASE-LAR-10372] c 09 N71-18599

Magnetic bearing --- for supplying magnetic fluxes  
[NASA-CASE-GSC-11079-1] c 37 N75-18574

Magnetic spin reduction system for free spinning objects  
[NASA-CASE-MFS-25966-1] c 16 N86-26352

**ELECTROMECHANICAL DEVICES**  
Electromechanical actuator  
[NASA-CASE-XNP-05975] c 15 N69-23185

Bimetallic power controlled actuator  
[NASA-CASE-XNP-09776] c 09 N69-39929

Apparatus for coupling a plurality of ungrounded circuits to a grounded circuit Patent  
[NASA-CASE-XAC-00086] c 09 N70-33182

Apparatus for controlling the velocity of an electromechanical drive for interferometers and the like Patent  
[NASA-CASE-XGS-03532] c 14 N71-17627

Mechanical actuator Patent  
[NASA-CASE-XGS-04548] c 15 N71-24045

Transverse piezoresistance and pinch effect  
electromechanical transducers Patent  
[NASA-CASE-ERC-10088] c 26 N71-25490  
Electromechanical control actuator system Patent  
[NASA-CASE-ERC-10022] c 15 N71-26635  
Pressure sensitive transducers Patent  
[NASA-CASE-ERC-10087] c 14 N71-27334  
Electro-mechanical sine/cosine generator  
[NASA-CASE-LAR-10503-1] c 09 N72-21248  
Ferrofluidic solenoid  
[NASA-CASE-NPO-11738-1] c 09 N73-30185  
Electro-mechanical sine/cosine generator  
[NASA-CASE-LAR-11389-1] c 33 N77-26387  
Rotary electric device  
[NASA-CASE-GSC-12138-1] c 33 N79-20314  
Coal-shale interface detection system  
[NASA-CASE-MFS-23720-2] c 43 N80-14423  
Coal-shale interface detector  
[NASA-CASE-MFS-23720-1] c 43 N80-23711  
Magnetic field control --- electromechanical torquing device  
[NASA-CASE-MFS-23828-1] c 33 N82-26569  
Piezoelectric composite materials  
[NASA-CASE-LEW-12582-1] c 76 N83-34796  
Two-dimensional scanner apparatus --- flaw detector in small flat plates  
[NASA-CASE-MFS-25687-1] c 35 N84-22928  
Memory metal actuator  
[NASA-CASE-NPO-15960-1] c 37 N86-19604  
Electro-expulsive separation system  
[NASA-CASE-ARC-11613-1] c 33 N87-28833

**ELECTROMETERS**  
Vibrating element electrometer with output signal magnified over input signal by a function of the mechanical Q of the vibrating element Patent  
[NASA-CASE-XAC-02807] c 09 N71-23021  
Pyroelectric detector arrays  
[NASA-CASE-LAR-12363-1] c 35 N82-31659

**ELECTROMIGRATION**  
Electromigration process for the purification of molten silicon during crystal growth  
[NASA-CASE-NPO-14831-1] c 76 N82-30105

**ELECTROMOTIVE FORCES**  
Heat activated cell Patent  
[NASA-CASE-LEW-11359] c 03 N71-28579  
Three-phase power factor controller with induced EMF sensing  
[NASA-CASE-MFS-25852-1] c 33 N84-33661

**ELECTRON ATTACHMENT**  
High resolution threshold photoelectron spectroscopy by electron attachment  
[NASA-CASE-NPO-14078-1] c 72 N80-14877  
Reversal electron attachment ionizer for detection of trace species  
[NASA-CASE-NPO-17596-1-CU] c 35 N89-28795

**ELECTRON BEAM WELDING**  
Split welding chamber Patent  
[NASA-CASE-LEW-11531] c 15 N71-14932  
Device for preventing high voltage arcing in electron beam welding Patent  
[NASA-CASE-XMF-08522] c 15 N71-19486

**ELECTRON BEAMS**  
Electronic beam switching commutator Patent  
[NASA-CASE-XGS-01451] c 09 N71-10677  
Method and means for an improved electron beam scanning system Patent  
[NASA-CASE-ERC-10552] c 09 N71-12539  
Electron beam instrument for measuring electric fields Patent  
[NASA-CASE-XMF-10289] c 14 N71-23699  
Apparatus for determining the deflection of an electron beam impinging on a target Patent  
[NASA-CASE-XMF-06617] c 09 N71-24843  
Infrared detectors  
[NASA-CASE-LAR-10728-1] c 14 N73-12445  
Electron beam controller --- using magnetic field to refocus spent electron beam in microwave oscillator tube  
[NASA-CASE-LEW-11617-1] c 33 N74-10195  
Image tube --- deriving electron beam replica of image  
[NASA-CASE-GSC-11602-1] c 33 N74-21850  
Very high intensity light source using a cathode ray tube --- electron beams  
[NASA-CASE-XNP-01296] c 33 N75-27250  
Low energy electron magnetometer using a monoenergetic electron beam  
[NASA-CASE-LAR-12706-1] c 35 N84-12444  
Isotope separation using tuned laser and electron beam  
[NASA-CASE-NPO-16907-1-CU] c 25 N88-24732  
Trochoidal analysis of scattered electrons in a merged electron-ion beam geometry  
[NASA-CASE-NPO-16789-1-CU] c 72 N89-29169

**ELECTRON BOMBARDMENT**  
Ion thruster cathode  
[NASA-CASE-XLE-07087] c 06 N69-39889

Device for measuring electron-beam intensities and for subjecting materials to electron irradiation in an electron microscope  
[NASA-CASE-XGS-01725] c 14 N69-39982  
Electron bombardment ion engine Patent  
[NASA-CASE-XNP-04124] c 28 N71-21822  
Electronic cathode having a brush-like structure and a relatively thick oxide emissive coating Patent  
[NASA-CASE-XLE-04501] c 09 N71-23190  
Single grid accelerator for an ion thruster  
[NASA-CASE-XLE-10453-2] c 28 N73-27699  
Containerless high temperature calorimeter apparatus  
[NASA-CASE-MFS-23923-1] c 35 N81-19426  
Mechanical bonding of metal method  
[NASA-CASE-LEW-12941-1] c 26 N83-10170  
Diamondlike flake composites  
[NASA-CASE-LEW-13837-1] c 24 N84-22695  
Ion sputter textured graphite electrode plates  
[NASA-CASE-LEW-12919-2] c 70 N84-28565  
Apparatus ad method for quiescent containerless processing of high temperature metals and alloys in low gravity  
[NASA-CASE-MFS-28087-1] c 35 N87-23944

**ELECTRON CAPTURE**  
Multistage depressed collector for dual mode operation --- for microwave transmitting tubes  
[NASA-CASE-LEW-13282-1] c 33 N82-24415

**ELECTRON DISTRIBUTION**  
Measurement of plasma temperature and density using radiation absorption  
[NASA-CASE-ARC-10598-1] c 75 N74-30156

**ELECTRON EMISSION**  
Triode thermionic energy converter  
[NASA-CASE-XLE-01015] c 03 N69-39898  
Textured carbon surfaces on copper by sputtering  
[NASA-CASE-LEW-14130-1] c 31 N86-32587

**ELECTRON ENERGY**  
Low energy electron magnetometer using a monoenergetic electron beam  
[NASA-CASE-LAR-12706-1] c 35 N84-12444

**ELECTRON FLUX DENSITY**  
Device for measuring electron-beam intensities and for subjecting materials to electron irradiation in an electron microscope  
[NASA-CASE-XGS-01725] c 14 N69-39982

**ELECTRON GUNS**  
Induction heating gun  
[NASA-CASE-LAR-13181-1] c 31 N85-29083  
Generation of intense negative ion beams  
[NASA-CASE-NPO-16061-1-CU] c 72 N87-21660

**ELECTRON IRRADIATION**  
Ion rocket Patent  
[NASA-CASE-XLE-00376] c 28 N70-37245

**ELECTRON MICROSCOPES**  
Device for measuring electron-beam intensities and for subjecting materials to electron irradiation in an electron microscope  
[NASA-CASE-XGS-01725] c 14 N69-39982  
Method of forming aperture plate for electron microscope  
[NASA-CASE-ARC-10448-2] c 74 N75-12732  
Electron microscope aperture system  
[NASA-CASE-ARC-10448-3] c 35 N77-14408

**ELECTRON MICROSCOPY**  
Synchronized voltage contrast display analysis system  
[NASA-CASE-NPO-14567-1] c 33 N83-18996

**ELECTRON OSCILLATIONS**  
Programmable electronic synthesized capacitance  
[NASA-CASE-GSC-12961-1] c 33 N87-22895

**ELECTRON PHOTON CASCADES**  
Resistive anode image converter  
[NASA-CASE-HQN-10876-1] c 33 N76-27473

**ELECTRON PLASMA**  
Method and apparatus for producing a plasma Patent  
[NASA-CASE-XLA-00147] c 25 N70-34661

**ELECTRON SCATTERING**  
Trochoidal analysis of scattered electrons in a merged electron-ion beam geometry  
[NASA-CASE-NPO-16789-1-CU] c 72 N89-29169

**ELECTRON SOURCES**  
Electron microscope aperture system  
[NASA-CASE-ARC-10448-3] c 35 N77-14408

**ELECTRON TRANSFER**  
Process for reducing secondary electron emission Patent  
[NASA-CASE-XNP-09469] c 24 N71-25555

**ELECTRON TRANSITIONS**  
Diatomic infrared gasdynamic laser --- for producing different wavelengths  
[NASA-CASE-ARC-10370-1] c 36 N75-31426

**ELECTRON TUBES**  
Direct radiation cooling of the collector of linear beam tubes  
[NASA-CASE-XNP-09227] c 15 N69-24319  
Radiant heater having formed filaments Patent  
[NASA-CASE-XLE-00387] c 33 N70-34812

Ion sputter textured graphite --- anode collector plates in electron tube devices  
[NASA-CASE-LEW-12919-1] c 24 N83-10117  
Gyrotron transmitting tube  
[NASA-CASE-LEW-13429-1] c 33 N83-31952

**ELECTRON TUNNELING**  
Doped Josephson tunneling junction for use in a sensitive IR detector  
[NASA-CASE-NPO-13348-1] c 33 N75-31332  
Inelastic tunnel diodes  
[NASA-CASE-LEW-13833-1] c 33 N85-21492

**ELECTRONIC CONTROL**  
Monopulse system with an electronic scanner  
[NASA-CASE-XGS-05582] c 07 N69-27460  
Electronic motor control system Patent  
[NASA-CASE-XMF-01129] c 09 N70-38712  
Phase multiplying electronic scanning system Patent  
[NASA-CASE-NPO-10302] c 10 N71-26142  
Ion beam deflector Patent  
[NASA-CASE-LEW-10689-1] c 28 N71-26173  
Peak acceleration limiter for vibrational tester Patent  
[NASA-CASE-NPO-10556] c 14 N71-27185  
Digital control and information system  
[NASA-CASE-NPO-11016] c 08 N72-31226  
Electronic system for high power load control --- solar arrays  
[NASA-CASE-NPO-15358-1] c 33 N83-27126  
Closed loop electrostatic levitation system  
[NASA-CASE-NPO-15553-1] c 33 N85-29142

**ELECTRONIC EQUIPMENT**  
Monopulse system with an electronic scanner  
[NASA-CASE-XGS-05582] c 07 N69-27460  
Pulse activated polarographic hydrogen detector Patent  
[NASA-CASE-XMF-06531] c 14 N71-17575  
Stable amplifier having a stable quiescent point Patent  
[NASA-CASE-XGS-02812] c 09 N71-19466  
Static inverter Patent  
[NASA-CASE-XGS-05289] c 09 N71-19470  
Circulator having quarter wavelength resonant post and parametric amplifier circuits utilizing the same Patent  
[NASA-CASE-XNP-02140] c 09 N71-23097  
Optimum predetection diversity receiving system Patent  
[NASA-CASE-XGS-00740] c 07 N71-23098  
Electronic cathode having a brush-like structure and a relatively thick oxide emissive coating Patent  
[NASA-CASE-XLE-04501] c 09 N71-23190  
Method and apparatus for varying thermal conductivity Patent  
[NASA-CASE-XNP-05524] c 33 N71-24876  
A solid state acoustic variable time delay line Patent  
[NASA-CASE-ERC-10032] c 10 N71-25900  
Automatic signal range selector for metering devices Patent  
[NASA-CASE-XMS-06497] c 14 N71-26244  
Fringe counter for interferometers Patent  
[NASA-CASE-LAR-10204] c 14 N71-27215  
Temperature regulation circuit Patent  
[NASA-CASE-NPO-02792] c 14 N71-28958  
Method and apparatus for data compression by a decreasing slope threshold test  
[NASA-CASE-NPO-10769] c 08 N72-11171  
Universal environment package with sectional component housing  
[NASA-CASE-KSC-10031] c 15 N72-22486  
Lead attachment to high temperature devices  
[NASA-CASE-ERC-10224] c 09 N72-25261  
Method and apparatus for detecting surface ions on silicon diodes and transistors  
[NASA-CASE-ERC-10325] c 15 N72-25457  
Versatile arithmetic unit for high speed sequential decoder  
[NASA-CASE-NPO-11371] c 08 N73-12177  
Data processor with conditionally supplied clock signals  
[NASA-CASE-GSC-10975-1] c 08 N73-13187  
Heat detection and compositions and devices therefor  
[NASA-CASE-NPO-10764-1] c 14 N73-14428  
Phase control circuits using frequency multiplications for phased array antennas  
[NASA-CASE-ERC-10285] c 10 N73-16206  
Junction range finder  
[NASA-CASE-KSC-10108] c 14 N73-25461  
Electronic strain-level counter  
[NASA-CASE-LAR-10756-1] c 32 N73-26910  
Automatic vehicle location system  
[NASA-CASE-NPO-11850-1] c 32 N74-12912  
Automatic focus control for facsimile cameras  
[NASA-CASE-LAR-11213-1] c 35 N75-15014  
Electronic analog divider  
[NASA-CASE-LEW-11881-1] c 33 N77-17354  
Moisture content and gas sampling device  
[NASA-CASE-MSC-18866-1] c 35 N85-29213

**ELECTRONIC EQUIPMENT TESTS**

- Analogue to digital converter tester Patent  
[NASA-CASE-XLA-06713] c 14 N71-28991
- Signal conditioner test set  
[NASA-CASE-KSC-10750-1] c 35 N75-12270
- Decommutator patchboard verifier  
[NASA-CASE-KSC-11065-1] c 33 N81-26359
- Synchronized voltage contrast display analysis system  
[NASA-CASE-NPO-14567-1] c 33 N83-18996
- Cross-contact chain  
[NASA-CASE-NPO-16784-1] c 33 N87-10231

**ELECTRONIC FILTERS**

- Self-tuning bandpass filter  
[NASA-CASE-ARC-10264-1] c 09 N73-20231
- Capacitance multiplier and filter synthesizing network  
[NASA-CASE-NPO-11948-1] c 33 N74-32712
- Notch filter  
[NASA-CASE-MFS-23303-1] c 32 N77-18307

**ELECTRONIC MODULES**

- Thermal conductive connection and method of making same Patent  
[NASA-CASE-XMS-02087] c 09 N70-41717
- Solar cell submodule Patent  
[NASA-CASE-XNP-05821] c 03 N71-11056
- Heat conductive resiliently compressible structure for space electronics package modules Patent  
[NASA-CASE-MSC-12389] c 33 N71-29052
- Tool for use in lifting pin supported objects  
[NASA-CASE-NPO-13157-1] c 37 N74-32918
- Phase substitution of spare converter for a failed one of parallel phase staggered converters  
[NASA-CASE-NPO-13812-1] c 33 N77-30365
- Method of making encapsulated solar cell modules  
[NASA-CASE-LEW-12185-1] c 44 N78-25528
- Electronically scanned pressure sensor module with in situ calibration capability  
[NASA-CASE-LAR-12230-1] c 35 N79-14347
- Module failure isolation circuit for paralleled inverters --- preventing system failure during power conditioning for spacecraft applications  
[NASA-CASE-NPO-14000-1] c 33 N79-24254
- Circuit for automatic load sharing in parallel converter modules  
[NASA-CASE-NPO-14056-1] c 33 N79-24257
- Method and apparatus for fabricating improved solar cell modules  
[NASA-CASE-NPO-14416-1] c 44 N81-14389
- Redundant operation of counter modules  
[NASA-CASE-NPO-14162-1] c 60 N81-15706

**ELECTRONIC PACKAGING**

- Electrical feed-through connection for printed circuit boards and printed cable  
[NASA-CASE-XMF-01483] c 14 N69-27431
- Capacitor and method of making same Patent  
[NASA-CASE-LEW-10364-1] c 09 N71-13522
- Method of evaluating moisture barrier properties of encapsulating materials Patent  
[NASA-CASE-NPO-10051] c 18 N71-24934
- Microelectronic module package Patent  
[NASA-CASE-XMS-02182] c 10 N71-28783
- Frangible electrochemical cell  
[NASA-CASE-XGS-10010] c 03 N72-15986
- Hermetically sealed semiconductor  
[NASA-CASE-GSC-10791-1] c 15 N73-14469
- Circuit board package with wedge shaped covers  
[NASA-CASE-MFS-21919-1] c 10 N73-25243
- Integrated circuit package with lead structure and method of preparing the same  
[NASA-CASE-MFS-21374-1] c 33 N74-12951
- Tool for use in lifting pin supported objects  
[NASA-CASE-NPO-13157-1] c 37 N74-32918
- Chassis unit insert tightening-extract device  
[NASA-CASE-XMS-01077-1] c 37 N79-33467
- Computer circuit card puller  
[NASA-CASE-FRC-11042-1] c 60 N82-24839
- Electronic scanning pressure measuring system and transducer package  
[NASA-CASE-ARC-11361-1] c 35 N84-22934
- Hermetically sealable package for hybrid solid-state electronic devices and the like  
[NASA-CASE-MSC-20181-1] c 33 N88-23941

**ELECTRONIC RECORDING SYSTEMS**

- Propellant mass distribution metering apparatus Patent  
[NASA-CASE-NPO-10185] c 10 N71-26339

**ELECTRONIC TRANSDUCERS**

- Fiber optic vibration transducer and analyzer Patent  
[NASA-CASE-XMF-02433] c 14 N71-10616
- Transducer circuit and catheter transducer Patent  
[NASA-CASE-ARC-10132-1] c 09 N71-24597
- Failure sensing and protection circuit for converter networks Patent  
[NASA-CASE-GSC-10114-1] c 10 N71-27366
- Electromagnetic transducer recording head having a laminated core section and tapered gap  
[NASA-CASE-NPO-10711-1] c 35 N77-21392

- Distributed-switch Dicke radiometers  
[NASA-CASE-GSC-12219-1] c 35 N80-18359
- Electronic scanning pressure measuring system and transducer package  
[NASA-CASE-ARC-11361-1] c 35 N84-22934

**ELECTRONS**

- Means and method for calibrating a photon detector utilizing electron-photon coincidence  
[NASA-CASE-NPO-15644-1] c 35 N84-33767
- Ion generator and ion application system  
[NASA-CASE-MFS-28122-1] c 72 N88-24253
- Reversal electron attachment ionizer for detection of trace species  
[NASA-CASE-NPO-17596-1-CU] c 35 N89-28795

**ELECTROPHORESIS**

- Electrophoretic sample insertion --- device for uniformly distributing samples in flow path  
[NASA-CASE-MFS-21395-1] c 25 N74-26948
- Apparatus for conducting flow electrophoresis in the substantial absence of gravity  
[NASA-CASE-MFS-21394-1] c 34 N74-27744
- Automatic multiple-sample applicator and electrophoresis apparatus  
[NASA-CASE-ARC-10991-1] c 25 N78-14104
- Portable electrophoresis apparatus using minimum electrolyte  
[NASA-CASE-NPO-13274-1] c 25 N79-10163
- Microelectrophoretic apparatus and process  
[NASA-CASE-ARC-11121-1] c 25 N79-14169
- Electrophoretic fractional elution apparatus employing a rotational seal fraction collector  
[NASA-CASE-MFS-23284-1] c 37 N80-14397
- Method for separating biological cells --- suspended in aqueous polymer systems  
[NASA-CASE-MFS-23883-1] c 51 N80-16715
- Electrophoresis device  
[NASA-CASE-MFS-25426-1] c 25 N83-10126
- Static continuous electrophoresis device  
[NASA-CASE-MFS-25306-1] c 25 N83-13187
- Moving wall, continuous flow electrophoresis apparatus  
[NASA-CASE-MFS-28142-1] c 25 N88-23845
- Controlled method of reducing electrophoretic mobility of various substances  
[NASA-CASE-MFS-26049-1-NP] c 25 N89-28603

**ELECTROPHOTOMETERS**

- Method and device for detecting voids in low density material Patent  
[NASA-CASE-MFS-20044] c 14 N71-28993

**ELECTROPHYSIOLOGY**

- Flexible conductive disc electrode Patent  
[NASA-CASE-FRC-10029] c 09 N71-24618

**ELECTROPLATING**

- Method of plating copper on aluminum Patent  
[NASA-CASE-XLA-08966-1] c 17 N71-25903
- Method of making shielded flat cable Patent  
[NASA-CASE-MFS-13687] c 09 N71-28691
- Method and apparatus for sputtering utilizing an aperture electrode and a pulsed substrate bias  
[NASA-CASE-LEW-10920-1] c 17 N73-24569
- Catalyst surfaces for the chromous/chromic redox couple  
[NASA-CASE-LEW-13148-2] c 44 N81-29524
- Method of forming oxide coatings --- for solar collector heating panels  
[NASA-CASE-LEW-13132-1] c 27 N83-29388

**ELECTROSTATIC CHARGE**

- Electrostatic charged particle analyzer having deflection members shaped according to the periodic voltage applied thereto Patent  
[NASA-CASE-XAC-05506-1] c 24 N71-16095
- Electrostatic measurement system --- for contact-electrifying a dielectric  
[NASA-CASE-MFS-22129-1] c 33 N75-18477
- Use of glow discharge in fluidized beds  
[NASA-CASE-LEW-11245-1] c 28 N82-18401
- Lightning discharge protection rod  
[NASA-CASE-LAR-13470-1] c 03 N88-14083

**ELECTROSTATIC ENGINES**

- Colloid propulsion method and apparatus Patent  
[NASA-CASE-XLE-00817] c 28 N70-33265
- Ion thruster cathode Patent Application  
[NASA-CASE-LEW-10814-1] c 28 N70-35422
- Ion rocket Patent  
[NASA-CASE-XLE-00376] c 28 N70-37245
- Electrostatic ion rocket engine Patent  
[NASA-CASE-XLE-02066] c 28 N71-15661
- Precision tunable resonant microwave cavity  
[NASA-CASE-LEW-13935-1] c 33 N87-21234

**ELECTROSTATIC GENERATORS**

- Electrostatic plasma modulator for space vehicle re-entry communication Patent  
[NASA-CASE-XLA-01400] c 07 N70-41331
- Closed loop electrostatic levitation system  
[NASA-CASE-NPO-15553-1] c 33 N85-29142

**EMERGENCY LIFE SUSTAINING SYSTEMS****ELECTROSTATIC PRECIPITATORS**

- Fine particulate capture device  
[NASA-CASE-LEW-11583-1] c 35 N79-17192
- Small conductive particle sensor --- microfiber size determination  
[NASA-CASE-LAR-12552-1] c 35 N82-11431

**ELECTROSTATIC PROBES**

- Apparatus for field strength measurement of a space vehicle Patent  
[NASA-CASE-XLE-00820] c 14 N71-16014
- Liquid-immersible electrostatic ultrasonic transducer  
[NASA-CASE-LAR-12465-1] c 33 N82-26572

**ELECTROSTATIC PROPULSION**

- Electrostatic thruster with improved insulators Patent  
[NASA-CASE-XLE-01902] c 28 N71-10574
- Annular slit colloid thruster Patent  
[NASA-CASE-GSC-10709-1] c 28 N71-25213

**ELECTROSTATIC SHIELDING**

- Ion beam thruster shield  
[NASA-CASE-LEW-12082-1] c 20 N77-10148
- Shielded conductor cable system  
[NASA-CASE-MSC-12745-1] c 33 N81-27397
- High voltage isolation transformer  
[NASA-CASE-GSC-12817-1] c 33 N85-29146

**ELECTROSTATICS**

- Controllable high voltage source having fast settling time  
[NASA-CASE-GSC-11844-1] c 33 N75-19522
- Electrostatic discharge test apparatus  
[NASA-CASE-MSC-21094-1] c 35 N88-24941

**ELECTROTHERMAL ENGINES**

- Electro-thermal rocket Patent  
[NASA-CASE-XLE-00267] c 28 N70-33356
- Electrothermal rockets having improved heat exchangers Patent  
[NASA-CASE-XLE-01783] c 28 N70-34175
- Heat exchanger for electrothermal devices  
[NASA-CASE-LEW-14037-1] c 20 N87-16875

**ELEVATION**

- Optical tracking mount Patent  
[NASA-CASE-MFS-14017] c 14 N71-26627
- Emergency escape system Patent  
[NASA-CASE-XKS-07814] c 15 N71-27067
- Elevated waterproof access floor system and method of making the same  
[NASA-CASE-ARC-11363-1] c 31 N87-16918

**ELEVATORS (LIFTS)**

- Centrifuge mounted motion simulator Patent  
[NASA-CASE-XAC-00399] c 11 N70-34815
- Cable stabilizer for open shaft cable operated elevators  
[NASA-CASE-KSC-10513] c 15 N72-25453

**ELEVONS**

- High speed flight vehicle control Patent  
[NASA-CASE-XLA-08967] c 02 N71-27088

**ELLIPSES**

- Ellipsograph for pantograph Patent  
[NASA-CASE-XLA-03102] c 14 N71-21079

**ELLIPSOMETERS**

- Remote sensing of vegetation and soil using microwave ellipsometry  
[NASA-CASE-GSC-11976-1] c 43 N78-10529

**ELONGATION**

- Strain gauge measuring techniques Patent  
[NASA-CASE-XGS-04478] c 14 N71-24233
- Amplifying ribbon extensometer  
[NASA-CASE-LAR-11825-1] c 35 N77-22449

**ELUTION**

- Amino acid analysis  
[NASA-CASE-NPO-12130-1] c 25 N75-14844
- Electrophoretic fractional elution apparatus employing a rotational seal fraction collector  
[NASA-CASE-MFS-23284-1] c 37 N80-14397

**EMBRITTELEMENT**

- Method and apparatus for non-destructive testing of temper embrittlement in steels  
[NASA-CASE-LAR-13817-1] c 26 N88-29012

**EMERGENCIES**

- Silent emergency alarm system for schools and the like  
[NASA-CASE-NPO-11307-1] c 10 N73-30205
- Emergency space-suit helmet  
[NASA-CASE-MSC-10954-1] c 54 N78-18761
- Emergency egress fixed rocket package  
[NASA-CASE-MSC-21332-1] c 03 N89-11724

**EMERGENCY BREATHING TECHNIQUES**

- Resuscitation apparatus Patent  
[NASA-CASE-XMS-01115] c 05 N70-39922

**EMERGENCY LIFE SUSTAINING SYSTEMS**

- Orbital escape device Patent  
[NASA-CASE-XMS-06162] c 31 N71-28851
- Emergency lunar communications system  
[NASA-CASE-MFS-21042] c 07 N72-25171
- Emergency descent device  
[NASA-CASE-MFS-23074-1] c 54 N77-21844

Personnel emergency carrier vehicle  
[NASA-CASE-KSC-11282-1] c 85 N87-21755

**EMERGENCY LOCATOR TRANSMITTERS**  
Legislated emergency locating transmitters and emergency position indicating radio beacons  
[NASA-CASE-GSC-12892-1] c 32 N89-14374

**EMISSION SPECTRA**  
Spectral method for monitoring atmospheric contamination of inert-gas welding shields Patent  
[NASA-CASE-XMF-02039] c 15 N71-15871

**EMITTANCE**  
Process for applying black coating to metals Patent  
[NASA-CASE-XLA-06199] c 15 N71-24875

**EMITTERS**  
Coaxial inverted geometry transistor having buried emitter  
[NASA-CASE-ARC-10330-1] c 09 N73-32112

**EMULSIONS**  
Apparatus for obtaining isotropic irradiation of a specimen  
[NASA-CASE-MFS-20095] c 24 N72-11595

**ENAMELS**  
Refractory porcelain enamel passive control coating for high temperature alloys  
[NASA-CASE-MFS-22324-1] c 27 N75-27160

**ENCAPSULATING**  
Bacteriostatic conformal coating and methods of application Patent  
[NASA-CASE-GSC-10007] c 18 N71-16046  
Flexible, repairable, pottable material for electrical connectors Patent  
[NASA-CASE-XGS-05180] c 18 N71-25881  
Orifice gross leak tester Patent  
[NASA-CASE-ERC-10150] c 14 N71-28992  
Solar cell matrix  
[NASA-CASE-NPO-11190] c 03 N71-34044  
Method of making encapsulated solar cell modules  
[NASA-CASE-LEW-12185-1] c 44 N78-25528  
Liquid encapsulated crystal growth  
[NASA-CASE-NPO-16808-1-CU] c 76 N87-25868  
Liquid encapsulated float zone process and apparatus  
[NASA-CASE-MFS-28144-1] c 76 N88-24545  
Multi-element spherical shell generation  
[NASA-CASE-NPO-17203-1-CU] c 34 N89-13728

**ENCLOSURES**  
Radio frequency shielded enclosure Patent  
[NASA-CASE-XMF-09422] c 07 N71-19436  
Totally confined explosive welding  
[NASA-CASE-LAR-10941-2] c 37 N79-13364  
Moisture content and gas sampling device  
[NASA-CASE-MSC-18866-1] c 35 N85-29213

**END EFFECTORS**  
Pneumatic inflatable end effector  
[NASA-CASE-MFS-23696-1] c 54 N81-26718  
Apparatus for adapting an end effector device remotely controlled manipulator arm  
[NASA-CASE-MFS-25949-1] c 37 N86-19603  
Self-locking telescoping manipulator arm  
[NASA-CASE-MFS-25906-1] c 37 N86-20789  
Orbital maneuvering end effectors  
[NASA-CASE-MFS-28161-1] c 37 N87-18817  
Gripping device  
[NASA-CASE-MSC-21365-1] c 37 N89-12865  
Passively activated prehensile digit for a robotic end effector  
[NASA-CASE-NPO-16766-1-CU] c 37 N89-13785

**ENDOSCOPES**  
Borescope with variable angle scope  
[NASA-CASE-MFS-15162] c 14 N72-32452  
Apparatus for endoscopic examination --- analysis of the propulsion system configuration and transmitter  
[NASA-CASE-NPO-14092-1] c 52 N80-16725

**ENDOTHERMIC REACTIONS**  
Ablation sensor  
[NASA-CASE-XLA-01781] c 14 N69-39975

**ENEMY PERSONNEL**  
Intruder detection system  
[NASA-CASE-ARC-10097-2] c 07 N73-25160

**ENERGY ABSORPTION**  
Non-reusable kinetic energy absorber Patent  
[NASA-CASE-XLE-00810] c 15 N70-34861  
Energy absorbing structure Patent Application  
[NASA-CASE-MSC-12279-1] c 15 N70-35679  
Apparatus for absorbing and measuring power Patent  
[NASA-CASE-XLE-00720] c 14 N70-40201  
Shock absorber Patent  
[NASA-CASE-XMS-03722] c 15 N71-21530  
Energy absorbing device Patent  
[NASA-CASE-XMF-10040] c 15 N71-22877  
Suspended mass impact damper Patent  
[NASA-CASE-LAR-10193-1] c 15 N71-27146  
Energy absorption device Patent  
[NASA-CASE-XNP-01848] c 15 N71-28959  
Impact energy absorbing system utilizing fractureable material  
[NASA-CASE-NPO-10671] c 15 N72-20443

Docking structure for spacecraft  
[NASA-CASE-MFS-20863] c 31 N73-26876

Metal shearing energy absorber  
[NASA-CASE-HQN-10638-1] c 15 N73-30460

**ENERGY BANDS**  
Tailorable infrared sensing device with strain layer superlattice structure  
[NASA-CASE-NPO-16607-1-CU] c 76 N88-14836

**ENERGY CONSERVATION**  
Remote platform power conserving system  
[NASA-CASE-GSC-11182-1] c 15 N75-13007  
Three axis attitude control system  
[NASA-CASE-GSC-12970-1] c 08 N88-23808

**ENERGY CONSUMPTION**  
Supercritical solvent coal extraction  
[NASA-CASE-NPO-15210-1] c 25 N84-22709

**ENERGY CONVERSION**  
Two-fluid magnetohydrodynamic system and method for thermal-electric power conversion Patent  
[NASA-CASE-XNP-00644] c 03 N70-36803  
Device for directionally controlling electromagnetic radiation Patent  
[NASA-CASE-XLE-01716] c 09 N70-40234  
Electromagnetic wave energy converter  
[NASA-CASE-GSC-11394-1] c 09 N73-32109  
Electric power generation system directory from laser power  
[NASA-CASE-NPO-13308-1] c 36 N75-30524  
Mechanical thermal motor  
[NASA-CASE-MFS-23062-1] c 37 N77-12402  
Low to high temperature energy conversion system  
[NASA-CASE-NPO-13510-1] c 44 N77-32581  
Solar energy collection system  
[NASA-CASE-NPO-13810-1] c 44 N77-32582

**ENERGY CONVERSION EFFICIENCY**  
Triode thermionic energy converter  
[NASA-CASE-XLE-01015] c 03 N69-39898  
Energy conversion apparatus Patent  
[NASA-CASE-XLE-00212] c 03 N70-34134  
Electronic amplifier with power supply switching Patent  
[NASA-CASE-XMS-00945] c 09 N71-10798  
Energy storage apparatus  
[NASA-CASE-GSC-12030-1] c 44 N78-24608  
Method of construction of a multi-cell solar array  
[NASA-CASE-MFS-23540-1] c 44 N79-26475  
Self-reconfiguring solar cell system  
[NASA-CASE-LEW-12586-1] c 44 N80-14472  
Efficiency of silicon solar cells containing chromium  
[NASA-CASE-NPO-15179-1] c 44 N82-26777  
Thermionic energy converters  
[NASA-CASE-LEW-12443-1] c 44 N83-32175  
Bidirectional control system for energy flow in solar powered flywheel  
[NASA-CASE-MFS-25978-1] c 44 N87-21410

**ENERGY DISSIPATION**  
Frangible tube energy dissipation Patent  
[NASA-CASE-XLA-00754] c 15 N70-34850  
Wingtip vortex dissipator for aircraft  
[NASA-CASE-LAR-11645-1] c 02 N77-10001  
Motion restraining device  
[NASA-CASE-NPO-13619-1] c 37 N78-16369

**ENERGY DISTRIBUTION**  
Method and apparatus for measurement of trap density and energy distribution in dielectric films  
[NASA-CASE-NPO-13443-1] c 76 N76-20994

**ENERGY GAPS (SOLID STATE)**  
High band gap 2-6 and 3-5 tunneling junctions for silicon multijunction solar cells  
[NASA-CASE-NPO-16526-1CU] c 44 N87-17399  
Method and apparatus for measuring minority carrier lifetime in a direct band-gap semiconductor  
[NASA-CASE-NPO-16337-1-CU] c 33 N87-22894  
Field induced gap infrared detector  
[NASA-CASE-NPO-17526-1-CU] c 35 N89-28796

**ENERGY LEVELS**  
High resolution threshold photoelectron spectroscopy by electron attachment  
[NASA-CASE-NPO-14078-1] c 72 N80-14877  
Low energy electron magnetometer using a monoenergetic electron beam  
[NASA-CASE-LAR-12706-1] c 35 N84-12444  
Long wavelength infrared detector  
[NASA-CASE-NPO-17543-1-CU] c 74 N89-30044

**ENERGY POLICY**  
Solar energy power system  
[NASA-CASE-MFS-21628-2] c 44 N76-23675  
Thermal energy storage system --- operating on superheating of liquids  
[NASA-CASE-MFS-23167-1] c 44 N76-31667  
Mount for continuously orienting a collector dish in a system adapted to perform both diurnal and seasonal solar tracking  
[NASA-CASE-MFS-23267-1] c 35 N77-20401  
Lightweight reflector assembly  
[NASA-CASE-NPO-13707-1] c 74 N77-28933

Solar photolysis of water  
[NASA-CASE-NPO-13675-1] c 44 N77-32580  
Selective coating for solar panels --- using black chrome and black nickel  
[NASA-CASE-LEW-12159-1] c 44 N78-19599

Solar pond  
[NASA-CASE-NPO-13581-2] c 44 N78-31525  
Non-tracking solar energy collector system  
[NASA-CASE-NPO-13813-1] c 44 N78-31526  
Coal desulfurization process  
[NASA-CASE-NPO-13937-1] c 44 N78-31527  
Primary reflector for solar energy collection systems  
[NASA-CASE-NPO-13579-4] c 44 N79-14529  
Primary reflector for solar energy collection systems and method of making same  
[NASA-CASE-NPO-13579-3] c 44 N79-24432  
Solar energy collection system  
[NASA-CASE-NPO-13579-2] c 44 N79-24433  
Combined solar collector and energy storage system  
[NASA-CASE-LAR-12205-1] c 44 N80-20810  
Wind wheel electric power generator  
[NASA-CASE-MFS-23515-1] c 44 N80-21828  
Induced junction solar cell and method of fabrication  
[NASA-CASE-NPO-13786-1] c 44 N80-29835  
Solar energy receiver for a Stirling engine  
[NASA-CASE-NPO-14619-1] c 44 N81-17518  
Copper doped polycrystalline silicon solar cell  
[NASA-CASE-NPO-14670-1] c 44 N81-19558  
Solar heated fluidized bed gasification system  
[NASA-CASE-NPO-15071-1] c 44 N82-16475  
Supercritical multicomponent solvent coal extraction  
[NASA-CASE-NPO-15767-1] c 23 N84-16255

**ENERGY SOURCES**  
Passive synchronized spike generator with high input impedance and low output impedance and capacitor power supply Patent  
[NASA-CASE-XGS-03632] c 09 N71-23311  
Controllable high voltage source having fast settling time  
[NASA-CASE-GSC-11844-1] c 33 N75-19522

**ENERGY STORAGE**  
Switching mechanism with energy storage means Patent  
[NASA-CASE-XGS-00473] c 03 N70-38713  
Stored charge transistor  
[NASA-CASE-NPO-11156-2] c 33 N75-31331  
Mechanical energy storage device for hip disarticulation  
[NASA-CASE-ARC-10916-1] c 52 N78-10686  
Energy storage apparatus  
[NASA-CASE-GSC-12030-1] c 44 N78-24608  
Rotatable mass for a flywheel  
[NASA-CASE-MFS-23051-1] c 37 N79-10422  
Combined solar collector and energy storage system  
[NASA-CASE-LAR-12205-1] c 44 N80-20810  
Atomic hydrogen storage method and apparatus  
[NASA-CASE-LEW-12081-3] c 28 N81-14103  
Negative electrode catalyst for the iron chromium redox energy storage system  
[NASA-CASE-LEW-14028-1] c 44 N86-19721

**ENERGY TECHNOLOGY**  
Solar energy collection system  
[NASA-CASE-NPO-13810-1] c 44 N77-32582  
Method for producing solar energy panels by automation  
[NASA-CASE-LEW-12541-1] c 44 N78-25529  
Hydrogen-fueled engine  
[NASA-CASE-NPO-13763-1] c 44 N78-33526  
Surfactant-assisted liquefaction of particulate carbonaceous substances  
[NASA-CASE-NPO-13904-1] c 25 N79-11152  
Back wall solar cell  
[NASA-CASE-LEW-12236-2] c 44 N79-14528  
Solar cell module assembly jig  
[NASA-CASE-XGS-00829-1] c 44 N79-19447  
Solar energy collection system  
[NASA-CASE-NPO-13579-2] c 44 N79-24433  
Solar concentrator  
[NASA-CASE-MFS-23727-1] c 44 N80-14473  
Method for forming a solar array strip  
[NASA-CASE-NPO-13652-3] c 44 N80-14474

**ENERGY TRANSFER**  
Solar energy absorber  
[NASA-CASE-MFS-22743-1] c 44 N76-22657  
Gas particle radiator  
[NASA-CASE-LEW-14297-1] c 35 N89-12048

**ENGINE ANALYZERS**  
Indicated mean-effective pressure instrument  
[NASA-CASE-LEW-12661-1] c 35 N79-14345

**ENGINE CONTROL**  
Regenerative braking system Patent  
[NASA-CASE-XMF-01096] c 10 N71-1603C  
Integrated lift/drag controller for aircraft  
[NASA-CASE-ARC-10456-1] c 05 N75-1293C  
Power control for hot gas engines  
[NASA-CASE-NPO-14220-1] c 37 N81-1431E

- Apparatus for sensor failure detection and correction in a gas turbine engine control system  
[NASA-CASE-LEW-12907-2] c 07 N81-19115
- Control means for a gas turbine engine  
[NASA-CASE-LEW-14586-1] c 07 N83-31603
- Brushless DC motor control system responsive to control signals generated by a computer or the like  
[NASA-CASE-NPO-16420-1] c 33 N86-20681
- ENGINE COOLANTS**
- Injector-valve device Patent  
[NASA-CASE-XLE-00303] c 15 N70-36535
- Injector for bipropellant rocket engines Patent  
[NASA-CASE-XMF-00148] c 28 N70-38710
- ENGINE DESIGN**
- Gas turbine combustion apparatus Patent  
[NASA-CASE-XLE-103477-1] c 28 N71-20330
- Construction and method of arranging a plurality of ion engines to form a cluster Patent  
[NASA-CASE-XNP-02923] c 28 N71-23081
- Space vehicle system  
[NASA-CASE-MSX-12561-1] c 18 N76-17185
- Solid propellant motor  
[NASA-CASE-NPO-11458A] c 20 N78-32179
- Hydrogen-fueled engine  
[NASA-CASE-NPO-13763-1] c 44 N78-33526
- Method and apparatus for rapid thrust increases in a turbofan engine  
[NASA-CASE-LEW-12971-1] c 07 N80-18039
- Free-piston regenerative hot gas hydraulic engine  
[NASA-CASE-LEW-12274-1] c 37 N80-31790
- Phase-angle controller for Stirling engines  
[NASA-CASE-NPO-14388-1] c 37 N81-17432
- Hot gas engine with dual crankshafts  
[NASA-CASE-NPO-14221-1] c 37 N81-25370
- Solar engine  
[NASA-CASE-LAR-12148-1] c 44 N82-24640
- ENGINE FAILURE**
- System for monitoring the presence of neutrals in a stream of ions Patent  
[NASA-CASE-XNP-02592] c 24 N71-20518
- Airplane automatic control force trimming device for asymmetric engine failures  
[NASA-CASE-LAR-13280-1] c 08 N87-20999
- ENGINE INLETS**
- Variably positioned guide vanes for aerodynamic choking  
[NASA-CASE-LAR-10642-1] c 07 N74-31270
- The engine air intake system  
[NASA-CASE-ARC-10761-1] c 07 N77-18154
- Self stabilizing sonic inlet  
[NASA-CASE-LEW-11890-1] c 05 N79-24976
- ENGINE MONITORING INSTRUMENTS**
- System for monitoring the presence of neutrals in a stream of ions Patent  
[NASA-CASE-XNP-02592] c 24 N71-20518
- Method and system for monitoring and displaying engine performance parameters  
[NASA-CASE-LAR-14049-1] c 07 N89-23466
- ENGINE NOISE**
- Variably positioned guide vanes for aerodynamic choking  
[NASA-CASE-LAR-10642-1] c 07 N74-31270
- Variably thrust nozzle for quiet turbofan engine and method of operating same  
[NASA-CASE-LEW-12317-1] c 07 N78-17055
- Multiple pure tone elimination strut assembly --- air breathing engines  
[NASA-CASE-FRC-11062-1] c 71 N82-16800
- Noise suppressor for turbo fan jet engines  
[NASA-CASE-ARC-10812-1] c 07 N83-33884
- ENGINE PARTS**
- Gas turbine engine with convertible accessories  
[NASA-CASE-LEW-12390-1] c 07 N78-17056
- Gas path seal  
[NASA-CASE-NPO-12131-3] c 37 N80-18400
- Method of protecting a surface with a silicon-slurry/aluminide coating --- coatings for gas turbine engine blades and vanes  
[NASA-CASE-LEW-13343-1] c 27 N82-28441
- Thermal stress minimized, two component, turbine shroud seal  
[NASA-CASE-LEW-14212-1] c 37 N88-23978
- Composite piston  
[NASA-CASE-LAR-13435-1] c 37 N88-23981
- ENGINE STARTERS**
- Portable device for use in starting air-start-units for aircraft and having cable lead testing capability  
[NASA-CASE-FRC-10113-1] c 33 N80-26599
- ENGINE TESTS**
- Electric propulsion engine test chamber Patent  
[NASA-CASE-XLE-00252] c 11 N70-34844
- ENGINEERING DRAWINGS**
- High-temperature, high-pressure spherical segment valve Patent  
[NASA-CASE-XAC-00074] c 15 N70-34817
- Lifting body Patent Application  
[NASA-CASE-FRC-10063] c 01 N71-12217
- Optical communications system Patent  
[NASA-CASE-XLA-01090] c 07 N71-12389
- Method of making a molded connector Patent  
[NASA-CASE-XMF-03498] c 15 N71-15986
- ENTHALPY**
- Enthalpy and stagnation temperature determination of a high temperature laminar flow gas stream Patent  
[NASA-CASE-XLE-00266] c 14 N70-34156
- ENTRAINMENT**
- Water separator  
[NASA-CASE-XMS-01295-1] c 37 N79-21345
- ENUMERATION**
- Apparatus and process for microbial detection and enumeration  
[NASA-CASE-LAR-12709-1] c 35 N82-28604
- ENVIRONMENT SIMULATION**
- Skeletal stressing method and apparatus Patent  
[NASA-CASE-ARC-10100-1] c 05 N71-24738
- Locomotion and restraint aid Patent  
[NASA-CASE-ARC-10153] c 05 N71-28619
- ENVIRONMENT SIMULATORS**
- Space simulator Patent  
[NASA-CASE-NPO-10141] c 11 N71-24964
- ENVIRONMENTAL CONTROL**
- Portable environmental control system Patent  
[NASA-CASE-XMS-09632-1] c 05 N71-11203
- Portable superclean air column device Patent  
[NASA-CASE-XMF-03212] c 15 N71-22721
- Thermal control panel Patent  
[NASA-CASE-XLA-07728] c 33 N71-22890
- Dual solid cryogenics for spacecraft refrigeration Patent  
[NASA-CASE-GSC-10188-1] c 23 N71-24725
- Active vibration isolator for flexible bodies Patent  
[NASA-CASE-LAR-10106-1] c 15 N71-27169
- Autoignition test cell Patent  
[NASA-CASE-KSC-10198] c 11 N71-28629
- Universal environment package with sectional component housing  
[NASA-CASE-KSC-10031] c 15 N72-22486
- Air conditioned suit  
[NASA-CASE-LAR-10076-1] c 05 N73-20137
- Dual stage check valve  
[NASA-CASE-MSX-13587-1] c 15 N73-30459
- Space vehicle with artificial gravity and earth-like environment  
[NASA-CASE-LEW-11101-1] c 31 N73-32750
- ENVIRONMENTAL ENGINEERING**
- Thermal control wall panel Patent  
[NASA-CASE-XLA-01243] c 33 N71-22792
- ENVIRONMENTAL MONITORING**
- System for real-time crustal deformation monitoring  
[NASA-CASE-NPO-14124-1] c 46 N80-14603
- Vapor fragrances  
[NASA-CASE-LAR-13680-1] c 35 N87-25561
- ENVIRONMENTAL TESTS**
- Multiple environment materials test chamber having a multiple port X-ray tube for irradiating a plurality of samples Patent  
[NASA-CASE-XMS-02930] c 11 N71-23042
- Hard space suit Patent  
[NASA-CASE-XAC-07043] c 05 N71-23161
- Flammability test chamber Patent  
[NASA-CASE-KSC-10126] c 11 N71-24985
- Multi axes vibration fixtures  
[NASA-CASE-MFS-20242] c 14 N73-19421
- Fixture for environmental exposure of structural materials under compression load  
[NASA-CASE-LAR-12602-1] c 39 N83-32081
- ENVIRONMENTS**
- Hermetically sealed elbow actuator  
[NASA-CASE-MFS-14710] c 09 N72-22195
- ENZYMATIC ACTIVITY**
- Use of the enzyme hexokinase for the reduction of inherent light levels  
[NASA-CASE-XGS-05533] c 04 N69-27487
- Method of detecting and counting bacteria in body fluids  
[NASA-CASE-GSC-11092-2] c 04 N73-27052
- ENZYMES**
- Protein sterilization method of firefly luciferase using reduced pressure and molecular sieves  
[NASA-CASE-GSC-10225-1] c 06 N73-27086
- EPICYCLOIDS**
- Sequencing device utilizing planetary gear set  
[NASA-CASE-MSX-19514-1] c 37 N79-20377
- EPITAXY**
- Method for the preparation of inorganic single crystal and polycrystalline electronic materials  
[NASA-CASE-XLE-02545-1] c 76 N79-21910
- Epitaxial thinning process  
[NASA-CASE-NPO-15786-1] c 76 N84-35112
- Method of making macrocrystalline or single crystal semiconductor material  
[NASA-CASE-NPO-15904-1] c 76 N86-28760
- Floating emitter solar cell  
[NASA-CASE-NPO-16467-1-CU] c 33 N87-23879
- EPOXY COMPOUNDS**
- Synthesis of siloxane-containing epoxy polymers Patent  
[NASA-CASE-MFS-13994-1] c 06 N71-11240
- Siloxane containing epoxide compounds  
[NASA-CASE-MFS-13994-2] c 06 N72-25148
- Fire protection covering for small diameter missiles  
[NASA-CASE-ARC-11104-1] c 15 N79-26100
- Antenna grout replacement system  
[NASA-CASE-NPO-15202-1] c 27 N83-34043
- EPOXY MATRIX COMPOSITES**
- Toughening reinforced epoxy composites with brominated polymeric additives  
[NASA-CASE-ARC-11427-2] c 27 N86-27451
- EPOXY RESINS**
- Non-magnetic battery case Patent  
[NASA-CASE-XGS-00886] c 03 N71-11053
- Sealing device for an electrochemical cell Patent  
[NASA-CASE-XGS-02630] c 03 N71-22974
- Hydroforming techniques using epoxy molds Patent  
[NASA-CASE-XLE-05641-1] c 15 N71-26346
- Pressure sensitive transducers Patent  
[NASA-CASE-ERC-10087] c 14 N71-27334
- Epoxy-aziridine polymer product Patent  
[NASA-CASE-NPO-10701] c 06 N71-28620
- Method of repairing discontinuity in fiberglass structures  
[NASA-CASE-LAR-10416-1] c 24 N74-30001
- Transparent fire resistant polymeric structures  
[NASA-CASE-ARC-10813-1] c 27 N76-16230
- Curing agent for polyepoxides and epoxy resins and composites cured therewith --- preventing carbon fiber release  
[NASA-CASE-LEW-13226-1] c 27 N81-17260
- Method of neutralizing the corrosive surface of amine-cured epoxy resins  
[NASA-CASE-GSC-12686-1] c 27 N83-34039
- Fluoroether modified epoxy composites  
[NASA-CASE-ARC-11418-1] c 24 N84-11213
- Process for improving mechanical properties of epoxy resins by addition of cobalt ions  
[NASA-CASE-LAR-13230-1] c 24 N84-34571
- Metal (2,4,4',4'' phthalocyanine tetraamines as curing agents for epoxy resins  
[NASA-CASE-ARC-11424-1] c 27 N85-34281
- Process for improving moisture resistance of epoxy resins by addition of chromium ions  
[NASA-CASE-LAR-13226-1] c 27 N85-34282
- Toughening reinforced epoxy composites with brominated polymeric additives  
[NASA-CASE-ARC-11427-1] c 24 N86-19380
- Seamless metal-clad fiber-reinforced organic matrix composite structures and process for their manufacture  
[NASA-CASE-LAR-13562-1] c 24 N87-18613
- Aminophenoxycyclophosphazene cured epoxy resins and the composites, laminates, adhesives and structures thereof  
[NASA-CASE-ARC-11548-1] c 27 N87-25469
- EQUATIONS OF MOTION**
- Kinesimetric method and apparatus  
[NASA-CASE-MSX-18929-1] c 39 N83-20280
- EQUIPMENT**
- Bimetallic fluid displacement apparatus --- for stirring and heating stored gases and liquids  
[NASA-CASE-ARC-10441-1] c 35 N74-15126
- Apparatus for supplying conditioned air at a substantially constant temperature and humidity  
[NASA-CASE-GSC-12191-1] c 31 N80-32583
- EQUIPMENT SPECIFICATIONS**
- Differential pressure cell Patent  
[NASA-CASE-XAC-00042] c 14 N70-34816
- High-temperature, high-pressure spherical segment valve Patent  
[NASA-CASE-XAC-00074] c 15 N70-34817
- Optical torque meter Patent  
[NASA-CASE-XLE-00503] c 14 N70-34818
- Magnetically centered liquid column float Patent  
[NASA-CASE-XAC-00030] c 14 N70-34820
- Electric propulsion engine test chamber Patent  
[NASA-CASE-XLE-00252] c 11 N70-34844
- Channel-type shell construction for rocket engines and the like Patent  
[NASA-CASE-XLE-00144] c 28 N70-34860
- Non-reusable kinetic energy absorber Patent  
[NASA-CASE-XLE-00810] c 15 N70-34861
- Slit regulated gas journal bearing Patent  
[NASA-CASE-XNP-00476] c 15 N70-38620
- Optical communications system Patent  
[NASA-CASE-XLA-01090] c 07 N71-12389
- Stretcher Patent  
[NASA-CASE-XMF-06589] c 05 N71-23159
- Rocket thrust throttling system  
[NASA-CASE-LEW-10374-1] c 28 N73-13773



- Process for making diamonds  
[NASA-CASE-MFS-20698-2] c 15 N73-19457
- Anti-buckling fatigue test assembly --- for subjecting metal specimen to tensile and compressive loads at constant temperature  
[NASA-CASE-LAR-10426-1] c 09 N74-19528
- Apparatus for conducting flow electrophoresis in the substantial absence of gravity  
[NASA-CASE-MFS-21394-1] c 34 N74-27744
- Thermocouple tape --- developed from thermoelectrically different metals  
[NASA-CASE-LEW-11072-2] c 35 N76-15434
- Field effect transistor and method of construction thereof  
[NASA-CASE-MFS-23312-1] c 33 N78-27326
- Constant magnification optical tracking system  
[NASA-CASE-NPO-14813-1] c 74 N82-24072
- Remotely controlled spray gun  
[NASA-CASE-MFS-28110-1] c 37 N87-24689
- Improved method and apparatus for waste collection and storage  
[NASA-CASE-MSC-21025-1] c 31 N87-25495
- Electrostatic discharge test apparatus  
[NASA-CASE-MSC-21094-1] c 35 N88-24941
- Vibration analyzer  
[NASA-CASE-MSC-21408-1] c 37 N89-28829
- EQUIPOTENTIALS**
- Equipotential space suit Patent  
[NASA-CASE-LAR-10007-1] c 05 N71-11195
- Instrument for measuring potentials on two dimensional electric field plots Patent  
[NASA-CASE-XLA-08493] c 10 N71-19421
- ERGOMETERS**
- Restraint system for ergometer  
[NASA-CASE-MFS-21046-1] c 14 N73-27377
- Ergometer  
[NASA-CASE-MFS-21109-1] c 05 N73-27941
- Tilting table for ergometer and for other biomedical devices  
[NASA-CASE-MFS-21010-1] c 05 N73-30078
- Foot pedal operated fluid type exercising device  
[NASA-CASE-MSC-11561-1] c 05 N73-32014
- Ergometer calibrator --- for any ergometer utilizing rotating shaft  
[NASA-CASE-MFS-21045-1] c 35 N75-15932
- EROSION**
- Thermal shock and erosion resistant tantalum carbide ceramic material  
[NASA-CASE-LAR-11902-1] c 27 N78-17206
- ERROR ANALYSIS**
- Program for computer aided reliability estimation  
[NASA-CASE-NPO-13086-1] c 15 N73-12495
- Bit error rate measurement above and below bit rate tracking threshold  
[NASA-CASE-MSC-12743-1] c 32 N79-10263
- Digital phase-lock loop having an estimator and predictor of error  
[NASA-CASE-NPO-17196-1-CU] c 32 N88-29076
- ERROR CORRECTING CODES**
- Error correction method and apparatus for electronic timepieces  
[NASA-CASE-LAR-12654-1] c 33 N83-36357
- Self-correcting electronically scanned pressure sensor  
[NASA-CASE-LAR-12686-1] c 35 N84-14491
- Local area network with fault-checking, priorities and redundant backup  
[NASA-CASE-NPO-16949-1-CU] c 62 N87-19021
- Reed-Solomon decoder  
[NASA-CASE-NPO-15982-1] c 60 N87-21591
- Processing circuit with asymmetry corrector and convolutional encoder for digital data  
[NASA-CASE-MSC-20187-1] c 33 N87-25531
- ERROR CORRECTING DEVICES**
- Automatic fault correction system for parallel signal channels Patent  
[NASA-CASE-XNP-03263] c 09 N71-18843
- Elimination of frequency shift in a multiplex communication system Patent  
[NASA-CASE-XNP-01306] c 07 N71-20814
- Error correcting method and apparatus Patent  
[NASA-CASE-XNP-02748] c 08 N71-22749
- Failure detection and control means for improved drift performance of a gimbal platform system  
[NASA-CASE-MFS-23551-1] c 04 N76-26175
- Guide for a typewriter  
[NASA-CASE-MFS-15218-1] c 37 N77-19457
- ERROR DETECTION CODES**
- Self-testing and repairing computer Patent  
[NASA-CASE-NPO-10567] c 08 N71-24633
- Local area network with fault-checking, priorities and redundant backup  
[NASA-CASE-NPO-16949-1-CU] c 62 N87-19021
- ERROR SIGNALS**
- Automatic fault correction system for parallel signal channels Patent  
[NASA-CASE-XNP-03263] c 09 N71-18843

- Sampled data controller Patent  
[NASA-CASE-GSC-10554-1] c 08 N71-29033
- Bit error rate measurement above and below bit rate tracking threshold  
[NASA-CASE-MSC-12743-1] c 32 N79-10263
- Triac failure detector  
[NASA-CASE-MFS-25607-1] c 33 N83-34190
- Automated weld torch guidance control system  
[NASA-CASE-MFS-25807-2] c 37 N86-21850
- Comparator with noise suppression  
[NASA-CASE-LAR-13151-1] c 33 N87-21235
- ERRORS**
- Analog-to-digital converter  
[NASA-CASE-MSC-13110-1] c 08 N72-22163
- Compensation for primary reflector wavefront error  
[NASA-CASE-NPO-16869-1CU] c 74 N86-33138
- A VLSI single-chip (225,223) Reed-Solomon encoder with interleaver  
[NASA-CASE-NPO-17280-1-CU] c 17 N88-27220
- Porous plug for reducing orifice induced pressure error in airfoils  
[NASA-CASE-LAR-13569-1] c 35 N89-12841
- ESCAPE CAPSULES**
- Aerial capsule emergency separation device Patent  
[NASA-CASE-XLA-00115] c 03 N70-33343
- Emergency escape system Patent  
[NASA-CASE-XKS-02342] c 05 N71-11199
- Emergency earth orbital escape device  
[NASA-CASE-MSC-13281] c 31 N72-18859
- ESCAPE SYSTEMS**
- Emergency escape system Patent  
[NASA-CASE-MSC-12086-1] c 05 N71-12345
- Emergency escape system Patent  
[NASA-CASE-XKS-07814] c 15 N71-27067
- Explosively activated egress area  
[NASA-CASE-LAR-12624-1] c 01 N83-35992
- ESCHERICHIA**
- Method for detecting coliform organisms  
[NASA-CASE-ARC-11322-1] c 51 N83-28849
- ESTERS**
- Fluorinated esters of polycarboxylic acids  
[NASA-CASE-MFS-21040-1] c 06 N73-30098
- ESTIMATING**
- Digital phase-lock loop having an estimator and predictor of error  
[NASA-CASE-NPO-17196-1-CU] c 32 N88-29076
- ETCHING**
- Masking device Patent  
[NASA-CASE-XNP-02092] c 15 N70-42033
- Method for etching copper Patent  
[NASA-CASE-XGS-06306] c 17 N71-16044
- High resolution developing of photosensitive resists Patent  
[NASA-CASE-XGS-04993] c 14 N71-17574
- Etching of aluminum for bonding Patent  
[NASA-CASE-XMF-02303] c 17 N71-23828
- Selective plating of etched circuits without removing previous plating Patent  
[NASA-CASE-XGS-03120] c 15 N71-24047
- Plating nickel on aluminum castings Patent  
[NASA-CASE-XNP-04148] c 17 N71-24830
- Scanning nozzle plating system --- for etching or plating metals on substrates without masking  
[NASA-CASE-NPO-11758-1] c 31 N74-23065
- Method for applying photographic resists to otherwise incompatible substrates  
[NASA-CASE-MSC-18107-1] c 27 N81-25209
- Method of making V-MOS field effect transistors utilizing a two-step anisotropic etching and ion implantation  
[NASA-CASE-GSC-12515-1] c 33 N81-26360
- Liquid immersion apparatus for minute articles  
[NASA-CASE-MFS-25363-1] c 37 N82-12441
- Controlled in situ etch-back  
[NASA-CASE-NPO-15625-1] c 76 N83-20789
- Method of making an ion beam sputter-etched ventricular catheter for hydrocephalus shunt  
[NASA-CASE-LEW-13107-2] c 52 N84-23095
- [NASA-CASE-LEW-13899-1] c 31 N87-21160
- ETHANE**
- The 1,1,1-triaryl-2,2,2-trifluoroethanes and process for their synthesis  
[NASA-CASE-ARC-11097-1] c 25 N82-24312
- ETHERS**
- Method of producing alternating ether siloxane copolymers Patent  
[NASA-CASE-XMF-02584] c 06 N71-20905
- Hydroxy terminated perfluoro ethers Patent  
[NASA-CASE-NPO-10768] c 06 N71-27254
- Polyurethane resins from hydroxy terminated perfluoro ethers  
[NASA-CASE-NPO-10768-2] c 06 N72-27144
- Process of treating cellulosic membrane and alkaline with membrane separator  
[NASA-CASE-GSC-10019-1] c 44 N82-24641

- Separator for alkaline electric cells and method of making  
[NASA-CASE-GSC-10017-1] c 44 N82-24643
- Perfluoro (imidylamide) diamidines  
[NASA-CASE-ARC-11402-3] c 23 N86-21582
- Polyarylene ethers with improved properties  
[NASA-CASE-LAR-13555-1] c 23 N86-32526
- ETHYL COMPOUNDS**
- Precision heat forming of tetrafluoroethylene tubing  
[NASA-CASE-MSC-18430-1] c 37 N82-24491
- Ethynyl and substituted ethynyl-terminated polysulfones  
[NASA-CASE-LAR-12931-1] c 27 N84-22747
- The 5-(4-Ethynylphenoxy) isophthalic chloride  
[NASA-CASE-LAR-13316-2] c 27 N87-14515
- ETHYLENE OXIDE**
- Process for preparing sterile solid propellants Patent  
[NASA-CASE-XNP-01749] c 27 N70-41897
- Processing for producing a sterilized instrument Patent  
[NASA-CASE-XNP-09763] c 14 N71-20461
- System for sterilizing objects --- cleaning space vehicle systems  
[NASA-CASE-KSC-11085-1] c 54 N81-24724
- EUTECTIC ALLOYS**
- Bonding of sapphire to sapphire by eutectic mixture of aluminum oxide and zirconium oxide  
[NASA-CASE-GSC-11577-1] c 37 N75-15992
- Method of growing composites of the type exhibiting the Soret effect --- improved structure of eutectic alloy crystals  
[NASA-CASE-MFS-22926-1] c 24 N77-27187
- Directionally solidified eutectic gamma plus beta nickel-base superalloys  
[NASA-CASE-LEW-12906-1] c 26 N77-32279
- Directionally solidified eutectic gamma-gamma nickel-base superalloys  
[NASA-CASE-LEW-12905-1] c 26 N78-18183
- Bonding of sapphire to sapphire by eutectic mixture of aluminum oxide and zirconium oxide  
[NASA-CASE-GSC-11577-3] c 24 N79-25143
- EVAUATING (VACUUM)**
- Method for making a heat insulating and ablative structure  
[NASA-CASE-XMS-01108] c 15 N69-24322
- Evacuation port seal Patent  
[NASA-CASE-XMF-03290] c 15 N71-23255
- Leak detector wherein a probe is monitored with ultraviolet radiation Patent  
[NASA-CASE-ERC-10034] c 15 N71-24895
- Evacuated, displacement compression mold --- of tubular bodies from thermosetting plastics  
[NASA-CASE-LAR-10782-2] c 31 N75-13111
- EVAPORATION**
- Evaporant holder  
[NASA-CASE-XLA-03105] c 15 N69-27483
- Method of evaporation  
[NASA-CASE-NPO-15609-2] c 25 N88-23846
- EVAPORATIVE COOLING**
- Tubular sublimatory evaporator heat sink  
[NASA-CASE-ARC-10912-1] c 34 N77-19353
- Capillary heat transport and fluid management device  
[NASA-CASE-MFS-28217-1] c 34 N89-14392
- EVAPORATORS**
- Evaporant source for vapor deposition Patent  
[NASA-CASE-XMF-06065] c 15 N71-20395
- Deposition apparatus  
[NASA-CASE-LAR-10541-1] c 15 N72-32487
- Thermal control system --- removing waste heat from industrial process spacecraft  
[NASA-CASE-GSC-12771-1] c 34 N84-14461
- Multi-leg heat pipe evaporator  
[NASA-CASE-MSC-20812-1] c 34 N86-27593
- EXAMINATION**
- Apparatus for use in examining the lattice of a semiconductor wafer by X-ray diffraction  
[NASA-CASE-MFS-23315-1] c 76 N78-24950
- Method of examining microcircuit patterns  
[NASA-CASE-NPO-16299-1] c 33 N87-14594
- EXCHANGING**
- Procedure to prepare transparent silica gels  
[NASA-CASE-LAR-13476-1-CU] c 76 N87-29360
- EXCITATION**
- Trochoidal analysis of scattered electrons in a merged electron-ion beam geometry  
[NASA-CASE-NPO-16789-1-CU] c 72 N89-29163
- EXCLUSION**
- Counter pumping debris excluder and separator --- gas turbine shaft seals  
[NASA-CASE-LEW-11855-1] c 07 N78-25090
- EXHAUST EMISSION**
- Apparatus and method for destructive removal of particles contained in flowing fluid  
[NASA-CASE-NPO-15426-1] c 35 N84-17553

**EXHAUST GASES**

- Device for suppressing sound and heat produced by high-velocity exhaust jets Patent  
[NASA-CASE-XMF-01813] c 28 N70-41582
- Gas turbine exhaust nozzle --- for noise reduction  
[NASA-CASE-LEW-11569-1] c 07 N74-15453
- Abating exhaust noises in jet engines  
[NASA-CASE-ARC-10712-1] c 07 N74-33218
- Exhaust flow deflector --- for ducted gas flow  
[NASA-CASE-LAR-11570-1] c 34 N76-18364
- Gas turbine engine with recirculating bleed  
[NASA-CASE-LEW-12452-1] c 07 N78-25089
- High performance ammonium nitrate propellant  
[NASA-CASE-NPO-14260-1] c 28 N79-28342
- Supercritical fuel injection system  
[NASA-CASE-LEW-12990-1] c 07 N81-29129

**EXHAUST NOZZLES**

- Annular rocket motor and nozzle configuration Patent  
[NASA-CASE-XLE-00078] c 28 N70-33284
- Nozzle Patent  
[NASA-CASE-XLA-00154] c 28 N70-33374
- Penshape exhaust nozzle for supersonic engine Patent  
[NASA-CASE-XLE-00057] c 28 N70-38711
- Ejection unit Patent  
[NASA-CASE-XNP-00676] c 15 N70-38996
- Two dimensional wedge/translating shroud nozzle  
[NASA-CASE-LAR-11919-1] c 07 N78-27121
- Variable area exhaust nozzle  
[NASA-CASE-LEW-12378-1] c 07 N79-14097
- Noise suppressor for turbo fan jet engines  
[NASA-CASE-ARC-10812-1] c 07 N83-33884
- Apparatus and method for jet noise suppression  
[NASA-CASE-LAR-11903-2] c 71 N84-14873

**EXOTHERMIC REACTIONS**

- Ambient cure polyimide foams --- thermal resistant foams  
[NASA-CASE-ARC-11170-1] c 27 N79-11215
- Exothermic furnace module  
[NASA-CASE-MFS-25707-1] c 35 N82-26631
- Thermal control system --- removing waste heat from industrial process spacecraft  
[NASA-CASE-GSC-12771-1] c 34 N84-14461

**EXPANDABLE STRUCTURES**

- Connector strips-positive, negative and T tabs  
[NASA-CASE-XGS-01395] c 03 N69-21539
- Reflector space satellite Patent  
[NASA-CASE-XLA-00138] c 31 N70-37981
- Foldable conduit Patent  
[NASA-CASE-XLE-00620] c 32 N70-41579
- Collapsible high gain antenna  
[NASA-CASE-KSC-10392] c 07 N73-26117
- Expandable space frames  
[NASA-CASE-ERC-10365-1] c 31 N73-32749
- Means for accommodating large overstrain in lead wires --- by storing extra length of wire in stretchable loop  
[NASA-CASE-LAR-10168-1] c 33 N74-22865
- Antenna deployment mechanism for use with a spacecraft --- extensible and retractable telescopic antenna mast  
[NASA-CASE-GSC-12331-1] c 18 N80-14183
- Synchronously deployable truss structure  
[NASA-CASE-LAR-13117-1] c 37 N86-25789
- Protective telescoping shield for solar concentrator  
[NASA-CASE-NPO-16236-1] c 44 N86-27706
- Deployable geodesic truss structure  
[NASA-CASE-LAR-13113-1] c 31 N87-25492

**EXPANSION**

- Apparatus for measuring swelling characteristics of membranes  
[NASA-CASE-XGS-03865] c 14 N69-21363
- Method for alleviating thermal stress damage in laminates  
[NASA-CASE-LEW-12493-2] c 24 N81-26179
- Dynamic range compression/expansion of light beams by photorefractive crystals  
[NASA-CASE-NPO-17140-1-CU] c 74 N89-14077

**EXPERIMENT DESIGN**

- Hydrofoil Patent  
[NASA-CASE-XLA-00229] c 12 N70-33305
- Sealed battery gas manifold construction Patent  
[NASA-CASE-XNP-03378] c 03 N71-11051
- Electrode construction Patent  
[NASA-CASE-ARC-10043-1] c 05 N71-11193
- G conditioning suit Patent  
[NASA-CASE-XLA-02898] c 05 N71-20268
- Hard space suit Patent  
[NASA-CASE-XAC-07043] c 05 N71-23161

**EXPIRED AIR**

- Metabolic rate meter and method  
[NASA-CASE-MSC-12239-1] c 52 N79-21750

**EXPLOSIONS**

- Combustion detector  
[NASA-CASE-LAR-10739-1] c 14 N73-16484

**EXPLOSIVE DEVICES**

- Tubular coupling having frangible connecting means  
[NASA-CASE-XLA-02854] c 15 N69-27490
- Hermetically sealed explosive release mechanism Patent  
[NASA-CASE-XGS-00824] c 15 N71-16078
- Nonmagnetic, explosive actuated indexing device Patent  
[NASA-CASE-XGS-02422] c 15 N71-21529
- Linear explosive comparison  
[NASA-CASE-LAR-10800-1] c 33 N72-27959
- Disconnect unit  
[NASA-CASE-NPO-11330] c 33 N73-26958
- Pressure limiting propellant actuating system  
[NASA-CASE-MSC-18179-1] c 20 N80-18097
- Toggle release  
[NASA-CASE-MSC-21354-1] c 37 N88-24969

**EXPLOSIVE FORMING**

- Electrical discharge apparatus for forming Patent  
[NASA-CASE-XMF-00375] c 15 N70-34249

**EXPLOSIVE WELDING**

- Totally confined explosive welding --- apparatus to reduce noise level and protect personnel during explosive bonding  
[NASA-CASE-LAR-10941-1] c 37 N74-21057
- Method of making an explosively welded scarf joint  
[NASA-CASE-LAR-11211-1] c 37 N75-12326
- Totally confined explosive welding  
[NASA-CASE-LAR-10941-2] c 37 N79-13364
- Tool and process for miniature explosive joining of tubes  
[NASA-CASE-LAR-13662-1] c 37 N88-14359

**EXPLOSIVES**

- Synthesis of superconducting compounds by explosive compaction of powders  
[NASA-CASE-MFS-20861-1] c 18 N73-32437
- Optically detonated explosive device  
[NASA-CASE-NPO-11743-1] c 28 N74-27425
- Electroexplosive device  
[NASA-CASE-NPO-13858-1] c 28 N79-11231

**EXPONENTIAL FUNCTIONS**

- Digital quasi-exponential function generator  
[NASA-CASE-NPO-11130] c 08 N72-20176

**EXPOSURE**

- Exposure interlock for oscilloscope cameras  
[NASA-CASE-LAR-10319-1] c 14 N73-32322
- Selective image area control of X-ray film exposure density  
[NASA-CASE-NPO-13808-1] c 35 N78-15461
- Fixture for environmental exposure of structural materials under compression load  
[NASA-CASE-LAR-12602-1] c 39 N83-32081

**EXPULSION**

- Electro-expulsive separation system  
[NASA-CASE-ARC-11613-1] c 33 N87-28833

**EXPULSION BLADDERS**

- Expulsion bladder-equipped storage tank structure Patent  
[NASA-CASE-XNP-00612] c 11 N70-38182

**EXTENSIONS**

- Extensible cable support Patent  
[NASA-CASE-XMF-07587] c 15 N71-18701

**EXTENSOMETERS**

- Extensometer frame  
[NASA-CASE-XLA-10322] c 15 N72-17452
- Conductive elastomeric extensometer  
[NASA-CASE-MFS-21049-1] c 52 N74-27864
- Amplifying ribbon extensometer  
[NASA-CASE-LAR-11825-1] c 35 N77-22449
- Laser extensometer  
[NASA-CASE-MFS-19259-1] c 36 N78-14380
- Tensile testing apparatus  
[NASA-CASE-LAR-13243-1] c 35 N85-34375

**EXTERNAL COMBUSTION ENGINES**

- Hot gas engine with dual crankshafts  
[NASA-CASE-NPO-14221-1] c 37 N81-25370

**EXTERNAL STORE SEPARATION**

- Slide release mechanism --- for space shuttle orbiter/external tank connection device  
[NASA-CASE-MSC-20080-1] c 37 N85-30334
- Remote pivot decoupler pylon: Wing/store flutter suppressor  
[NASA-CASE-LAR-13173-1] c 05 N87-14314

**EXTERNAL STORES**

- Decoupler pylon: wing/store flutter suppressor  
[NASA-CASE-LAR-12468-1] c 08 N82-32373

**EXTERNAL TANKS**

- Space Shuttle with rail system and aft thrust structure securing solid rocket boosters to external tank  
[NASA-CASE-MFS-25853-1] c 16 N84-27784
- Slide release mechanism --- for space shuttle orbiter/external tank connection device  
[NASA-CASE-MSC-20080-1] c 37 N85-30334

**EXTRACTION**

- Liquid-gas separation system Patent  
[NASA-CASE-XMS-01624] c 15 N70-40062

- Chassis unit insert tightening-extract device  
[NASA-CASE-XMS-01077-1] c 37 N79-33467
- Supercritical solvent coal extraction  
[NASA-CASE-NPO-15210-1] c 25 N84-22709

**EXTRAVEHICULAR ACTIVITY**

- Portable environmental control system Patent  
[NASA-CASE-XMS-09632-1] c 05 N71-11203
- Hand-held self-maneuvering unit Patent  
[NASA-CASE-XMS-05304] c 05 N71-12336
- Serpentuator Patent  
[NASA-CASE-XMF-05344] c 31 N71-16345
- Fastener apparatus Patent  
[NASA-CASE-ARC-10140-1] c 15 N71-17653
- Extravehicular tunnel suit system Patent  
[NASA-CASE-MSC-12243-1] c 05 N71-24728
- Life support system  
[NASA-CASE-MSC-12411-1] c 05 N72-20096
- Space suit  
[NASA-CASE-MSC-12609-1] c 05 N73-32012
- Absorbent product and articles made therefrom  
[NASA-CASE-MSC-18223-2] c 54 N84-11758

**EXTREMELY LOW RADIO FREQUENCIES**

- VHF/UHF parasitic probe antenna Patent  
[NASA-CASE-XKS-09340] c 07 N71-24614

**EXTRUDING**

- Extrusion can  
[NASA-CASE-NPO-10812] c 15 N73-13464
- Brazing alloy binder  
[NASA-CASE-XMF-05868] c 26 N75-27125
- Continuous coal processing method  
[NASA-CASE-NPO-13758-2] c 31 N81-15154

**EYE (ANATOMY)**

- Sight switch using an infrared source and sensor Patent  
[NASA-CASE-XMF-03934] c 09 N71-22985
- Ophthalmic method and apparatus  
[NASA-CASE-LEW-11669-1] c 05 N73-27062
- Corneal seal device  
[NASA-CASE-LEW-12258-1] c 52 N77-28716
- Intra-ocular pressure normalization technique and equipment  
[NASA-CASE-LEW-12723-1] c 52 N80-18690
- Chromatically corrected virtual image visual display --- reducing eye strain in flight simulators  
[NASA-CASE-LAR-12251-1] c 74 N80-27185
- Photorefractor ocular screening system  
[NASA-CASE-MFS-26011-1-SB] c 52 N87-24874

**EYE DISEASES**

- Photorefractor ocular screening system  
[NASA-CASE-MFS-26011-1-SB] c 52 N87-24874

**EYE EXAMINATIONS**

- Visual examination apparatus  
[NASA-CASE-ARC-10329-1] c 05 N73-26072
- Multiparameter vision testing apparatus  
[NASA-CASE-MSC-13601-2] c 54 N75-27759
- Visual examination apparatus  
[US-PATENT-RE-28,921] c 52 N76-30793

**EYEPIECES**

- Wide angle long eye relief eyepiece Patent  
[NASA-CASE-XMS-06056-1] c 23 N71-24857

**F****FABRICATION**

- Pressure variable capacitor  
[NASA-CASE-XNP-09752] c 14 N69-21541
- Method of making a regeneratively cooled combustion chamber Patent  
[NASA-CASE-XLE-00150] c 28 N70-41818
- Solar cell submodule Patent  
[NASA-CASE-XNP-05821] c 03 N71-11056
- Capacitor and method of making same Patent  
[NASA-CASE-LEW-10364-1] c 09 N71-13522
- Solar panel fabrication Patent  
[NASA-CASE-XNP-03413] c 03 N71-26726
- Method of forming a root cord restrained convolute section  
[NASA-CASE-MSC-12398] c 05 N72-20098
- Method of removing insulated material from insulated wires  
[NASA-CASE-FRC-10038] c 15 N72-20444
- Thin film temperature sensor and method of making same  
[NASA-CASE-NPO-11775] c 26 N72-28761
- Fabrication of polycrystalline solar cells on low-cost substrates  
[NASA-CASE-GSC-12022-1] c 44 N76-28635
- Lightweight reflector assembly  
[NASA-CASE-NPO-13707-1] c 74 N77-28933
- Process for spinning flame retardant elastomeric compositions --- fabricating synthetic fibers for high oxygen environments  
[NASA-CASE-MSC-14331-3] c 27 N78-32262
- Solar array strip and a method for forming the same  
[NASA-CASE-NPO-13652-1] c 44 N79-17314



- Method for fabricating solar cells having integrated collector grits  
[NASA-CASE-LEW-12819-2] c 44 N79-18444
- Bonding machine for forming a solar array strip  
[NASA-CASE-NPO-13652-2] c 44 N79-24431
- Method for forming a solar array strip  
[NASA-CASE-NPO-13652-3] c 44 N80-14474
- Induced junction solar cell and method of fabrication  
[NASA-CASE-NPO-13786-1] c 44 N80-29835
- Copper doped polycrystalline silicon solar cell  
[NASA-CASE-NPO-14670-1] c 44 N81-19558
- Heat exchanger and method of making  
[NASA-CASE-LEW-12441-3] c 44 N81-24519
- Photoelectric detection system --- manufacturing automation  
[NASA-CASE-MFS-23776-1] c 33 N82-28545
- Method of Fabricating Schottky Barrier solar cell  
[NASA-CASE-NPO-13689-4] c 44 N82-28780
- Advanced inorganic separators for alkaline batteries  
[NASA-CASE-LEW-13171-1] c 44 N82-29708
- Method of making a high voltage V-groove solar cell  
[NASA-CASE-LEW-13401-1] c 44 N82-29709
- Advanced inorganic separators for alkaline batteries and method of making the same  
[NASA-CASE-LEW-13171-2] c 44 N83-32176
- Resonant isolator for maser amplifier  
[NASA-CASE-NPO-15201-1] c 36 N83-35350
- Contactless pellet fabrication  
[NASA-CASE-NPO-15592-1] c 71 N84-16940
- Method of making a light weight battery plaque  
[NASA-CASE-LEW-13349-1] c 26 N84-22734
- High resistance and raised modulus carbon fibers  
[NASA-TM-76884] c 24 N85-25436
- GaAs Schottky barrier photo-responsive device and method of fabrication  
[NASA-CASE-GSC-12816-1] c 76 N86-20150
- Method of fabricating an imaging X-ray spectrometer  
[NASA-CASE-GSC-12956-1] c 35 N87-14671
- Miniature traveling wave tube and method of making  
[NASA-CASE-LEW-14520-1] c 33 N88-23936
- Nozzle fabrication technique  
[NASA-CASE-MSC-21299-1] c 20 N88-24684
- Method for Veterbi decoding of large constraint length convolutional codes  
[NASA-CASE-NPO-17310-1-CU] c 17 N88-28946
- Multi-element spherical shell generation  
[NASA-CASE-NPO-17203-1-CU] c 34 N89-13728

## FABRICS

- Method of forming a root cord restrained convolute section  
[NASA-CASE-MSC-12398] c 05 N72-20098
- Amplifying ribbon extensometer  
[NASA-CASE-LAR-11825-1] c 35 N77-22449
- Nozzle extraction process and handlemeter for measuring handle  
[NASA-CASE-LAR-12147-1] c 31 N79-11246
- Composition and method for making polyimide resin-reinforced fabric  
[NASA-CASE-LEW-12933-1] c 27 N81-19296
- Heat sealable, flame and abrasion resistant coated fabric --- clothing and containers for space exploration  
[NASA-CASE-MSC-18382-1] c 27 N82-16238
- Adjustable high emittance gap filler --- reentry shielding for space shuttle vehicles  
[NASA-CASE-ARC-11310-1] c 27 N82-24339
- Absorbent product to absorb fluids --- for collection of human wastes  
[NASA-CASE-MSC-18223-1] c 24 N82-29362
- High temperature silicon carbide impregnated insulating fabrics  
[NASA-CASE-MSC-18832-1] c 27 N83-18908
- Heat sealable, flame and abrasion resistant coated fabric  
[NASA-CASE-MSC-18382-2] c 27 N84-14324
- Hot melt adhesive attachment pad  
[NASA-CASE-LAR-12894-1] c 27 N85-20125
- Tapered, tubular polyester fabric  
[NASA-CASE-MSC-21082-1] c 27 N87-29672
- Hazards protection for space suits and spacecraft  
[NASA-CASE-MSC-21366-1] c 54 N89-12206
- Smart tunnel: Docking mechanism  
[NASA-CASE-MSC-21360-1] c 18 N89-25263
- FABRY-PEROT INTERFEROMETERS**
- Retrodirective optical system  
[NASA-CASE-XGS-04480] c 16 N69-27491
- FACSIMILE COMMUNICATION**
- Facsimile video remodulation network  
[NASA-CASE-GSC-10185-1] c 07 N72-12081
- Spectrometer integrated with a facsimile camera  
[NASA-CASE-LAR-11207-1] c 35 N75-19613
- FACTORIAL DESIGN**
- Space suit pressure stabilizer Patent  
[NASA-CASE-XLA-05332] c 05 N71-11194
- Equipotential space suit Patent  
[NASA-CASE-LAR-10007-1] c 05 N71-11195

## FAIL-SAFE SYSTEMS

- Fail-safe multiple transformer circuit configuration  
[NASA-CASE-NPO-11078] c 09 N72-25262
- Latch mechanism  
[NASA-CASE-MSC-12549-1] c 37 N74-27903
- Safety flywheel --- using flexible materials energy storage  
[NASA-CASE-HQN-10888-1] c 44 N79-14527
- Module failure isolation circuit for paralleled inverters --- preventing system failure during power conditioning for spacecraft applications  
[NASA-CASE-NPO-14000-1] c 33 N79-24254
- Apparatus for sensor failure detection and correction in a gas turbine engine control system  
[NASA-CASE-LEW-12907-2] c 07 N81-19115
- Reconfiguring redundancy management  
[NASA-CASE-MSC-18498-1] c 60 N82-29013

## FAILURE ANALYSIS

- Fatigue failure load indicator  
[NASA-CASE-LAR-12027-1] c 39 N79-22537
- Method and apparatus for transfer function simulator for testing complex systems  
[NASA-CASE-NPO-15696-1] c 33 N85-34333
- Delamination test apparatus and method  
[NASA-CASE-LAR-13985-1] c 24 N89-28586

## FAILURE MODES

- High speed rolling element bearing  
[NASA-CASE-LEW-10856-1] c 15 N72-22490
- Inverter ratio failure detector  
[NASA-CASE-NPO-13160-1] c 35 N74-18090
- Method of insulating predesigned disbond areas into composite laminates  
[NASA-CASE-LAR-13225-1] c 24 N89-14258
- Fatigue testing apparatus  
[NASA-CASE-LEW-14124-1] c 35 N89-28806

## FAIRINGS

- Method and system for ejecting fairing sections from a rocket vehicle  
[NASA-CASE-GSC-10590-1] c 31 N73-14853
- Low-drag ground vehicle particularly suited for use in safely transporting livestock  
[NASA-CASE-FRC-11058-1] c 85 N82-33288

## FALLING SPHERES

- Gravimeter Patent  
[NASA-CASE-XMF-05844] c 14 N71-17587

## FAR INFRARED RADIATION

- Collimator of multiple plates with axially aligned identical random arrays of apertures  
[NASA-CASE-MFS-20546-2] c 14 N73-30389
- Method and means for generation of tunable laser sidebands in the far-infrared region  
[NASA-CASE-NPO-16497-1-CU] c 36 N87-25567

## FAR ULTRAVIOLET RADIATION

- Transient heat transfer gauge Patent  
[NASA-CASE-XNP-09802] c 33 N71-15641

## FARADAY EFFECT

- Faraday rotation measurement method and apparatus  
[NASA-CASE-NPO-14839-1] c 35 N82-15381

## FAST FOURIER TRANSFORMATIONS

- Pipelined digital SAR azimuth correlator using hybrid FFT-transversal filter  
[NASA-CASE-NPO-15519-1] c 32 N84-34651

## FASTENERS

- Force measuring instrument Patent  
[NASA-CASE-XMF-00456] c 14 N70-34705
- Life preserver Patent  
[NASA-CASE-XMS-00864] c 05 N70-36493
- All-directional fastener Patent  
[NASA-CASE-XLA-01807] c 15 N71-10799
- Fastener apparatus Patent  
[NASA-CASE-ARC-10140-1] c 15 N71-17653
- Methods and apparatus employing vibratory energy for wrenching Patent  
[NASA-CASE-MFS-20586] c 15 N71-17686
- Coaxial cable connector Patent  
[NASA-CASE-XNP-04732] c 09 N71-20851
- Latching mechanism Patent  
[NASA-CASE-XMS-03745] c 15 N71-21076
- Central spar and module joint Patent  
[NASA-CASE-XNP-02341] c 15 N71-21531
- Threadless fastener apparatus Patent  
[NASA-CASE-XFR-05302] c 15 N71-23254
- Flexibly connected support and skin Patent  
[NASA-CASE-XLA-01027] c 31 N71-24035
- Quick release hook tape Patent  
[NASA-CASE-XMS-10660-1] c 15 N71-25975
- Helmet latching and attaching ring  
[NASA-CASE-XMS-04670] c 54 N78-17678
- Chassis unit insert tightening-extract device  
[NASA-CASE-XMS-01077-1] c 37 N79-33467
- One-step dual purpose joining technique  
[NASA-CASE-LAR-12595-1] c 33 N82-26571
- Reusable captive blind fastener  
[NASA-CASE-MSC-18742-1] c 37 N82-26673
- Daze fasteners  
[NASA-CASE-LAR-13009-1] c 37 N85-29285

- Mechanical fastener  
[NASA-CASE-LAR-12738-2] c 37 N85-30335
- Daze fasteners  
[NASA-CASE-LAR-13009-2] c 37 N87-22976
- Toggle release  
[NASA-CASE-MSC-21354-1] c 37 N88-24969

## FATIGUE (MATERIALS)

- Strain coupled servo control system Patent  
[NASA-CASE-XLA-08530] c 32 N71-25360
- TV fatigue crack monitoring system  
[NASA-CASE-LAR-11490-1] c 39 N78-16387

## FATIGUE LIFE

- Fatigue-resistant shear pin  
[NASA-CASE-XLA-09122] c 15 N69-27505
- Method of improving the reliability of a rolling element system Patent  
[NASA-CASE-XLE-02999] c 15 N71-16052
- High speed rolling element bearing  
[NASA-CASE-LEW-10856-1] c 15 N72-22490
- High speed hybrid bearing comprising a fluid bearing and a rolling bearing connected in series  
[NASA-CASE-LEW-11152-1] c 15 N73-32359
- Machine for use in monitoring fatigue life for a plurality of elastomeric specimens  
[NASA-CASE-NPO-13731-1] c 39 N78-10493

## FATIGUE TESTING MACHINES

- Horizontal cryostat for fatigue testing Patent  
[NASA-CASE-XMF-10968] c 14 N71-24234
- Light shield and infrared reflector for fatigue testing Patent  
[NASA-CASE-XLA-01782] c 14 N71-26136
- Fatigue testing a plurality of test specimens and method  
[NASA-CASE-MFS-28118-1] c 39 N87-25601

## FATIGUE TESTS

- Fatigue testing device Patent  
[NASA-CASE-XLA-02131] c 32 N70-42003
- Fatigue failure load indicator  
[NASA-CASE-LAR-12027-1] c 39 N79-22537
- Heating and cooling system --- for fatigue test specimens  
[NASA-CASE-LAR-12393-1] c 34 N83-34221
- Furnace for tensile/fatigue testing  
[NASA-CASE-LEW-14848-1] c 14 N89-28549
- Fatigue testing apparatus  
[NASA-CASE-LEW-14124-1] c 35 N89-28806

## FATS

- Oil and fat absorbing polymers  
[NASA-CASE-NPO-11609-2] c 27 N77-31308

## FAULT TOLERANCE

- Toggle release  
[NASA-CASE-MSC-21354-1] c 37 N88-24969

## FECEs

- Relief container  
[NASA-CASE-XMS-06761] c 05 N69-23192
- Improved method and apparatus for waste collection and storage  
[NASA-CASE-MSC-21025-1] c 31 N87-25495

## FEED SYSTEMS

- Plasma device feed system Patent  
[NASA-CASE-XLE-02902] c 25 N71-21694
- Propellant tank pressurization system Patent  
[NASA-CASE-XNP-00650] c 27 N71-28929
- Liquid waste feed system  
[NASA-CASE-LAR-10365-1] c 05 N72-27102
- Pressurized lighting system  
[NASA-CASE-KSC-10644] c 09 N72-27227
- Dual frequency microwave reflex feed  
[NASA-CASE-NPO-13091-1] c 09 N73-12214
- Injector for use in high voltage isolators for liquid feed lines  
[NASA-CASE-NPO-11377] c 15 N73-27406
- Supercharged topping rocket propellant feed system  
[NASA-CASE-XLE-02062-1] c 20 N80-14188
- Method of producing silicon --- gas phase reactor multiple injector liquid feed system  
[NASA-CASE-NPO-14382-1] c 31 N80-18231
- Continuous coal processing method  
[NASA-CASE-NPO-13758-2] c 31 N81-15154
- Constant-output atomizer --- Inhalation therapy and aerosol research  
[NASA-CASE-MFS-25631-1] c 34 N84-12406

## FEEDBACK

- Active RC networks  
[NASA-CASE-ARC-10020] c 10 N72-17172
- Feedback shift register with states decomposed into cycles of equal length  
[NASA-CASE-NPO-11082] c 08 N72-22167
- Inverter oscillator with voltage feedback  
[NASA-CASE-NPO-10760] c 09 N72-25254

## FEEDBACK AMPLIFIERS

- Radiometric temperature reference Patent  
[NASA-CASE-MSC-13276-1] c 14 N71-27058
- Compensating bandwidth switching transients in an amplifier circuit Patent  
[NASA-CASE-XNP-01107] c 10 N71-28859

- Monostable multivibrator with complementary NOR gates Patent  
[NASA-CASE-MSC-13492-1] c 10 N71-28860
- FEEDBACK CIRCUITS**  
Low power drain semi-conductor circuit  
[NASA-CASE-XGS-04999] c 09 N69-24317  
Linear three-tap feedback shift register Patent  
[NASA-CASE-NPO-10351] c 08 N71-12503  
Frequency control network for a current feedback oscillator Patent  
[NASA-CASE-GSC-10041-1] c 10 N71-19418  
Feedback integrator with grounded capacitor Patent  
[NASA-CASE-XAC-10607] c 10 N71-23669  
Parametric amplifiers with idler circuit feedback  
[NASA-CASE-LAR-10253-1] c 09 N72-25258  
Pseudonoise sequence generators with three tap linear feedback shift registers  
[NASA-CASE-NPO-11406] c 08 N73-12175  
Logarithmic circuit with wide dynamic range  
[NASA-CASE-GSC-12145-1] c 33 N78-32339  
Automatic level control circuit  
[NASA-CASE-KSC-11170-1] c 33 N83-36356
- FEEDBACK CONTROL**  
Nonlinear analog-to-digital converter Patent  
[NASA-CASE-XAC-04031] c 08 N71-18594  
Pulse-type magnetic core memory element circuit with blocking oscillator feedback Patent  
[NASA-CASE-XGS-03303] c 08 N71-18595  
BCD to decimal decoder Patent  
[NASA-CASE-XKS-06167] c 08 N71-24890  
A dc motor speed control system Patent  
[NASA-CASE-MFS-14610] c 09 N71-28886  
Sampled data controller Patent  
[NASA-CASE-GSC-10554-1] c 08 N71-29033  
A dc servosystem including an ac motor Patent  
[NASA-CASE-NPO-10700] c 07 N71-33613  
Suppression of flutter  
[NASA-CASE-LAR-10682-1] c 02 N73-26004  
Regulated dc-to-dc converter for voltage step-up or step-down with input-output isolation  
[NASA-CASE-HQN-10792-1] c 33 N74-11049  
Diffused waveguiding capillary tube with distributed feedback for a gas laser  
[NASA-CASE-NPO-13544-1] c 36 N76-18428  
The dc-to-dc converters employing staggered-phase power switches with two-loop control  
[NASA-CASE-NPO-13512-1] c 33 N77-10428  
System and method for tracking a signal source --- employing feedback control  
[NASA-CASE-HQN-10880-1] c 17 N78-17140  
Closed loop spray cooling apparatus --- for particle accelerator targets  
[NASA-CASE-LEW-11981-1] c 31 N78-17237  
Wide power range microwave feedback controller  
[NASA-CASE-GSC-12146-1] c 33 N78-32340  
Active notch filter network with variable notch depth, width and frequency  
[NASA-CASE-FRC-11055-1] c 33 N80-29583  
Variable speed drive  
[NASA-CASE-GSC-12643-1] c 37 N83-26078  
Tuned analog network  
[NASA-CASE-GSC-12650-1] c 33 N84-14421  
Three phase power factor controller  
[NASA-CASE-MFS-25535-2] c 33 N84-22885  
Three-phase power factor controller with induced EMF sensing  
[NASA-CASE-MFS-25852-1] c 33 N84-33661  
Closed loop electrostatic levitation system  
[NASA-CASE-NPO-15553-1] c 33 N85-29142  
Method and apparatus for transfer function simulator for testing complex systems  
[NASA-CASE-NPO-15696-1] c 33 N85-34333  
Closed loop fiber optic rotation sensor  
[NASA-CASE-NPO-16558-1-CU] c 74 N87-23259  
Spiral vane bioreactor  
[NASA-CASE-MSC-21361-1] c 51 N89-25557
- FEEDBACK FREQUENCY MODULATION**  
Means for communicating through a layer of ionized gases Patent  
[NASA-CASE-XLA-01127] c 07 N70-41372  
Data-aided carrier tracking loops  
[NASA-CASE-NPO-11282] c 10 N73-16205  
Linear phase demodulator including a phase locked loop with auxiliary feedback loop  
[NASA-CASE-GSC-12018-1] c 33 N77-14334
- FEEDERS**  
Automatic real-time pair-feeding system for animals  
[NASA-CASE-ARC-10302-1] c 51 N74-15778
- FEET (ANATOMY)**  
Drop foot corrective device  
[NASA-CASE-LAR-12259-2] c 54 N86-22112
- FELTS**  
Thermal insulation attaching means --- adhesive bonding of felt vibration insulators under ceramic tiles  
[NASA-CASE-MSC-12619-2] c 27 N79-12221
- FEMALES**  
Liquid cooled brassiere and method of diagnosing malignant tumors therewith  
[NASA-CASE-ARC-11007-1] c 52 N77-14736  
Urine collection apparatus --- feminine hygiene  
[NASA-CASE-MSC-18381-1] c 52 N81-28740
- FERMENTATION**  
Production of butanol by fermentation in the presence of cocultures of clostridium  
[NASA-CASE-NPO-16203-1] c 23 N85-35227
- FERRITES**  
Magnetic recording head and method of making same Patent  
[NASA-CASE-GSC-10097-1] c 08 N71-27210  
Method for making conductors for ferrite memory arrays --- from pre-formed metal conductors  
[NASA-CASE-LAR-10994-1] c 24 N75-13032  
Device for measuring the ferrite content in an austenitic stainless-steel weld  
[NASA-CASE-MFS-22907-1] c 26 N76-18257
- FERROFLUIDS**  
Linear motion valve  
[NASA-CASE-MSC-20148-1] c 37 N85-29284
- FERROMAGNETIC MATERIALS**  
Magnetic heat pumping  
[NASA-CASE-LEW-12508-1] c 34 N78-17335
- FERROMAGNETISM**  
High temperature ferromagnetic cobalt-base alloy Patent  
[NASA-CASE-XLE-03629] c 17 N71-23248
- FIBER COMPOSITES**  
Fibrous refractory composite insulation --- shielding reusable spacecraft  
[NASA-CASE-ARC-11169-1] c 24 N79-24062  
Composition and method for making polyimide resin-reinforced fabric  
[NASA-CASE-LEW-12933-1] c 27 N81-19296  
Fuselage structure using advanced technology fiber reinforced composites  
[NASA-CASE-LAR-11688-1] c 24 N82-26384  
Low temperature cross linking polyimides  
[NASA-CASE-LEW-12876-2] c 27 N83-29392  
Mixed polyvalent-monovalent metal coating for carbon-graphite fibers  
[NASA-CASE-NPO-14987-1] c 24 N83-33950  
Phosphorus-containing imide resins  
[NASA-CASE-ARC-11368-3] c 27 N84-22745  
Method and apparatus for gripping uniaxial fibrous composite materials  
[NASA-CASE-LEW-13758-1] c 24 N84-27829  
Curved cap corrugated sheet  
[NASA-CASE-LAR-12884-1] c 18 N84-33450  
Arc spray fabrication of metal matrix composite monolayer  
[NASA-CASE-LEW-13828-1] c 24 N85-30027  
Toughening reinforced epoxy composites with brominated polymeric additives  
[NASA-CASE-ARC-11427-2] c 27 N86-27451  
Light weight fire resistant graphite composites  
[US-PATENT-4,598,007] c 24 N86-28131  
Seamless metal-clad fiber-reinforced organic matrix composite structures and process for their manufacture  
[NASA-CASE-LAR-13562-1] c 24 N87-18613  
Method of preparing fiber reinforced ceramic material  
[NASA-CASE-LEW-14392-1] c 27 N87-28656  
Pultrusion die assembly  
[NASA-CASE-LAR-13719-1] c 37 N89-12867  
Light weight polymer matrix composite material  
[NASA-CASE-LEW-14734-1] c 24 N89-23623  
Fiber reinforced ceramic material  
[NASA-CASE-LEW-14392-2] c 27 N89-29538  
Method of controlling a resin curing process --- for fiber reinforced composites  
[NASA-CASE-MSC-21169-1] c 27 N89-29539
- FIBER OPTICS**  
Fiber optic vibration transducer and analyzer Patent  
[NASA-CASE-XMF-02433] c 14 N71-10616  
Fiber distributed feedback laser  
[NASA-CASE-NPO-13531-1] c 36 N76-24553  
Fiber optic multiplex optical transmission system  
[NASA-CASE-KSC-11047-1] c 74 N78-14889  
Low intensity X-ray and gamma-ray imaging device --- fiber optics  
[NASA-CASE-GSC-12263-1] c 74 N79-20857  
Precise RF timing signal distribution to remote stations --- fiber optics  
[NASA-CASE-NPO-14749-1] c 32 N81-14186  
Interleaving device  
[NASA-CASE-GSC-12111-2] c 33 N81-29342  
Optical gyroscope system  
[NASA-CASE-NPO-14258-1] c 35 N81-33448  
Fiber optic transmission line stabilization apparatus and method  
[NASA-CASE-NPO-15036-1] c 74 N82-19029
- Optical crystal temperature gauge with fiber optic connections  
[NASA-CASE-MSC-18627-1] c 74 N82-30071  
Low intensity X-ray and gamma-ray spectrometer  
[NASA-CASE-GSC-12587-1] c 35 N82-32659  
Fiber optic crossbar switch for automatically patching optical signals  
[NASA-CASE-KSC-11104-1] c 74 N83-29032  
Optical fiber tactile sensor  
[NASA-CASE-NPO-15375-1] c 74 N84-11921  
Laser pulse detection method and apparatus  
[NASA-CASE-NPO-16030-1] c 36 N84-25037  
Optical fiber coupling method and apparatus  
[NASA-CASE-NPO-15464-1] c 74 N85-29749  
Closed loop fiber optic rotation sensor  
[NASA-CASE-NPO-16558-1-CU] c 74 N87-23259  
Low-loss, high-isolation, fiber-optic isolator  
[NASA-CASE-NPO-17207-1-CU] c 74 N88-25304  
Method and apparatus for determining optical absorption and emission characteristics of a crystal or non-crystalline fiber  
[NASA-CASE-LAR-13963-1] c 76 N89-14119  
Optical pressure sealing coupling apparatus  
[NASA-CASE-MFS-29348-1] c 74 N89-25689  
Fiber optic frequency transfer link  
[NASA-CASE-NPO-17703-1-CU] c 74 N89-29191
- FIBER RELEASE**  
Curing agent for polyepoxides and epoxy resins and composites cured therewith --- preventing carbon fiber release  
[NASA-CASE-LEW-13226-1] c 27 N81-17260  
Method and device for detection of a substance --- determining carbon fiber release in fire situations  
[NASA-CASE-NPO-14940-1] c 33 N83-31954
- FIBER STRENGTH**  
High resistance and raised modulus carbon fibers  
[NASA-TM-76884] c 24 N85-25436
- FIBERS**  
Method for fiberizing ceramic materials Patent  
[NASA-CASE-XNP-00597] c 18 N71-23088  
Method and apparatus for fluffing, separating, and cleaning fibers  
[NASA-CASE-LAR-11224-1] c 37 N76-18456  
Composite lamination method  
[NASA-CASE-LAR-12019-1] c 24 N78-17150  
Dual membrane hollow fiber fuel cell and method of operating same  
[NASA-CASE-NPO-13732-1] c 44 N79-10513  
Ion-exchange hollow fibers  
[NASA-CASE-NPO-13309-1] c 25 N81-19244  
A method and technique for installing light-weight fragile, high-temperature fiber insulation  
[NASA-CASE-MSC-18934-3] c 24 N82-26387  
Phosphorus-containing imide resins  
[NASA-CASE-ARC-11368-3] c 27 N84-22745  
Graphite fluoride fiber polymer composite material  
[NASA-CASE-LEW-14472-1] c 24 N89-14259  
Hollow fiber cinnostat: Technical abstract  
[NASA-CASE-MFS-28370-1] c 35 N89-28793
- FIELD EFFECT TRANSISTORS**  
Frequency to analog converter Patent  
[NASA-CASE-XNP-07040] c 08 N71-12500  
Voltage to frequency converter Patent  
[NASA-CASE-GSC-10022-1] c 10 N71-25882  
Broadband video process with very high input impedance  
[NASA-CASE-NPO-10199] c 09 N72-17156  
Data multiplexer using tree switching configuration  
[NASA-CASE-NPO-11333] c 08 N72-22162  
Integrated circuit including field effect transistor and cermet resistor  
[NASA-CASE-GSC-10835-1] c 09 N72-33205  
Radiation hardening of MOS devices by boron --- for stabilizing gate threshold potential of field effect device  
[NASA-CASE-GSC-11425-1] c 76 N74-20329  
Stored charge transistor  
[NASA-CASE-NPO-11156-2] c 33 N75-31331  
Field effect transistor and method of construction thereof  
[NASA-CASE-MFS-23312-1] c 33 N78-27326  
Method of making V-MOS field effect transistors utilizing a two-step anisotropic etching and ion implantation  
[NASA-CASE-GSC-12515-1] c 33 N81-26360  
CCD correlated quadruple sampling processor  
[NASA-CASE-NPO-14426-1] c 33 N81-27396  
Electronic system for high power load control --- solar arrays  
[NASA-CASE-NPO-15358-1] c 33 N83-27126  
JFET reflection oscillator  
[NASA-CASE-GSC-12555-1] c 33 N86-19515  
Hybrid power semiconductor  
[NASA-CASE-LEW-13922-1] c 33 N86-20672  
FET charge sensor and voltage probe  
[NASA-CASE-NPO-16045-1] c 76 N87-13313

## FIELD EMISSION

- Method and apparatus for limiting field emission current  
[NASA-CASE-ERC-10015-2] c 10 N72-27246  
Apparatus for mounting a field emission cathode  
[NASA-CASE-LEW-14108-1] c 33 N87-28832

## FIELD OF VIEW

- Scanner --- photography from a spin stabilized synchronous satellite  
[NASA-CASE-GSC-12032-2] c 43 N82-13465  
Focal plane array optical proximity sensor  
[NASA-CASE-NPO-15155-1] c 74 N85-22139  
A compact fast wide angle broad band spectrometer optical system  
[NASA-CASE-NPO-17562-1-CU] c 74 N89-24153

## FILAMENT WINDING

- Tool attachment for spreading loose elements away from work Patent  
[NASA-CASE-XMF-02107] c 15 N71-10809  
Method of making a filament-wound container Patent  
[NASA-CASE-XLE-03803-2] c 15 N71-17651  
Method of fabricating a twisted composite superconductor  
[NASA-CASE-LEW-11015] c 26 N73-32571  
Method of making reinforced composite structure  
[NASA-CASE-LEW-12619-1] c 24 N77-19171

## FILAMENTS

- Radiant heater having formed filaments Patent  
[NASA-CASE-XLE-00387] c 33 N70-34812  
Twisted multifilament superconductor  
[NASA-CASE-LEW-11726-1] c 26 N73-26752

## FILLERS

- Method for making a heat insulating and ablative structure  
[NASA-CASE-XMS-01108] c 15 N69-24322  
Intumescent-ablator coatings using endothermic fillers  
[NASA-CASE-ARC-11043-1] c 24 N78-27180  
Polymeric compositions and their method of manufacture --- forming filled polymer systems using cryogenics  
[NASA-CASE-NPO-10424-1] c 27 N81-24258  
Polyvinyl alcohol battery separator containing inert filler --- alkaline batteries  
[NASA-CASE-LEW-13556-1] c 44 N81-27615  
Adjustable high emittance gap filler --- reentry shielding for space shuttle vehicles  
[NASA-CASE-ARC-11310-1] c 27 N82-24339  
Multi-element spherical shell generation  
[NASA-CASE-NPO-17203-1-CU] c 34 N89-13728

## FILM COOLING

- Multislit film cooled pyrolytic graphite rocket nozzle Patent  
[NASA-CASE-XNP-04389] c 28 N71-20942  
Curved film cooling admission tube  
[NASA-CASE-LEW-13174-1] c 34 N83-27144  
Covering solid, film cooled surfaces with a duplex thermal barrier coating  
[NASA-CASE-LEW-13450-1] c 31 N83-35177  
Vortex generating flow passage design for increased film cooling effectiveness  
[NASA-CASE-LEW-14039-1] c 34 N85-33433

## FILM THICKNESS

- Chemical vapor deposition reactor --- providing uniform film thickness  
[NASA-CASE-NPO-13650-1] c 25 N79-28253  
Dual-beam skin friction interferometer  
[NASA-CASE-ARC-11354-1] c 74 N83-21949  
Degassing and mixing apparatus for liquids --- potable water for spacecraft  
[NASA-CASE-MSC-18936-1] c 35 N83-29652  
Epitaxial thinning process  
[NASA-CASE-NPO-15786-1] c 76 N84-35112

## FILMS

- Apparatus for obtaining isotropic irradiation of a specimen  
[NASA-CASE-MFS-20095] c 24 N72-11595  
Method and apparatus for measurement of trap density and energy distribution in dielectric films  
[NASA-CASE-NPO-13443-1] c 76 N76-20994

## FILTERS

- Filter system for control of outgas contamination in vacuum Patent  
[NASA-CASE-MFS-14711] c 15 N71-26185  
Method for removing oxygen impurities from cesium Patent  
[NASA-CASE-XNP-04262-2] c 17 N71-26773  
Centrifugal lyophobic separator  
[NASA-CASE-LAR-10194-1] c 34 N74-30608

## FILTRATION

- Recovery of aluminum from composite propellants  
[NASA-CASE-NPO-14110-1] c 28 N81-15119  
Method for treating wastewater using microorganisms and vascular aquatic plants  
[NASA-CASE-NSTL-10] c 45 N84-12654  
Acoustic agglomeration methods and apparatus  
[NASA-CASE-NPO-15466-1] c 71 N85-22104

- Infusion extractor  
[NASA-CASE-MSC-20761-1] c 37 N87-15465

## FINS

- Thrust and direction control apparatus Patent  
[NASA-CASE-XLE-03583] c 31 N71-17629  
Deployable flexible ventral fins for use as an emergency spin recovery device in aircraft  
[NASA-CASE-LAR-10753-1] c 08 N74-30421

## FIRE EXTINGUISHERS

- Fire extinguishing apparatus having a slidable mass for a penetrator nozzle --- for penetrating aircraft and shuttle orbiter skin  
[NASA-CASE-KSC-11064-1] c 31 N81-14137  
Synthesis of dawsonites --- for use in fire extinguishing operations  
[NASA-CASE-ARC-11326-1] c 25 N83-33977  
Fire extinguishant materials  
[NASA-CASE-ARC-11252-1] c 25 N83-36118

## FIRE PREVENTION

- Hydrogen fire blink detector  
[NASA-CASE-MFS-15063] c 14 N72-25412  
Method and apparatus for checking fire detectors  
[NASA-CASE-GSC-11600-1] c 35 N74-21019  
Fire resistant polyamide based on 1-(diorganoxyphosphonyl)methyl-2,4- and -2,6-diamino benzene  
[NASA-CASE-ARC-11512-2] c 27 N86-32568

## FIREPROOFING

- Fire resistant coating composition Patent  
[NASA-CASE-GSC-10072] c 18 N71-14014  
Intumescent paint containing nitrile rubber  
[NASA-CASE-ARC-10196-1] c 18 N73-13562  
Intumescent composition, foamed product prepared therewith, and process for making same  
[NASA-CASE-ARC-10304-1] c 18 N73-26572  
Flexible fire retardant polyisocyanate modified neoprene foam --- for thermal protective devices  
[NASA-CASE-ARC-10180-1] c 27 N74-12814  
Non-flammable elastomeric fiber from a fluorinated elastomer and containing an halogenated flame retardant  
[NASA-CASE-MSC-14331-1] c 27 N76-24405  
Flame retardant spandex type polyurethanes  
[NASA-CASE-MSC-14331-2] c 27 N78-17213  
Fire protection covering for small diameter missiles  
[NASA-CASE-ARC-11104-1] c 15 N79-26100

## FIRES

- Combustion products generating and metering device  
[NASA-CASE-GSC-11095-1] c 14 N72-10375  
Hydrogen fire detection system with logic circuit to analyze the spectrum of temporal variations of the optical spectrum  
[NASA-CASE-MFS-13130] c 10 N72-17173

## FIRING (IGNITING)

- Separation nut Patent  
[NASA-CASE-XGS-01971] c 15 N71-15922

## FITTINGS

- Quick release connector Patent  
[NASA-CASE-XLA-01141] c 15 N71-13789  
Flared tube strainer  
[NASA-CASE-XLA-05056] c 15 N72-11389  
Apparatus for adapting an end effector device remotely controlled manipulator arm  
[NASA-CASE-MFS-25949-1] c 37 N86-19603  
Self indexing latch system  
[NASA-CASE-MFS-25956-1] c 37 N87-21333  
Expandable pallet for space station interface attachments  
[NASA-CASE-MSC-21117-1] c 18 N88-28958

## FIXED WINGS

- Supersonic aircraft Patent  
[NASA-CASE-XLA-04451] c 02 N71-12243

## FIXTURES

- Tool for use in lifting pin supported objects  
[NASA-CASE-NPO-13157-1] c 37 N74-32918  
Apparatus for positioning modular components on a vertical or overhead surface  
[NASA-CASE-LAR-11465-1] c 37 N76-21554  
Heat treat fixture and method of heat treating  
[NASA-CASE-LAR-11821-1] c 26 N80-28492  
Fixture for environmental exposure of structural materials under compression load  
[NASA-CASE-LAR-12602-1] c 39 N83-32081

## FLAME PROBES

- Flame detector operable in presence of proton radiation  
[NASA-CASE-MFS-21577-1] c 19 N74-29410

## FLAME RETARDANTS

- Flame retardant spandex type polyurethanes  
[NASA-CASE-MSC-14331-2] c 27 N78-17213  
Process for spinning flame retardant elastomeric compositions --- fabricating synthetic fibers for high oxygen environments  
[NASA-CASE-MSC-14331-3] c 27 N78-32262

Catalysts for polyimide foams from aromatic isocyanates and aromatic dianhydrides --- flame retardant foams

- [NASA-CASE-ARC-11107-1] c 25 N80-16116  
Crystalline polyimides --- reinforcing fibers for high temperature composites and adhesives as well as flame retardation  
[NASA-CASE-LAR-12099-1] c 27 N80-16158  
Heat resistant polymers of oxidized styrylphosphine  
[NASA-CASE-MSC-14903-3] c 27 N80-24438  
Structural wood panels with improved fire resistance  
[NASA-CASE-ARC-11174-1] c 24 N81-13999  
Heat sealable, flame and abrasion resistant coated fabric --- clothing and containers for space exploration  
[NASA-CASE-MSC-18382-1] c 27 N82-16238  
Elastomer coated filler and composites thereof comprising at least 60% by weight of a hydrated filler and an elastomer containing an acid substituent  
[NASA-CASE-NPO-14857-1] c 27 N83-19900  
Phosphorus-containing imide resins  
[NASA-CASE-ARC-11368-1] c 27 N83-31854  
Heat sealable, flame and abrasion resistant coated fabric  
[NASA-CASE-MSC-18382-2] c 27 N84-14324  
Phosphorus-containing imide resins  
[NASA-CASE-ARC-11368-3] c 27 N84-22745  
Fire blocking systems for aircraft seat cushions  
[NASA-CASE-ARC-11423-1] c 03 N84-33394  
Segmented tubular cushion springs and spring assembly  
[NASA-CASE-ARC-11349-1] c 37 N86-20797  
Polymer of phosphonylmethyl-2,4- and -2,6-diamino benzene and polyfunctional monomer  
[NASA-CASE-ARC-11506-2] c 23 N86-32525  
Fire and heat resistant laminating resins based on maleimido and citraconimido substituted 1-(diorgano oxyphosphonyl) methyl-2,4- and -2,6-diaminobenzenes  
[NASA-CASE-ARC-11533-3] c 27 N87-24564  
The 1-((diorganoxy phosphonyl) methyl)-2,4- and -2,6-diamino benzenes and their derivatives  
[NASA-CASE-ARC-11425-2] c 23 N87-28605  
Fire and heat resistant laminating resin based on maleimido and citraconimido substituted 1-(diorganoxyphosphonyl-methyl)-2,4- and -2,6-diaminobenzenes  
[NASA-CASE-ARC-11533-2] c 27 N89-16042
- FLAME SPRAYING**  
Method of coating carbonaceous base to prevent oxidation destruction and coated base Patent  
[NASA-CASE-XLA-00302] c 15 N71-16077  
Modified polyurethane foams for fuel-fire Patent  
[NASA-CASE-ARC-10098-1] c 06 N71-24739  
Method of making pressure tight seal for super alloy  
[NASA-CASE-LAR-10170-1] c 37 N74-11301  
Thermal barrier coating system  
[NASA-CASE-LEW-14057-1] c 24 N85-35233
- FLAME TEMPERATURE**  
Direct heating surface combustor  
[NASA-CASE-LEW-11877-1] c 34 N78-27357
- FLAMES**  
Temperature reducing coating for metals subject to flame exposure Patent  
[NASA-CASE-XLE-00035] c 33 N71-29151  
Modulated hydrogen ion flame detector  
[NASA-CASE-ARC-10322-1] c 35 N76-18403
- FLAMMABILITY**  
Flammability test chamber Patent  
[NASA-CASE-KSC-10126] c 11 N71-24985  
Burn rate testing apparatus  
[NASA-CASE-XMS-09690] c 33 N72-25913  
Compound oxidized styrylphosphine --- flame resistant vinyl polymers  
[NASA-CASE-MSC-14903-2] c 27 N80-10358  
Vitra-violet process for producing flame resistant polyamides and products produced thereby --- protective clothing for high oxygen environments  
[NASA-CASE-MSC-16074-1] c 27 N80-26446  
Light weight fire resistant graphite composites  
[US-PATENT-4,598,007] c 24 N86-28131  
Fire and heat resistant laminating resins based on maleimido substituted aromatic cyclotriphosphazene polymer  
[NASA-CASE-ARC-11428-2] c 27 N87-16909
- FLANGES**  
Cassegrainian antenna subreflector flange for suppressing ground noise Patent  
[NASA-CASE-XNP-00683] c 09 N70-35425  
Anti-glare improvement for optical imaging systems Patent  
[NASA-CASE-NPO-10337] c 14 N71-15604  
Flanged major modular assembly jig  
[NASA-CASE-MSC-19372-1] c 39 N76-31562
- FLAPS (CONTROL SURFACES)**  
Jet aircraft configuration Patent  
[NASA-CASE-XLA-00087] c 02 N70-33332  
Assembly for recovering a capsule Patent  
[NASA-CASE-XMF-00641] c 31 N70-36410

- Direct lift control system Patent  
[NASA-CASE-LAR-10249-1] c 02 N71-26110
- Reversed cowl flap inlet thrust augmentor --- with adjustable airfoil  
[NASA-CASE-ARC-10754-1] c 07 N75-24736
- FLARED BODIES**
- Flared tube strainer  
[NASA-CASE-XLA-05056] c 15 N72-11389
- FLASH LAMPS**
- Active lamp pulse driver circuit --- optical pumping of laser media  
[NASA-CASE-GSC-12566-1] c 33 N83-34189
- FLAT CONDUCTORS**
- Method of making a molded connector Patent  
[NASA-CASE-XMF-03498] c 15 N71-15986
- Method of making shielded flat cable Patent  
[NASA-CASE-MFS-13687] c 09 N71-28691
- Shielded flat cable  
[NASA-CASE-MFS-13687-2] c 09 N72-22198
- Electrical connector  
[NASA-CASE-MFS-20757] c 09 N72-28225
- Method and apparatus for preparing multiconductor cable with flat conductors  
[NASA-CASE-MFS-10946-1] c 31 N79-21226
- Edge coating of flat wires  
[NASA-CASE-XMF-05757-1] c 31 N79-21227
- FLAT PLATES**
- Reduced gravity liquid configuration simulator  
[NASA-CASE-XLE-02624] c 12 N69-39988
- Apparatus for making diamonds  
[NASA-CASE-MFS-20698] c 15 N72-20446
- Heat transfer device  
[NASA-CASE-MFS-22938-1] c 34 N76-18374
- Flat-plate heat pipe  
[NASA-CASE-GSC-11998-1] c 34 N77-32413
- Solar engine  
[NASA-CASE-LAR-12148-1] c 44 N82-24640
- Two-dimensional scanner apparatus --- flaw detector in small flat plates  
[NASA-CASE-MFS-25687-1] c 35 N84-22928
- FLEXIBILITY**
- Weatherproof helix antenna Patent  
[NASA-CASE-XKS-08485] c 07 N71-19493
- Spherical shield Patent  
[NASA-CASE-XNP-01855] c 15 N71-28937
- Flexible joint for pressurizable garment  
[NASA-CASE-MSC-11072] c 54 N74-32546
- Nozzle extraction process and handmeter for measuring handle  
[NASA-CASE-LAR-12147-1] c 31 N79-11246
- Safety flywheel --- using flexible materials energy storage  
[NASA-CASE-HQN-10888-1] c 44 N79-14527
- Sun shield  
[NASA-CASE-MSC-20162-1] c 37 N87-17036
- Method of making a flexible diaphragm  
[NASA-CASE-MSC-20797-1] c 37 N87-23981
- Space module assembly apparatus with docking alignment flexibility and restraint  
[NASA-CASE-MSC-21211-1] c 18 N89-28553
- High temperature flexible seal  
[NASA-CASE-LEW-14695-1] c 37 N89-28830
- FLEXIBLE BODIES**
- Flexible back-up bar Patent  
[NASA-CASE-XMF-00722] c 15 N70-40204
- Deflective rod switch with elastic support and sealing means Patent  
[NASA-CASE-XNP-09808] c 09 N71-12518
- Flexible composite membrane Patent  
[NASA-CASE-XNP-08837] c 18 N71-16210
- Self supporting space vehicle Patent  
[NASA-CASE-XLA-00117] c 31 N71-17680
- Extravehicular tunnel suit system Patent  
[NASA-CASE-MSC-12243-1] c 05 N71-24728
- Active vibration isolator for flexible bodies Patent  
[NASA-CASE-LAR-10106-1] c 15 N71-27169
- Fluid impervious barrier including liquid metal alloy and method of making same Patent  
[NASA-CASE-XNP-08881] c 17 N71-28747
- Low cycle fatigue testing machine  
[NASA-CASE-LAR-10270-1] c 32 N72-25877
- Deployable flexible ventral fins for use as an emergency spin recovery device in aircraft  
[NASA-CASE-LAR-10753-1] c 08 N74-30421
- Internally supported flexible duct joint --- device for conducting fluids in high pressure systems  
[NASA-CASE-MFS-19193-1] c 37 N75-19686
- Strong thin membrane structure --- solar sails  
[NASA-CASE-NPO-14021-2] c 27 N80-16163
- Synchronously deployable double fold beam and planar truss structure  
[NASA-CASE-LAR-13490-1] c 18 N87-14413
- FLEXIBLE WINGS**
- Aeroflexible structures  
[NASA-CASE-XLA-06095] c 01 N69-39981
- Flexible wing deployment device Patent  
[NASA-CASE-XLA-01220] c 02 N70-41863
- Control for flexible parawing Patent  
[NASA-CASE-XLA-06958] c 02 N71-11038
- FLEXING**
- Two degree inverted flexure  
[NASA-CASE-ARC-10345-1] c 15 N73-12488
- Pressure suit joint analyzer  
[NASA-CASE-ARC-11314-1] c 54 N82-26987
- Unidirectional flexural pivot  
[NASA-CASE-GSC-12622-1] c 37 N84-12492
- FLIGHT**
- Traversing probe Patent  
[NASA-CASE-XFR-02007] c 12 N71-24692
- FLIGHT ALTITUDE**
- Altitude measuring system  
[NASA-CASE-ERC-10412-1] c 09 N73-12211
- Terminal guidance system --- for guiding aircraft into preselected altitude and/or heading at terminal point  
[NASA-CASE-FRC-10049-1] c 04 N74-13420
- Apparatus for measuring an aircraft's speed and height  
[NASA-CASE-LAR-12275-1] c 35 N79-18296
- System for providing an integrated display of instantaneous information relative to aircraft attitude, heading, altitude, and horizontal situation  
[NASA-CASE-FRC-11005-1] c 06 N82-16075
- CAT altitude avoidance system  
[NASA-CASE-NPO-15351-1] c 06 N83-10040
- Sidelooking laser altimeter for a flight simulator  
[NASA-CASE-ARC-11312-1] c 36 N83-34304
- System for indicating fuel-efficient aircraft altitude  
[NASA-CASE-NPO-15351-2] c 06 N84-34443
- FLIGHT CLOTHING**
- Absorbent product and articles made therefrom  
[NASA-CASE-MSC-18223-2] c 54 N84-11758
- FLIGHT CONTROL**
- Aircraft instrument Patent  
[NASA-CASE-XLA-00487] c 14 N70-40157
- Two-axis controller Patent  
[NASA-CASE-XFR-04104] c 03 N70-42073
- Mechanically limited, electrically operated hydraulic valve system for aircraft controls Patent  
[NASA-CASE-XAC-00048] c 02 N71-29128
- Numerical computer peripheral interactive device with manual controls  
[NASA-CASE-NPO-11497] c 08 N73-25206
- Solid state controller three axes controller  
[NASA-CASE-MSC-12394-1] c 08 N74-10942
- Integrated lift/drag controller for aircraft  
[NASA-CASE-ARC-10456-1] c 05 N75-12930
- Deploy/release system --- model aircraft flight control  
[NASA-CASE-LAR-11575-1] c 02 N76-16014
- Apparatus for damping operator induced oscillations of a controlled system --- flight control  
[NASA-CASE-FRC-11041-1] c 33 N82-18493
- Aircraft body-axis rotation measurement system  
[NASA-CASE-FRC-11043-1] c 06 N83-33882
- Aircraft control position indicator  
[NASA-CASE-LAR-12984-1] c 06 N87-22678
- FLIGHT CREWS**
- Survival couch Patent  
[NASA-CASE-XLA-00118] c 05 N70-33285
- FLIGHT INSTRUMENTS**
- Heads up display  
[NASA-CASE-LAR-12630-1] c 06 N84-27733
- Aircraft control position indicator  
[NASA-CASE-LAR-12984-1] c 06 N87-22678
- FLIGHT RECORDERS**
- Event recorder Patent  
[NASA-CASE-XLA-01832] c 14 N71-21006
- FLIGHT SAFETY**
- Aerial capsule emergency separation device Patent  
[NASA-CASE-XLA-00115] c 03 N70-33343
- Apparatus for aiding a pilot in avoiding a midair collision between aircraft  
[NASA-CASE-LAR-10717-1] c 21 N73-30641
- FLIGHT SIMULATION**
- Lunar landing flight research vehicle Patent  
[NASA-CASE-XFR-00929] c 31 N70-34966
- Television simulation for aircraft and space flight Patent  
[NASA-CASE-XFR-03107] c 09 N71-19449
- Separation simulator Patent  
[NASA-CASE-XKS-04631] c 10 N71-23663
- FLIGHT SIMULATORS**
- Centrifuge mounted motion simulator Patent  
[NASA-CASE-XAC-00399] c 11 N70-34815
- Means for visually indicating flight paths of vehicles between the Earth, Venus, and Mercury Patent  
[NASA-CASE-XNP-00708] c 14 N70-35394
- Wind tunnel test section  
[NASA-CASE-MFS-20509] c 11 N72-17183
- Numerical computer peripheral interactive device with manual controls  
[NASA-CASE-NPO-11497] c 08 N73-25206
- Apparatus for applying simulator g-forces to an arm of an aircraft simulator pilot  
[NASA-CASE-LAR-10550-1] c 09 N74-30597
- Vehicle simulator binocular multiplanar visual display system  
[NASA-CASE-ARC-10808-1] c 09 N76-24280
- Full color hybrid display for aircraft simulators --- landing aids  
[NASA-CASE-ARC-10903-1] c 09 N78-18083
- Seat cushion to provide realistic acceleration cues to aircraft simulator pilot  
[NASA-CASE-LAR-12149-2] c 09 N79-31228
- Chromatically corrected virtual image visual display --- reducing eye strain in flight simulators  
[NASA-CASE-LAR-12251-1] c 74 N80-27185
- Helmet weight simulator  
[NASA-CASE-LAR-12320-1] c 54 N81-27806
- Biocentrifuge system capable of exchanging specimen cages while in operational mode  
[NASA-CASE-MFS-23825-1] c 51 N81-32829
- Environmental fog/rain visual display system for aircraft simulators  
[NASA-CASE-LAR-11158-1] c 09 N82-24212
- Sidelooking laser altimeter for a flight simulator  
[NASA-CASE-ARC-11312-1] c 36 N83-34304
- Inflight IFR procedures simulator  
[NASA-CASE-KSC-11218-1] c 09 N85-19990
- Simulator scene display evaluation device  
[NASA-CASE-ARC-11504-1] c 09 N86-32447
- FLIGHT TESTS**
- Air frame drag balance Patent  
[NASA-CASE-XLA-00113] c 14 N70-33386
- FLIGHT TRAINING**
- Inflight IFR procedures simulator  
[NASA-CASE-KSC-11218-1] c 09 N85-19990
- FLIGHT VEHICLES**
- Leading edge curvature based on convective heating Patent  
[NASA-CASE-XLA-01486] c 01 N71-23497
- Altitude sensing device  
[NASA-CASE-XMS-01994-1] c 14 N72-17326
- FLIP-FLOPS**
- AC logic flip-flop circuits Patent  
[NASA-CASE-XGS-00823] c 10 N71-15910
- Stepping motor control circuit Patent  
[NASA-CASE-GSC-10366-1] c 10 N71-18772
- Flipflop interrogator and bi-polar current driver Patent  
[NASA-CASE-XGS-03058] c 10 N71-19547
- FLOAT ZONES**
- Floating emitter solar cell  
[NASA-CASE-NPO-16467-1-CU] c 33 N87-23879
- Liquid encapsulated float zone process and apparatus  
[NASA-CASE-MFS-28144-1] c 76 N88-24545
- FLOATING**
- Floating baffle to improve efficiency of liquid transfer from tanks  
[NASA-CASE-KSC-10639] c 15 N73-26472
- Modification of one man life raft  
[NASA-CASE-LAR-10241-1] c 54 N74-14845
- Floating nut retention system  
[NASA-CASE-MSC-16938-1] c 37 N80-23653
- FLOATS**
- Magnetically centered liquid column float Patent  
[NASA-CASE-XAC-00030] c 14 N70-34820
- FLOORS**
- Elevated waterproof access floor system and method of making the same  
[NASA-CASE-ARC-11363-1] c 31 N87-16918
- FLOTATION**
- Rescue litter flotation assembly Patent  
[NASA-CASE-XMS-04170] c 05 N71-22748
- FLOW CHAMBERS**
- Multi-chamber controllable heat pipe  
[NASA-CASE-ARC-10199] c 34 N78-17337
- Jet pump-drive system for heat removal  
[NASA-CASE-NPO-16494-1-CU] c 34 N85-29182
- Moving wall, continuous flow electrophoresis apparatus  
[NASA-CASE-MFS-28142-1] c 25 N88-23845
- FLOW DIRECTION INDICATORS**
- Polarity sensitive circuit Patent  
[NASA-CASE-XNP-00952] c 10 N71-23271
- Flow angle sensor and read out system Patent  
[NASA-CASE-XLE-04503] c 14 N71-24864
- Miniature electrooptical air flow sensor  
[NASA-CASE-LAR-13065-1] c 35 N85-20295
- FLOW DISTORTION**
- Moving wall, continuous flow electrophoresis apparatus  
[NASA-CASE-MFS-28142-1] c 25 N88-23845
- FLOW DISTRIBUTION**
- Full flow with shut off and selective drainage control valve Patent application  
[NASA-CASE-ERC-10208] c 15 N70-10867

Method of obtaining permanent record of surface flow phenomena Patent c 14 N70-41366  
 [NASA-CASE-XLA-01353]  
 Method of recording a gas flow pattern Patent  
 [NASA-CASE-XMF-01779] c 12 N71-20815  
 Dual wavelength scanning Doppler velocimeter --- without perturbation of flow fields  
 [NASA-CASE-ARC-10637-1] c 35 N75-16783  
 Controlled separation combustor --- airflow distribution in gas turbine engines  
 [NASA-CASE-LEW-11593-1] c 20 N76-14190  
 Static continuous electrophoresis device  
 [NASA-CASE-MFS-25306-1] c 25 N83-13187  
 Method and apparatus for rebalancing a REDOX flow cell system  
 [NASA-CASE-LEW-14127-1] c 33 N86-20680  
 Self-compensating solenoid valve  
 [NASA-CASE-ARC-11620-1] c 37 N87-25573  
 High effectiveness contour matching contact heat exchanger  
 [NASA-CASE-MSC-20840-1] c 34 N88-29132

**FLOW MEASUREMENT**  
 Flow test device  
 [NASA-CASE-XMS-04917] c 14 N69-24257  
 Nuclear mass flowmeter  
 [NASA-CASE-MFS-20485] c 14 N72-11365  
 Flow velocity and directional instrument  
 [NASA-CASE-LAR-10855-1] c 14 N73-13415  
 Flow measuring apparatus  
 [NASA-CASE-LEW-12078-1] c 35 N75-30503  
 Method for making a hot wire anemometer and product thereof  
 [NASA-CASE-ARC-10900-1] c 35 N77-24454  
 Fluid velocity measuring device  
 [NASA-CASE-LAR-11729-1] c 34 N79-12359  
 Automatic flowmeter calibration system  
 [NASA-CASE-KSC-11076-1] c 34 N81-26402  
 Aeroelastic instability stoppers for wind tunnel models  
 [NASA-CASE-LAR-12720-1] c 44 N83-21504  
 Bio-medical flow sensor --- intravenous procedures  
 [NASA-CASE-MSC-18761-1] c 52 N83-27577  
 Miniature electrooptical air flow sensor  
 [NASA-CASE-LAR-13065-1] c 35 N85-20295  
 Auto covariance computer  
 [NASA-CASE-LAR-12968-1] c 60 N86-21154  
 Fluid flow meter for measuring the rate of fluid flow in a conduit  
 [NASA-CASE-MFS-28030-1] c 35 N86-25752  
 Spinning disk calibration method and apparatus for laser Doppler velocimeter  
 [NASA-CASE-ARC-11510-1] c 35 N86-32697  
 Vibration-free Raman Doppler velocimeter  
 [NASA-CASE-LAR-13268-1] c 35 N87-14669  
 Dual mode laser velocimeter  
 [NASA-CASE-ARC-11634-1] c 36 N88-14350  
 Crossflow vorticity sensor  
 [NASA-CASE-LAR-13436-1-CU] c 02 N88-23759  
 Method of forming a multiple layer dielectric and a hot film sensor therewith  
 [NASA-CASE-LAR-13678-1] c 76 N88-25355

**FLOW REGULATORS**  
 Anti-backlash circuit for hydraulic drive system Patent  
 [NASA-CASE-XNP-01020] c 03 N71-12260  
 Fluid flow restrictor Patent  
 [NASA-CASE-NPO-10117] c 15 N71-15608  
 Fluid flow control valve Patent  
 [NASA-CASE-XLE-00703] c 15 N71-15967  
 Gas regulator Patent  
 [NASA-CASE-NPO-10298] c 12 N71-17661  
 Semitoroidal diaphragm cavitating valve Patent  
 [NASA-CASE-XNP-09704] c 12 N71-18615  
 Temperature sensitive flow regulator Patent  
 [NASA-CASE-MFS-14259] c 15 N71-19213  
 Pneumatic amplifier Patent  
 [NASA-CASE-MSC-12121-1] c 15 N71-27147  
 Gas flow control device  
 [NASA-CASE-NPO-11479] c 15 N73-13462  
 Pressure modulating valve  
 [NASA-CASE-MSC-14905-1] c 37 N77-28487  
 Automotive gas turbine fuel control  
 [NASA-CASE-LEW-12785-1] c 37 N78-24545  
 Flow diverter valve and flow diversion method  
 [NASA-CASE-HQN-00573-1] c 37 N79-33468  
 Automatic thermal switch  
 [NASA-CASE-GSC-12415-1] c 33 N82-24419  
 Bio-medical flow sensor --- intravenous procedures  
 [NASA-CASE-MSC-18761-1] c 52 N83-27577  
 Fluidized bed desulfurization  
 [NASA-CASE-NPO-15924-1] c 25 N85-35253  
 Combined riblet and lebu drag reduction system  
 [NASA-CASE-LAR-13286-1] c 02 N88-14071  
 Moving wall, continuous flow electrophoresis apparatus  
 [NASA-CASE-MFS-28142-1] c 25 N88-23845  
 Energy efficient continuous flow ash lockhopper  
 [NASA-CASE-NPO-16985-1-CU] c 31 N88-24814

**FLOW RESISTANCE**

Flow resistivity instrument  
 [NASA-CASE-LAR-13053-1] c 43 N83-29783

**FLOW STABILITY**

Continuous detonation reaction engine Patent  
 [NASA-CASE-XMF-06926] c 28 N71-22983  
 Apparatus for establishing flow of a fluid mass having a known velocity  
 [NASA-CASE-MFS-21424-1] c 34 N74-27730  
 Aeroelastic instability stoppers for wind tunnel models  
 [NASA-CASE-LAR-12720-1] c 44 N83-21504

**FLOW VELOCITY**

Method for continuous variation of propellant flow and thrust in propulsive devices Patent  
 [NASA-CASE-XLE-00177] c 28 N70-40367  
 Densitometer Patent  
 [NASA-CASE-XLE-00688] c 14 N70-41330  
 Device for suppressing sound and heat produced by high-velocity exhaust jets Patent  
 [NASA-CASE-XMF-01813] c 28 N70-41582  
 Positive displacement flowmeter Patent  
 [NASA-CASE-XMF-02822] c 14 N70-41994  
 Zeta potential flowmeter Patent  
 [NASA-CASE-XNP-06509] c 14 N71-23226  
 Method for measuring the characteristics of a gas Patent  
 [NASA-CASE-XLA-03375] c 16 N71-24074  
 Laser fluid velocity detector Patent  
 [NASA-CASE-XAC-10770-1] c 16 N71-24828  
 Gas low pressure low flow rate metering system Patent  
 [NASA-CASE-FRC-10022] c 12 N71-26546  
 Force-balanced, throttle valve Patent  
 [NASA-CASE-NPO-10808] c 15 N71-27432  
 Flow rate switch  
 [NASA-CASE-NPO-10722] c 09 N72-20199  
 Flow velocity and directional instrument  
 [NASA-CASE-LAR-10855-1] c 14 N73-13415  
 Apparatus for establishing flow of a fluid mass having a known velocity  
 [NASA-CASE-MFS-21424-1] c 34 N74-27730  
 Wind tunnel flow generation section  
 [NASA-CASE-ARC-10710-1] c 09 N75-12969  
 Combined dual scatter, local oscillator laser Doppler velocimeter  
 [NASA-CASE-ARC-10642-1] c 36 N76-14447  
 System for measuring three fluctuating velocity components in a turbulently flowing fluid  
 [NASA-CASE-ARC-10974-1] c 34 N77-27345  
 Fluid velocity measuring device  
 [NASA-CASE-LAR-11729-1] c 34 N79-12359  
 Wind tunnel supplementary Mach number minimum section insert  
 [NASA-CASE-LAR-12532-1] c 09 N82-11088  
 Flow modifying device  
 [NASA-CASE-LEW-13562-2] c 07 N85-35195

**FLOW VISUALIZATION**

Shock-layer radiation measurement  
 [NASA-CASE-XAC-02970] c 14 N69-39896  
 Method of recording a gas flow pattern Patent  
 [NASA-CASE-XMF-01779] c 12 N71-20815  
 Continuous laminar smoke generator  
 [NASA-CASE-LAR-13014-1] c 09 N85-21178  
 Method for laminar boundary layer transition visualization in flight  
 [NASA-CASE-LAR-13554-1] c 02 N89-12551  
 Dual wavelength holographic interferometry system  
 [NASA-CASE-MFS-28242-1] c 35 N89-26202

**FLOWMETERS**

Flow test device  
 [NASA-CASE-XMS-04917] c 14 N69-24257  
 Positive displacement flowmeter Patent  
 [NASA-CASE-XMF-02822] c 14 N70-41994  
 Heated element fluid flow sensor Patent  
 [NASA-CASE-MSC-12084-1] c 12 N71-17569  
 Laser Doppler system for measuring three dimensional vector velocity Patent  
 [NASA-CASE-MFS-20386] c 21 N71-19212  
 Zeta potential flowmeter Patent  
 [NASA-CASE-XNP-06509] c 14 N71-23226  
 Traversing probe Patent  
 [NASA-CASE-XFR-02007] c 12 N71-24692  
 Laser fluid velocity detector Patent  
 [NASA-CASE-XAC-10770-1] c 16 N71-24828  
 Gas low pressure low flow rate metering system Patent  
 [NASA-CASE-FRC-10022] c 12 N71-26546  
 Nuclear mass flowmeter  
 [NASA-CASE-MFS-20485] c 14 N72-11365  
 Respiratory analysis system and method  
 [NASA-CASE-MSC-13436-1] c 05 N73-32015  
 Low power electromagnetic flowmeter providing accurate zero set  
 [NASA-CASE-ARC-10362-1] c 14 N73-32326  
 Electromagnetic flow rate meter --- for liquid metals  
 [NASA-CASE-LEW-10981-1] c 35 N74-21018

Leak detector  
 [NASA-CASE-MFS-21761-1] c 35 N75-15931  
 System for measuring three fluctuating velocity components in a turbulently flowing fluid  
 [NASA-CASE-ARC-10974-1] c 34 N77-27345  
 Automatic flowmeter calibration system  
 [NASA-CASE-KSC-11076-1] c 34 N81-26402  
 Miniature electrooptical air flow sensor  
 [NASA-CASE-LAR-13065-1] c 35 N85-20295  
 State-of-charge coulometer  
 [NASA-CASE-NPO-15759-1] c 35 N85-21596  
 Technique for measuring gas conversion factors  
 [NASA-CASE-LAR-13220-1] c 34 N86-12547  
 Fluid flow meter for measuring the rate of fluid flow in a conduit  
 [NASA-CASE-MFS-28030-1] c 35 N86-25752  
 Crossflow vorticity sensor  
 [NASA-CASE-LAR-13436-1-CU] c 02 N88-23759

**FLUID AMPLIFIERS**  
 Fluid jet amplifier  
 [NASA-CASE-XLE-03512] c 12 N69-21466  
 Multiway vortex valve system Patent  
 [NASA-CASE-XMF-04709] c 15 N71-15609  
 Shear modulated fluid amplifier Patent  
 [NASA-CASE-MFS-10412] c 12 N71-17578  
 Rocket thrust throttling system  
 [NASA-CASE-LEW-10374-1] c 28 N73-13773  
 Fluid pressure amplifier and system  
 [NASA-CASE-LAR-10868-1] c 33 N74-11050  
 Fluid thrust control system --- for liquid propellant rocket engines  
 [NASA-CASE-XMF-05964-1] c 20 N79-21124

**FLUID DYNAMICS**  
 Degassing and mixing apparatus for liquids --- potable water for spacecraft  
 [NASA-CASE-MSC-18936-1] c 35 N83-29652

**FLUID FILLED SHELLS**  
 Method and apparatus for producing gas-filled hollow spheres --- target pellets for inertial confinement fusion  
 [NASA-CASE-NPO-14596-3] c 31 N83-31896

**FLUID FILMS**  
 Journal bearings --- for lubricant films  
 [NASA-CASE-LEW-11076-1] c 37 N74-21061  
 Fluid journal bearings  
 [NASA-CASE-LEW-11076-4] c 37 N76-15461  
 Fluid seal for rotating shafts  
 [NASA-CASE-LEW-11676-1] c 37 N76-22541

**FLUID FILTERS**  
 Liquid-gas separator for zero gravity environment Patent  
 [NASA-CASE-XMS-01492] c 05 N70-41297  
 High pressure filter Patent  
 [NASA-CASE-XNP-00732] c 28 N70-41447  
 Water separating system Patent  
 [NASA-CASE-XMS-13052] c 14 N71-20427  
 Fluid control apparatus and method  
 [NASA-CASE-LAR-11110-1] c 34 N75-26282  
 Filter regeneration systems --- a system for regenerating a system filter in a fluid flow line  
 [NASA-CASE-MSC-14273-1] c 34 N75-33342  
 Quick disconnect filter coupling  
 [NASA-CASE-MFS-22323-1] c 37 N76-14463  
 Fluid sample collection and distribution system --- qualitative analysis of aqueous samples from several points  
 [NASA-CASE-MSC-16841-1] c 34 N79-24285  
 Air removal device --- life support systems  
 [NASA-CASE-XLA-08914-2] c 25 N82-21269  
 Rapid, quantitative determination of bacteria in water --- adenosine triphosphate  
 [NASA-CASE-GSC-12158-1] c 51 N83-27569

**FLUID FLOW**  
 Fluid jet amplifier  
 [NASA-CASE-XLE-03512] c 12 N69-21466  
 Pneumatic system for controlling and actuating pneumatic cyclic devices  
 [NASA-CASE-XMS-04843] c 03 N69-21469  
 Full flow with shut off and selective drainage control valve Patent application  
 [NASA-CASE-ERC-10208] c 15 N70-10867  
 Conical valve plug Patent  
 [NASA-CASE-XLE-00715] c 15 N70-34859  
 Pressure regulating system Patent  
 [NASA-CASE-XNP-00450] c 15 N70-38603  
 Antiflutter ball check valve Patent  
 [NASA-CASE-XNP-01152] c 15 N70-41811  
 Inductive liquid level detection system Patent  
 [NASA-CASE-XLE-01609] c 14 N71-10500  
 Multiway vortex valve system Patent  
 [NASA-CASE-XMF-04709] c 15 N71-15609  
 Heated element fluid flow sensor Patent  
 [NASA-CASE-MSC-12084-1] c 12 N71-17569  
 Multiple orifice throttle valve Patent  
 [NASA-CASE-XNP-09698] c 15 N71-18580

- Fluid flow meter with comparator reference means Patent  
[NASA-CASE-XGS-01331] c 14 N71-22996
- Pressure transducer calibrator Patent  
[NASA-CASE-XNP-01660] c 14 N71-23036
- Dual latching solenoid valve Patent  
[NASA-CASE-XMS-05890] c 09 N71-23191
- Gas low pressure low flow rate metering system Patent  
[NASA-CASE-FRC-10022] c 12 N71-26546
- Electrohydrodynamic control valve Patent  
[NASA-CASE-NPO-10416] c 12 N71-27332
- Fluid jet amplifier Patent  
[NASA-CASE-XLE-09341] c 12 N71-28741
- Nuclear mass flowmeter  
[NASA-CASE-MFS-20485] c 14 N72-11365
- Flow rate switch  
[NASA-CASE-NPO-10722] c 09 N72-20199
- Torsional disconnect unit  
[NASA-CASE-NPO-10704] c 15 N72-20445
- Capacitive tank gaging apparatus being independent of liquid distribution  
[NASA-CASE-MFS-21629] c 14 N72-22442
- Cryogenic feedthrough  
[NASA-CASE-LAR-10031] c 15 N72-22484
- Geysering inhibitor for vertical cryogenic transfer pipe  
[NASA-CASE-KSC-10615] c 15 N73-12486
- Pump for delivering heated fluids  
[NASA-CASE-NPO-11417] c 15 N73-24513
- Flow control valve --- for high temperature fluids  
[NASA-CASE-NPO-11951-1] c 37 N74-21065
- Apparatus for establishing flow of a fluid mass having a known velocity  
[NASA-CASE-MFS-21424-1] c 34 N74-27730
- Internally supported flexible duct joint --- device for conducting fluids in high pressure systems  
[NASA-CASE-MFS-19193-1] c 37 N75-19686
- Flow measuring apparatus  
[NASA-CASE-LEW-12078-1] c 35 N75-30503
- Filter regeneration systems --- a system for regenerating a system filter in a fluid flow line  
[NASA-CASE-MSC-14273-1] c 34 N75-33342
- Combined dual scatter, local oscillator laser Doppler velocimeter  
[NASA-CASE-ARC-10642-1] c 36 N76-14447
- Externally supported internally stabilized flexible duct joint  
[NASA-CASE-MFS-19194-1] c 37 N76-14460
- Vortex generator for controlling the dispersion of effluents in a flowing liquid  
[NASA-CASE-LAR-12045-1] c 34 N77-24423
- Pseudo-backscatter laser Doppler velocimeter employing antiparallel-reflector in the forward direction  
[NASA-CASE-ARC-10970-1] c 36 N77-25501
- Accumulator  
[NASA-CASE-MFS-19287-1] c 34 N77-30399
- Apparatus for measuring a sorbate dispersed in a fluid stream  
[NASA-CASE-ARC-10896-1] c 35 N78-19465
- Flow compensating pressure regulator  
[NASA-CASE-LEW-12718-1] c 34 N78-25351
- Fluid valve assembly  
[NASA-CASE-MSC-12731-1] c 37 N78-25426
- Positive isolation disconnect  
[NASA-CASE-MSC-16043-1] c 37 N79-11402
- Fluid velocity measuring device  
[NASA-CASE-LAR-11729-1] c 34 N79-12359
- Hot foil transducer skin friction sensor  
[NASA-CASE-LAR-12321-1] c 35 N82-24470
- Dual laser optical system and method for studying fluid flow  
[NASA-CASE-MFS-25315-1] c 36 N83-29680
- Flow modifying device  
[NASA-CASE-LEW-13562-2] c 07 N85-35195
- Fluid leak indicator  
[NASA-CASE-MSC-20783-1] c 35 N86-20756
- Fluid flow meter for measuring the rate of fluid flow in a conduit  
[NASA-CASE-MFS-28030-1] c 35 N86-25752
- Two-axis, self-nulling skin friction balance  
[NASA-CASE-LAR-13294-1] c 35 N86-32696
- Multi-path peristaltic pump  
[NASA-CASE-MSC-20907-1] c 37 N87-18818
- Dual motion valve with single motion input  
[NASA-CASE-MFS-28058-1] c 37 N87-21332
- Liquid sheet radiator apparatus  
[NASA-CASE-LEW-14295-1] c 31 N89-14348
- Pressure measuring probe  
[NASA-CASE-LAR-13853-1] c 35 N89-14423
- Fluidic momentum controller  
[NASA-CASE-MSC-20906-2] c 35 N89-15379
- Dual wavelength holographic interferometry system  
[NASA-CASE-MFS-28242-1] c 35 N89-26202
- FLUID INJECTION**  
Apparatus for igniting solid propellants Patent  
[NASA-CASE-XLE-00207] c 28 N70-33375
- Method of igniting solid propellants Patent  
[NASA-CASE-XLE-01988] c 27 N71-15634
- Aerodynamic spike nozzle Patent  
[NASA-CASE-XGS-01143] c 31 N71-15647
- Process of forming particles in a cryogenic path Patent  
[NASA-CASE-NPO-10250] c 23 N71-16212
- Apparatus for purging systems handling toxic, corrosive, noxious and other fluids Patent  
[NASA-CASE-XMS-01905] c 12 N71-21089
- Tertiary flow injection thrust vectoring system Patent  
[NASA-CASE-MFS-20831] c 28 N71-29153
- Programmable physiological infusion  
[NASA-CASE-ARC-10447-1] c 52 N74-22771
- FLUID JETS**  
Propeller blade loading control Patent  
[NASA-CASE-XAC-00139] c 02 N70-34856
- FLUID LOGIC**  
Logic AND gate for fluid circuits Patent  
[NASA-CASE-XLA-07391] c 12 N71-17579
- FLUID MANAGEMENT**  
Capillary heat transport and fluid management device  
[NASA-CASE-MFS-28217-1] c 34 N89-14392
- FLUID MECHANICS**  
Leak detector Patent  
[NASA-CASE-LAR-10323-1] c 12 N71-17573
- Parallel-plate viscometer with double diaphragm suspension  
[NASA-CASE-NPO-11387] c 14 N73-14429
- Modified face seal for positive film stiffness  
[NASA-CASE-LEW-12989-1] c 37 N82-12442
- FLUID POWER**  
Fluid power transmission Patent  
[NASA-CASE-XMS-01445] c 12 N71-16031
- Fluid power transmitting gas bearing Patent  
[NASA-CASE-ERC-10097] c 15 N71-28465
- FLUID PRESSURE**  
Flow compensating pressure regulator  
[NASA-CASE-LEW-12718-1] c 34 N78-25351
- Self-stabilizing radial face seal  
[NASA-CASE-LEW-12991-1] c 37 N81-24442
- Pressure letdown method and device for coal conversion systems  
[NASA-CASE-NPO-15100-1] c 44 N84-14583
- Damping seal for turbomachinery  
[NASA-CASE-MFS-25842-2] c 37 N86-20788
- FLUID ROTOR GYROSCOPES**  
Piezoelectric pump Patent  
[NASA-CASE-XNP-05429] c 26 N71-21824
- FLUID SWITCHING ELEMENTS**  
Booster tank system Patent  
[NASA-CASE-MSC-12390] c 27 N71-29155
- FLUID TRANSMISSION LINES**  
Low heat leak connector for cryogenic system  
[NASA-CASE-XLE-02367-1] c 31 N79-21225
- FLUIDIC CIRCUITS**  
Technique of duplicating fragile core  
[NASA-CASE-XLA-07829] c 15 N72-16329
- Flow measuring apparatus  
[NASA-CASE-LEW-12078-1] c 35 N75-30503
- FLUIDICS**  
Fluidic-thermochromic display device Patent  
[NASA-CASE-ERC-10031] c 12 N71-18603
- Plasma fluidic hybrid display Patent  
[NASA-CASE-ERC-10100] c 09 N71-33519
- Fluidic proportional thruster system  
[NASA-CASE-ARC-10106-1] c 28 N72-22769
- Fluid pressure amplifier and system  
[NASA-CASE-LAR-10868-1] c 33 N74-11050
- Fluid valve assembly  
[NASA-CASE-MSC-12731-1] c 37 N78-25426
- Fluidic angular velocity sensor  
[NASA-CASE-NPO-16479-1CU] c 35 N86-32695
- FLUIDIZED BED PROCESSORS**  
Continuous coal processing method  
[NASA-CASE-NPO-13758-2] c 31 N81-15154
- Fluidized bed coal combustion reactor  
[NASA-CASE-NPO-14273-1] c 25 N82-11144
- Solar heated fluidized bed gasification system  
[NASA-CASE-NPO-15071-1] c 44 N82-16475
- Use of glow discharge in fluidized beds  
[NASA-CASE-ARC-11245-1] c 28 N82-18401
- Fluidized bed desulfurization  
[NASA-CASE-NPO-15924-1] c 25 N85-35253
- FLUIDS**  
Automated fluid chemical analyzer Patent  
[NASA-CASE-XNP-09451] c 06 N71-26754
- Bacteria detection instrument and method  
[NASA-CASE-GSC-11533-1] c 14 N73-13435
- Low outgassing polydimethylsiloxane material and preparation thereof  
[NASA-CASE-GSC-11358-1] c 06 N73-26100
- Fluid mass sensor for a zero gravity environment  
[NASA-CASE-MSC-14653-1] c 35 N77-19385
- Self-charging metering and dispensing device for fluids  
[NASA-CASE-MSC-20275-1] c 35 N85-21595
- FLUORESCENCE**  
Apparatus for producing three-dimensional recordings of fluorescence spectra Patent  
[NASA-CASE-XGS-01231] c 14 N70-41676
- Internal work light Patent  
[NASA-CASE-XKS-05932] c 09 N71-26787
- Chromato-fluorographic drug detector --- device for detecting and recording fluorescent properties of materials  
[NASA-CASE-ARC-10633-1] c 25 N74-26947
- Fluorescence detector for monitoring atmospheric pollutants  
[NASA-CASE-NPO-13231-1] c 45 N75-27585
- Fluorescent radiation converter  
[NASA-CASE-GSC-12528-1] c 74 N81-24900
- Optical multiple sample vacuum integrating sphere  
[NASA-CASE-GSC-12849-1] c 74 N86-26190
- FLUORIDES**  
Self-lubricating fluoride metal composite materials Patent  
[NASA-CASE-XLE-08511] c 18 N71-23710
- Corrosion resistant beryllium Patent  
[NASA-CASE-LEW-10327] c 17 N71-33408
- Perfluoro polyether acyl fluorides  
[NASA-CASE-NPO-10765] c 06 N72-20121
- Carbide-fluoride-silver self-lubricating composite  
[NASA-CASE-LEW-14196-2] c 37 N87-25585
- Tm,Ho:YLF laser end-pumped by a semiconductor diode laser array  
[NASA-CASE-NPO-17282-1-CU] c 36 N89-12856
- Graphite fluoride fiber polymer composite material  
[NASA-CASE-LEW-14472-1] c 24 N89-14259
- FLUORINATION**  
Highly fluorinated polyurethanes  
[NASA-CASE-NPO-10767-2] c 06 N72-27151
- Fluorinated esters of polycarboxylic acids  
[NASA-CASE-MFS-21040-1] c 06 N73-30098
- FLUORINE**  
Reaction of fluorine with polyperfluoropolyenes  
[NASA-CASE-NPO-10862] c 06 N72-22107
- Process for the preparation of fluorine containing crosslinked elastomeric polytriazine and product so produced  
[NASA-CASE-ARC-11248-1] c 27 N81-17259
- FLUORINE COMPOUNDS**  
Fluorine-containing polyformals  
[NASA-CASE-XMF-06900-1] c 27 N79-21191
- Precision heat forming of tetrafluoroethylene tubing  
[NASA-CASE-MSC-18430-1] c 37 N82-24491
- FLUORO COMPOUNDS**  
New polymers of perfluorobutadiene and method of manufacture Patent application  
[NASA-CASE-NPO-10863] c 06 N70-11251
- Method of polymerizing perfluorobutadiene Patent application  
[NASA-CASE-NPO-10447] c 06 N70-11252
- Fluorohydroxy ethers  
[NASA-CASE-MFS-10507] c 06 N73-30101
- Highly fluorinated polymers  
[NASA-CASE-MFS-11492] c 06 N73-30102
- Highly fluorinated polyurethanes  
[NASA-CASE-NPO-10767-1] c 06 N73-33076
- Utilization of oxygen difluoride for syntheses of fluoropolymers  
[NASA-CASE-NPO-12061-1] c 27 N76-16228
- The 1,1,1-triaryl-2,2,2-trifluoroethanes and process for their synthesis  
[NASA-CASE-ARC-11097-1] c 25 N82-24312
- FLUOROCARBONS**  
Electrically conductive fluorocarbon polymer  
[NASA-CASE-XLE-06774-2] c 06 N72-25150
- Substituted 1,1,1-Triaryl-2,2,2-Trifluoroethanes and processes for their synthesis  
[NASA-CASE-LEW-14345-1] c 23 N88-26404
- FLUOROHYDROCARBONS**  
New condensation polyimides containing 1,1,1-triaryl-2,2,2-trifluoroethane structures  
[NASA-CASE-LEW-14346-1] c 23 N87-14433
- FLUOROPOLYMERS**  
Perfluoroalkyl polytriazines containing pendent iododifluoromethyl groups  
[NASA-CASE-ARC-11241-1] c 25 N81-14016
- Texturing polymer surfaces by transfer casting --- cardiovascular prosthesis  
[NASA-CASE-LEW-13120-1] c 27 N82-28440
- Surface texturing of fluoropolymers  
[NASA-CASE-LEW-13028-1] c 27 N82-33521
- New condensation polyimides containing 1,1,1-triaryl-2,2,2-trifluoroethane structures  
[NASA-CASE-LEW-14346-1] c 23 N87-14433
- Cellular thermosetting fluoropolymers and process for making them  
[NASA-CASE-GSC-13008-1] c 27 N88-23894



- Substituted 1,1,1-Triaryl-2,2,2-Trifluoroethanes and processes for their synthesis  
[NASA-CASE-LEW-14345-1] c 23 N88-26404
- FLUTTER**  
Antiflutter ball check valve Patent  
[NASA-CASE-XNP-01152] c 15 N70-41811  
Suppression of flutter  
[NASA-CASE-LAR-10682-1] c 02 N73-26004  
Decoupler pylon: wing/store flutter suppressor  
[NASA-CASE-LAR-12468-1] c 08 N82-32373  
Remote pivot decoupler pylon: Wing/store flutter suppressor  
[NASA-CASE-LAR-13173-1] c 05 N87-14314  
Airfoil flutter model suspension system  
[NASA-CASE-LAR-13522-1-SB] c 09 N87-25334
- FLUTTER ANALYSIS**  
Model mount system for testing flutter  
[NASA-CASE-LAR-12950-1] c 09 N84-34448
- FLUX (RATE)**  
Two axis fluxgate magnetometer Patent  
[NASA-CASE-GSC-10441-1] c 14 N71-27325  
Apparatus for measuring charged particle beam  
[NASA-CASE-MFS-25641-1] c 72 N84-28575
- FLUX DENSITY**  
Particle beam measurement apparatus using beam kinetic energy to change the heat sensitive resistance of the detection probe Patent  
[NASA-CASE-XLE-00243] c 14 N70-38602  
Apparatus for measuring charged particle beam  
[NASA-CASE-MFS-25641-1] c 72 N84-28575
- FLUXES**  
Solder flux which leaves corrosion-resistant coating Patent  
[NASA-CASE-XNP-03459-2] c 18 N71-15688  
Soldering with solder flux which leaves corrosion resistant coating Patent  
[NASA-CASE-XNP-03459] c 15 N71-21078
- FLYWHEELS**  
Energy storage apparatus  
[NASA-CASE-GSC-12030-1] c 44 N78-24608  
Rotatable mass for a flywheel  
[NASA-CASE-MFS-23051-1] c 37 N79-10422  
Safety flywheel --- using flexible materials energy storage  
[NASA-CASE-HQN-10888-1] c 44 N79-14527  
Method of manufacture of bonded fiber flywheel --- fiberglass-epoxy  
[NASA-CASE-MFS-23674-1] c 24 N81-29163  
Bidirectional control system for energy flow in solar powered flywheel  
[NASA-CASE-MFS-25978-1] c 44 N87-21410  
Three axis attitude control system  
[NASA-CASE-GSC-12970-1] c 08 N88-23808
- FOAMS**  
Foam generator Patent  
[NASA-CASE-XLA-00838] c 03 N70-36778  
Method for continuous variation of propellant flow and thrust in propulsive devices Patent  
[NASA-CASE-XLE-00177] c 28 N70-40367  
Filament wound container Patent  
[NASA-CASE-XLE-03803] c 15 N71-23816  
Novel polycarboxylic prepolymeric materials and polymers thereof Patent  
[NASA-CASE-NPO-10596] c 06 N71-25929  
Thermally activated foaming compositions Patent  
[NASA-CASE-LAR-10373-1] c 18 N71-26155  
Method of making a solid propellant rocket motor Patent  
[NASA-CASE-XLA-04126] c 28 N71-26779  
Thickness measuring and injection device Patent  
[NASA-CASE-MFS-20261] c 14 N71-27005  
Method of making foamed materials in zero gravity  
[NASA-CASE-XMF-09902] c 15 N72-11387  
Polyimide foam for the thermal insulation and fire protection  
[NASA-CASE-ARC-10464-1] c 27 N74-12812  
Intumescent composition, foamed product prepared therewith and process for making same  
[NASA-CASE-ARC-10304-2] c 27 N74-27037  
Polymeric foams from cross-linkable poly-n-arylenebenzimidazoles  
[NASA-CASE-ARC-11008-1] c 27 N78-31232  
Ambient cure polyimide foams --- thermal resistant foams  
[NASA-CASE-ARC-11170-1] c 27 N79-11215  
Catalysts for polyimide foams from aromatic isocyanates and aromatic dianhydrides --- flame retardant foams  
[NASA-CASE-ARC-11107-1] c 25 N80-16116  
Impacting device for testing insulation  
[NASA-CASE-MFS-25862-2] c 37 N84-33807  
Insulation bonding test system  
[NASA-CASE-MFS-25862-1] c 27 N85-20126  
Cryogenic insulation strength and bond tester  
[NASA-CASE-MFS-25910-1] c 39 N86-20841

- Cellular thermosetting fluoropolymers and process for making them  
[NASA-CASE-GSC-13008-1] c 27 N88-23894
- FOCAL PLANE DEVICES**  
Antenna array at focal plane of reflector with coupling network for beam switching Patent  
[NASA-CASE-GSC-10220-1] c 07 N71-27233  
High speed multi focal plane optical system  
[NASA-CASE-GSC-12683-1] c 74 N83-36898  
Focal plane array optical proximity sensor  
[NASA-CASE-NPO-15155-1] c 74 N85-22139  
Projection lens scanning laser velocimeter system  
[NASA-CASE-ARC-11547-1] c 36 N87-17026
- FOCI**  
High speed multi focal plane optical system  
[NASA-CASE-GSC-12683-1] c 74 N83-36898
- FOCUSING**  
X-ray reflection collimator adapted to focus X-radiation directly on a detector Patent  
[NASA-CASE-XHQ-04106] c 14 N70-40240  
Focusing system for an ion source having apertured electrodes Patent  
[NASA-CASE-XNP-03332] c 09 N71-10618  
Petzval type objective including field shaping lens Patent  
[NASA-CASE-GSC-10700] c 23 N71-30027  
Absolute focus lock for microscopes  
[NASA-CASE-LAR-10184] c 14 N72-22445  
Electron beam controller --- using magnetic field to refocus spent electron beam in microwave oscillator tube  
[NASA-CASE-LEW-11617-1] c 33 N74-10195  
Automatic focus control for facsimile cameras  
[NASA-CASE-LAR-11213-1] c 35 N75-15014  
Multiple focusing collimator --- for scanning small near radiation sources  
[NASA-CASE-MFS-20932-1] c 35 N75-19616  
RF beam center location method and apparatus for power transmission system  
[NASA-CASE-NPO-13821-1] c 44 N78-28594  
Scanning afocal laser velocimeter projection lens system  
[NASA-CASE-LAR-12328-1] c 36 N82-32712  
Gyrotron transmitting tube  
[NASA-CASE-LEW-13429-1] c 33 N83-31952  
Dual mode laser velocimeter  
[NASA-CASE-ARC-11634-1] c 36 N88-14350
- FOG**  
Anti-fog composition --- for prevention of fogging on surfaces such as space helmet visors and windshields  
[NASA-CASE-MSC-13530-2] c 23 N75-14834  
Environmental fog/rain visual display system for aircraft simulators  
[NASA-CASE-ARC-11158-1] c 09 N82-24212  
Warm fog dissipation using large volume water sprays  
[NASA-CASE-MSC-25962-1] c 09 N89-25242
- FOILS (MATERIALS)**  
Foil seal  
[NASA-CASE-XLE-05130] c 15 N69-21362  
Method of making an insulation foil  
[NASA-CASE-LEW-11484-1] c 24 N75-33181  
Partial interlaminar separation system for composites  
[NASA-CASE-LAR-12065-1] c 24 N81-14000  
Method of making a partial interlaminar separation composite system  
[NASA-CASE-LAR-12065-2] c 24 N81-33235  
Oxygen diffusion barrier coating  
[NASA-CASE-LAR-13474-1-SB] c 26 N87-25455
- FOLDING**  
Folding apparatus Patent  
[NASA-CASE-XLA-00137] c 15 N70-33180
- FOLDING STRUCTURES**  
Space and atmospheric reentry vehicle Patent  
[NASA-CASE-XGS-00260] c 31 N70-37924  
Collapsible loop antenna for space vehicle Patent  
[NASA-CASE-XMF-00437] c 07 N70-40202  
Folding boom assembly Patent  
[NASA-CASE-XGS-00938] c 32 N70-41367  
Foldable conduit Patent  
[NASA-CASE-XLE-00620] c 32 N70-41579  
Foldable solar concentrator Patent  
[NASA-CASE-XLA-04622] c 03 N70-41580  
Wing deployment method and apparatus Patent  
[NASA-CASE-XMS-00907] c 02 N70-41630  
Variable sweep aircraft Patent  
[NASA-CASE-XLA-03659] c 02 N71-11041  
Radiator deployment actuator Patent  
[NASA-CASE-MSC-11817-1] c 15 N71-26611  
Foldable construction block  
[NASA-CASE-MSC-12233-1] c 15 N72-25454  
Folding structure fabricated of rigid panels  
[NASA-CASE-XHQ-02146] c 18 N75-27040  
Collapsible corrugated horn antenna  
[NASA-CASE-LAR-11745-1] c 32 N80-29539  
Foldable beam  
[NASA-CASE-LAR-12077-1] c 31 N81-25259

- Telescoping columns --- parabolic antenna support  
[NASA-CASE-LAR-12195-1] c 31 N81-27324  
Sequentially deployable maneuverable tetrahedral beam  
[NASA-CASE-LAR-13098-1] c 31 N86-19479  
Self-locking telescoping manipulator arm  
[NASA-CASE-MFS-25906-1] c 37 N86-20789  
Shuttle-launch triangular space station  
[NASA-CASE-MSC-20676-1] c 18 N86-24729  
Synchronously deployable truss structure  
[NASA-CASE-LAR-13117-1] c 37 N86-25789  
Protective telescoping shield for solar concentrator  
[NASA-CASE-NPO-16236-1] c 44 N86-27706  
Deployable M-braced truss structure  
[NASA-CASE-LAR-13081-1] c 37 N86-32737  
Foldable self-erecting joint  
[NASA-CASE-MSC-20635-1] c 18 N87-14373  
Sun shield  
[NASA-CASE-MSC-20162-1] c 37 N87-17036  
Deployable geodesic truss structure  
[NASA-CASE-LAR-13113-1] c 31 N87-25492
- FOOD**  
Bacteria detection instrument and method  
[NASA-CASE-GSC-11533-1] c 14 N73-13435
- FOOTPRINTS**  
Multibeam single frequency synthetic aperture radar processor for imaging separate range swaths  
[NASA-CASE-NPO-14525-2] c 32 N83-31918
- FORCE**  
Ferrofluidic solenoid  
[NASA-CASE-NPO-11738-1] c 09 N73-30185
- FORCE DISTRIBUTION**  
Device for handling heavy loads  
[NASA-CASE-XNP-04969] c 11 N69-27466  
Two force component measuring device Patent  
[NASA-CASE-XAC-04886-1] c 14 N71-20439  
Tensile strength testing device Patent  
[NASA-CASE-XNP-05634] c 15 N71-24834  
Impact monitoring apparatus  
[NASA-CASE-MSC-15626-1] c 14 N72-25411  
Variable direction force coupler  
[NASA-CASE-MFS-20317] c 15 N73-13463  
Subminiature insertable force transducer --- including a strain gage to measure forces in muscles  
[NASA-CASE-NPO-13423-1] c 33 N75-31329  
Device for quick changeover between wind tunnel force and pressure testing  
[NASA-CASE-LAR-13512-1] c 35 N87-28884  
Linear force device  
[NASA-CASE-MSC-20549-2] c 35 N88-24927
- FORCED VIBRATION**  
Seismic vibration source  
[NASA-CASE-NPO-14112-1] c 46 N79-22679
- FOREBODIES**  
Aerodynamic side-force alleviator means  
[NASA-CASE-LAR-12326-1] c 02 N81-14968  
Actuated forebody strakes  
[NASA-CASE-LAR-13983-1] c 05 N88-24628
- FORMALDEHYDE**  
Synthesis of polyformals  
[NASA-CASE-ARC-11244-1] c 23 N82-16174  
Synthesis of 2,4,8,10-tetroxaspiro[5,5]undecane  
[NASA-CASE-ARC-11243-2] c 23 N85-33187
- FORMAT**  
Digital data reformatter/deserializer  
[NASA-CASE-NPO-13676-1] c 60 N79-20751
- FORMATES**  
Fluorine containing polyurethane  
[NASA-CASE-MFS-10509] c 06 N73-30103
- FORMING TECHNIQUES**  
Wire grid forming apparatus Patent  
[NASA-CASE-XLE-00023] c 15 N70-33330  
Method for forming plastic materials Patent  
[NASA-CASE-XMS-05516] c 15 N71-17803  
Method of making tubes Patent  
[NASA-CASE-XGS-04175] c 15 N71-18579  
Magnetomotive metal working device Patent  
[NASA-CASE-XMF-03793] c 15 N71-24833  
Apparatus for making curved reflectors Patent  
[NASA-CASE-XLE-08917-2] c 15 N71-24836  
Method of forming shapes from planar sheets of thermosetting materials  
[NASA-CASE-NPO-11036] c 15 N72-24522  
Method of heat treating a formed powder product material  
[NASA-CASE-LEW-10805-3] c 26 N74-10521  
Molding apparatus --- for thermosetting plastic compositions  
[NASA-CASE-LAR-10489-2] c 31 N74-32920  
Process for making sheets with parallel pores of uniform size  
[NASA-CASE-GSC-10984-1] c 37 N75-26371  
Drilled ball bearing with a one piece anti-tipping cage assembly  
[NASA-CASE-LEW-11925-1] c 37 N75-31446



Apparatus for forming dished ion thruster grids  
[NASA-CASE-LEW-11694-2] c 37 N76-14461

Acoustic energy shaping  
[NASA-CASE-NPO-13802-1] c 71 N78-10837

Method of forming metal hydride films  
[NASA-CASE-LEW-12083-1] c 37 N78-13436

Method of producing complex aluminum alloy parts of high temper, and products thereof  
[NASA-CASE-MSC-19693-1] c 26 N78-24333

Solar cell with improved N-region contact and method of forming the same  
[NASA-CASE-NPO-14205-1] c 44 N79-31752

Method and apparatus for producing concentric hollow spheres --- inertial confinement fusion targets  
[NASA-CASE-NPO-14596-1] c 31 N81-33319

Precision heat forming of tetrafluoroethylene tubing  
[NASA-CASE-MSC-18430-1] c 37 N82-24491

Sphere forming method and apparatus  
[NASA-CASE-NPO-15070-1] c 31 N83-35176

**FOSSIL FUELS**  
Supercritical solvent coal extraction  
[NASA-CASE-NPO-15210-1] c 25 N84-22709

**FOUNDATIONS**  
Expandable support means  
[NASA-CASE-NPO-11059] c 15 N72-17454

Adjustable securing base  
[NASA-CASE-MSC-19666-1] c 37 N78-17383

Space station erectable manipulator placement system  
[NASA-CASE-MSC-21096-1] c 18 N89-12621

**FOURIER TRANSFORMATION**  
Continuous Fourier transform method and apparatus --- for the analysis of simultaneous analog signal components  
[NASA-CASE-ARC-10466-1] c 60 N75-13539

Remotely controllable real-time optical processor  
[NASA-CASE-NPO-16750-1-CU] c 74 N89-14078

**FRACTIONATION**  
Method and apparatus for distillation of liquids Patent  
[NASA-CASE-XNP-08124] c 15 N71-27184

Electrophoretic fractional elution apparatus employing a rotational seal fraction collector  
[NASA-CASE-MFS-23284-1] c 37 N80-14397

Electrophoresis device  
[NASA-CASE-MFS-25426-1] c 25 N83-10126

Spillage detector for liquid chromatography systems  
[NASA-CASE-MSC-20206-1] c 25 N86-27431

**FRACTURE MECHANICS**  
Apparatus for positioning and loading a test specimen Patent  
[NASA-CASE-XLE-01300] c 15 N70-41993

**FRACTURE STRENGTH**  
Process for making a high toughness-high strength ion alloy  
[NASA-CASE-LEW-12542-2] c 26 N79-22271

High toughness-high strength iron alloy  
[NASA-CASE-LEW-12542-3] c 26 N80-32484

Method of making a partial interlaminar separation composite system  
[NASA-CASE-LAR-12065-2] c 24 N81-33235

Process of end-capping a polyimide system  
[NASA-CASE-LAR-13135-1] c 27 N86-19456

Polyimides containing carbonyl and ether connecting groups  
[NASA-CASE-LAR-13633-1] c 27 N87-24575

**FRAMES**  
Articulated multiple couch assembly Patent  
[NASA-CASE-MSC-11253] c 05 N71-12343

Soft frame adjustable eyeglasses Patent  
[NASA-CASE-XMS-06064] c 05 N71-23096

Expandable space frames  
[NASA-CASE-ERC-10365-1] c 31 N73-32749

Laser measuring system for incremental assemblies --- measuring wire-wrapped frame assemblies in spark chambers  
[NASA-CASE-GSC-12321-1] c 36 N82-16396

Inorganic spark chamber frame and method of making the same  
[NASA-CASE-GSC-12354-1] c 35 N82-24471

**FRAMING CAMERAS**  
High speed photo-optical time recording  
[NASA-CASE-KSC-10294] c 14 N72-18411

**FREE FLIGHT TEST APPARATUS**  
Support apparatus for dynamic testing Patent  
[NASA-CASE-XMF-01772] c 11 N70-41677

Hydraulic support for dynamic testing Patent  
[NASA-CASE-XMF-03248] c 11 N71-10604

Test unit free-flight suspension system Patent  
[NASA-CASE-XLA-00939] c 11 N71-15926

**FREE WING AIRCRAFT**  
Free wing assembly for an aircraft  
[NASA-CASE-FRC-10092-1] c 05 N79-12061

**FREEZE DRYING**  
Modification of the physical properties of freeze-dried rice  
[NASA-CASE-MSC-13540-1] c 05 N72-33096

**FREEZING**

System for and method of freezing biological tissue  
[NASA-CASE-GSC-12173-1] c 51 N79-10694

Method of forming frozen spheres in a force-free drop tower  
[NASA-CASE-NPO-14845-1] c 27 N82-28442

**FREON**

Solar energy power system --- using Freon  
[NASA-CASE-MFS-21628-1] c 44 N75-32581

**FREQUENCIES**

Controlled oscillator system with a time dependent output frequency  
[NASA-CASE-NPO-11962-1] c 33 N74-10194

High efficiency multifrequency feed  
[NASA-CASE-GSC-11909] c 32 N74-20863

**FREQUENCY ANALYZERS**

Digital frequency discriminator Patent  
[NASA-CASE-MFS-14322] c 08 N71-18692

Broadband frequency discriminator Patent  
[NASA-CASE-NPO-10096] c 07 N71-24583

Audio frequency marker system  
[NASA-CASE-NPO-11147] c 14 N72-27408

Continuous Fourier transform method and apparatus --- for the analysis of simultaneous analog signal components  
[NASA-CASE-ARC-10466-1] c 60 N75-13539

Frequency discriminator and phase detector circuit  
[NASA-CASE-NPO-11515-1] c 33 N77-13315

**FREQUENCY CONTROL**

Bus voltage compensation circuit for controlling direct current motor  
[NASA-CASE-XMS-04215-1] c 09 N69-39987

Variable frequency magnetic multivibrator Patent  
[NASA-CASE-XGS-00458] c 09 N70-38604

Variable frequency magnetic multivibrator Patent  
[NASA-CASE-XGS-00131] c 09 N70-38995

Automatic frequency discriminators and control for a phase-lock loop providing frequency preset capabilities Patent  
[NASA-CASE-XMF-08665] c 10 N71-19467

Linear accelerator frequency control system Patent  
[NASA-CASE-XGS-05441] c 10 N71-22962

Tuning arrangement for an electron discharge device or the like Patent  
[NASA-CASE-XNP-09771] c 09 N71-24841

Low loss dichroic plate  
[NASA-CASE-NPO-13171-1] c 32 N74-11000

Automatic frequency control for FM transmitter  
[NASA-CASE-MFS-21540-1] c 32 N74-19790

Acoustically controlled distributed feedback laser  
[NASA-CASE-NPO-13175-1] c 36 N75-31427

Reflex feed system for dual frequency antenna with frequency cutoff means  
[NASA-CASE-NPO-14022-1] c 32 N78-31321

Cam-operated pitch-change apparatus  
[NASA-CASE-LEW-13050-1] c 07 N79-14095

Digital numerically controlled oscillator  
[NASA-CASE-MSC-16747-1] c 33 N81-17349

High stability buffered phase comparator  
[NASA-CASE-GSC-12645-1] c 33 N84-16454

Spectrophone stabilized laser with line center offset frequency control  
[NASA-CASE-NPO-15516-1] c 36 N84-22943

Automatic oscillator frequency control system  
[NASA-CASE-GSC-12804-1] c 33 N86-20668

**FREQUENCY CONVERTERS**

Frequency to analog converter Patent  
[NASA-CASE-XNP-07040] c 08 N71-12500

Static inverters which sum a plurality of waves Patent  
[NASA-CASE-XMF-00663] c 08 N71-18752

Voltage to frequency converter Patent  
[NASA-CASE-GSC-10022-1] c 10 N71-25882

Family of frequency to amplitude converters  
[NASA-CASE-MSC-12395] c 09 N72-25257

Variable frequency inverter for ac induction motors with torque, speed and braking control  
[NASA-CASE-MFS-22088-1] c 33 N75-15874

**FREQUENCY DISCRIMINATORS**

PN lock indicator for dithered PN code tracking loop  
[NASA-CASE-NPO-14435-1] c 33 N81-33405

Programmable electronic synthesized capacitance  
[NASA-CASE-GSC-12961-1] c 33 N87-22895

Acoustic emission frequency discrimination  
[NASA-CASE-MSC-20467-1] c 35 N88-23966

**FREQUENCY DISTRIBUTION**

Antenna system using parasitic elements and two driven elements at 90 deg angle fed 180 deg out of phase Patent  
[NASA-CASE-XLA-00414] c 07 N70-38200

Variable frequency oscillator with temperature compensation Patent  
[NASA-CASE-XNP-03916] c 09 N71-28810

Ultra stable frequency distribution system  
[NASA-CASE-NPO-13836-1] c 32 N78-15323

**FREQUENCY DIVIDERS**

Low phase noise digital frequency divider  
[NASA-CASE-NPO-11569] c 10 N73-26229

Technique for extending the frequency range of digital dividers  
[NASA-CASE-LAR-10730-1] c 33 N74-10223

Symmetrical odd-modulus frequency divider  
[NASA-CASE-NPO-13426-1] c 33 N75-31330

Electronic analog divider  
[NASA-CASE-LEW-11881-1] c 33 N77-17354

**FREQUENCY DIVISION MULTIPLEXING**

Satellite communication system and method Patent  
[NASA-CASE-GSC-10118-1] c 07 N71-24621

Frequency division multiplex technique  
[NASA-CASE-KSC-10521] c 07 N73-20176

**FREQUENCY MEASUREMENT**

Measurement system  
[NASA-CASE-MFS-20658-1] c 14 N73-30386

Frequency measurement by coincidence detection with standard frequency  
[NASA-CASE-MSC-14649-1] c 33 N76-16331

Time domain phase measuring apparatus  
[NASA-CASE-GSC-12228-1] c 33 N79-10338

Method and apparatus for measuring frequency and phase difference  
[NASA-CASE-MSC-20865-1] c 32 N87-18692

Apparatus for using a time interval counter to measure frequency stability  
[NASA-CASE-NPO-17325-1-CU] c 32 N88-24846

Frequency domain laser velocimeter signal processor  
[NASA-CASE-LAR-13552-1-CU] c 33 N89-14385

**FREQUENCY MODULATION**

Accelerometer with FM output Patent  
[NASA-CASE-XLA-00492] c 14 N70-34799

Means for generating a sync signal in an FM communication system Patent  
[NASA-CASE-XNP-10830] c 07 N71-11281

Bi-carrier demodulator with modulation Patent  
[NASA-CASE-XMF-01160] c 07 N71-11298

Optical tracker having overlapping reticles on parallel axes Patent  
[NASA-CASE-XGS-05715] c 23 N71-16100

Atomic hydrogen maser with bulb temperature control to remove wall shift in maser output frequency  
[NASA-CASE-HQN-10654-1] c 16 N73-13489

Junction range finder  
[NASA-CASE-KSC-10108] c 14 N73-25461

Automatic frequency control for FM transmitter  
[NASA-CASE-MFS-21540-1] c 32 N74-19790

Symmetrical odd-modulus frequency divider  
[NASA-CASE-NPO-13426-1] c 33 N75-31330

Frequency modulated oscillator  
[NASA-CASE-MFS-23181-1] c 33 N77-17351

FM/CW radar system  
[NASA-CASE-MFS-22234-1] c 32 N79-10264

Thickness measurement system  
[NASA-CASE-MFS-23721-1] c 31 N79-28370

Method and apparatus for Doppler frequency modulation of radiation  
[NASA-CASE-NPO-14524-1] c 32 N80-24510

Adaptive control system for line-commutated inverters  
[NASA-CASE-MFS-25209-1] c 33 N83-35227

Fiber optic frequency transfer link  
[NASA-CASE-NPO-17703-1-CU] c 74 N89-29191

**FREQUENCY MULTIPLIERS**

Multiple varactor frequency doubler Patent  
[NASA-CASE-XMF-04958-1] c 10 N71-26414

Open loop digital frequency multiplier  
[NASA-CASE-MSC-12709-1] c 33 N77-24375

**FREQUENCY RANGES**

Variable time constant smoothing circuit Patent  
[NASA-CASE-XGS-01983] c 10 N70-41964

Variable frequency nuclear magnetic resonance spectrometer Patent  
[NASA-CASE-XNP-09830] c 14 N71-26266

Technique for extending the frequency range of digital dividers  
[NASA-CASE-LAR-10730-1] c 33 N74-10223

Multichannel logarithmic RF level detector  
[NASA-CASE-LAR-11021-1] c 32 N76-14321

Multiple rate digital command detection system with range clean-up capability  
[NASA-CASE-NPO-13753-1] c 32 N77-20289

Multibeam single frequency synthetic aperture radar processor for imaging separate range swaths  
[NASA-CASE-NPO-14525-1] c 32 N79-19195

**FREQUENCY SCANNING**

Automatic communication signal monitoring system  
[NASA-CASE-NPO-13941-1] c 32 N79-10262

Frequency-scanning particle size spectrometer  
[NASA-CASE-NPO-13606-2] c 35 N80-18364

Apparatus and method for determining the position of a radiant energy source  
[NASA-CASE-GSC-12147-1] c 32 N81-27341

**FREQUENCY SHIFT**

- Doppler frequency spread correction device for multiplex transmissions  
[NASA-CASE-XGS-02749] c 07 N69-39978  
Serrordyne frequency converter re-entrant amplifier system Patent  
[NASA-CASE-XGS-01022] c 07 N71-16088  
Elimination of frequency shift in a multiplex communication system Patent  
[NASA-CASE-XNP-01306] c 07 N71-20814  
Laser fluid velocity detector Patent  
[NASA-CASE-XAC-10770-1] c 16 N71-24828  
Laser Doppler velocity simulator --- to induce frequency shift  
[NASA-CASE-LAR-12176-1] c 36 N80-16321

**FREQUENCY SHIFT KEYING**

- Frequency shift keyed demodulator Patent  
[NASA-CASE-XGS-02889] c 07 N71-11282  
Frequency shift keying apparatus Patent  
[NASA-CASE-XGS-01537] c 07 N71-23405  
Single frequency multitransmitter telemetry  
[NASA-CASE-LAR-13006-1] c 17 N87-16863

**FREQUENCY STABILITY**

- Method and apparatus for stabilizing a gaseous optical maser Patent  
[NASA-CASE-XGS-03644] c 16 N71-18614  
Broadband stable power multiplier Patent  
[NASA-CASE-XNP-10854] c 10 N71-26331  
Low phase noise oscillator using two parallel connected amplifiers  
[NASA-CASE-GSC-13018-1] c 33 N87-21232  
Apparatus for using a time interval counter to measure frequency stability  
[NASA-CASE-NPO-17325-1-CU] c 32 N88-24846

**FREQUENCY STANDARDS**

- Method of resolving clock synchronization error and means therefor Patent  
[NASA-CASE-XNP-08875] c 10 N71-23099  
Atomic standard with variable storage volume  
[NASA-CASE-GSC-11895-1] c 35 N76-15436  
Ultra stable frequency distribution system  
[NASA-CASE-NPO-13836-1] c 32 N78-15323  
External bulb variable volume maser  
[NASA-CASE-GSC-12334-1] c 36 N79-14362  
Precise RF timing signal distribution to remote stations --- fiber optics  
[NASA-CASE-NPO-14749-1] c 32 N81-14186

**FREQUENCY SYNCHRONIZATION**

- Pseudonoise (PN) synchronization of data system with derivation of clock frequency from received signal for clocking receiver PN generator  
[NASA-CASE-XNP-03623] c 09 N73-28084  
Ultra stable frequency distribution system  
[NASA-CASE-NPO-13836-1] c 32 N78-15323  
System for synchronizing synthesizers of communication systems  
[NASA-CASE-GSC-12148-1] c 32 N79-20296

**FREQUENCY SYNTHESIZERS**

- Digitally controlled frequency synthesizer Patent  
[NASA-CASE-XGS-02317] c 09 N71-23525  
System for synchronizing synthesizers of communication systems  
[NASA-CASE-GSC-12148-1] c 32 N79-20296  
Method for shaping and aiming narrow beams --- sonar mapping and target identification  
[NASA-CASE-NPO-14632-1] c 32 N82-18443  
Reactanceless synthesized impedance bandpass amplifier  
[NASA-CASE-GSC-12788-1] c 33 N85-29145  
JFET reflection oscillator  
[NASA-CASE-GSC-12555-1] c 33 N86-19515

**FRICTION**

- Refractory coatings  
[NASA-CASE-LEW-13169-2] c 26 N82-30371  
Missile rolling tail brake torque system --- simulating bearing friction on canard controlled missiles  
[NASA-CASE-LAR-12751-1] c 15 N84-16231  
Thumb-actuated two-axis controller  
[NASA-CASE-ARC-11372-1] c 08 N86-27288

**FRICTION DRAG**

- Active control of boundary layer transition and turbulence  
[NASA-CASE-LAR-13532-1] c 34 N86-26575  
Combined riblet and lebu drag reduction system  
[NASA-CASE-LAR-13286-1] c 02 N88-14071

**FRICTION FACTOR**

- Self-lubricating gears and other mechanical parts Patent  
[NASA-CASE-MFS-14971] c 15 N71-24984  
Unidirectional flexural pivot  
[NASA-CASE-GSC-12622-1] c 37 N84-12492

**FRICTION MEASUREMENT**

- Friction measuring apparatus Patent  
[NASA-CASE-XNP-08680] c 14 N71-22995  
Static coefficient test method and apparatus  
[NASA-CASE-GSC-11893-1] c 35 N76-31489

- Two-axis, self-nulling skin friction balance  
[NASA-CASE-LAR-13294-1] c 35 N86-32696

**FRICTION REDUCTION**

- Low friction magnetic recording tape Patent  
[NASA-CASE-XGS-00373] c 23 N71-15978  
Production of hollow components for rolling element bearings by diffusion welding  
[NASA-CASE-LEW-11026-1] c 15 N73-33383

**FRICTIONLESS ENVIRONMENTS**

- Air bearing Patent  
[NASA-CASE-XMF-001887] c 15 N71-10617  
Air cushion lift pad Patent  
[NASA-CASE-MFS-14685] c 31 N71-15689  
Method and apparatus of simulating zero gravity conditions Patent  
[NASA-CASE-MFS-12750] c 27 N71-16223

**FROST**

- Insulating structure Patent  
[NASA-CASE-XMF-00341] c 15 N70-33323  
Device for determining frost depth and density  
[NASA-CASE-MFS-25754-1] c 35 N84-28018

**FROZEN FOODS**

- Low temperature storage container for transporting perishables to space station  
[NASA-CASE-MFS-28248-1] c 31 N88-24817

**FUEL CAPSULES**

- Acoustic suspension system  
[NASA-CASE-NPO-15435-1] c 71 N83-36846

**FUEL CELL POWER PLANTS**

- Reactant pressure differential control for fuel cell gases  
[NASA-CASE-MSC-20127-2] c 37 N85-34403

**FUEL CELLS**

- Method of making membranes  
[NASA-CASE-XNP-04264] c 03 N69-21337  
Combined electrolysis device and fuel cell and method of operation Patent  
[NASA-CASE-XLE-01645] c 03 N71-20904  
Sealing member and combination thereof and method of producing said sealing member Patent  
[NASA-CASE-XMS-01625] c 15 N71-23022  
Ion-exchange membrane with platinum electrode assembly Patent  
[NASA-CASE-XMS-02063] c 03 N71-29044  
Reconstituted asbestos matrix --- for use in fuel or electrolysis cells  
[NASA-CASE-MSC-12568-1] c 24 N76-14204  
Dual membrane hollow fiber fuel cell and method of operating same  
[NASA-CASE-NPO-13732-1] c 44 N79-10513  
Method of making a light weight battery plaque  
[NASA-CASE-LEW-13349-1] c 26 N84-22734  
Reactant pressure differential control for fuel cell gases  
[NASA-CASE-MSC-20127-2] c 37 N85-34403

**FUEL COMBUSTION**

- Fuel combustor  
[NASA-CASE-LEW-12137-1] c 25 N78-10224  
Heat pipes to reduce engine exhaust emissions  
[NASA-CASE-LEW-12590-1] c 37 N84-22958

**FUEL CONSUMPTION**

- Method for improving the fuel efficiency of a gas turbine engine  
[NASA-CASE-LEW-13142-2] c 07 N86-20389

**FUEL CONTROL**

- Attitude and propellant flow control system and method Patent  
[NASA-CASE-XMF-00185] c 21 N70-34539  
Flexible ring slosh damping baffle Patent  
[NASA-CASE-LAR-10317-1] c 32 N71-16103  
Buoyant anti-slosh system Patent  
[NASA-CASE-XLA-04605] c 32 N71-16106  
Control valve and co-axial variable injector Patent  
[NASA-CASE-XNP-09702] c 15 N71-17654  
Force-balanced, throttle valve Patent  
[NASA-CASE-NPO-10808] c 15 N71-27432  
Gas turbine engine fuel control  
[NASA-CASE-LEW-11187-1] c 28 N73-19793  
Automotive gas turbine fuel control  
[NASA-CASE-LEW-12785-1] c 37 N78-24545  
Electrical servo actuator bracket --- fuel control valves on jet engines  
[NASA-CASE-FRC-11044-1] c 37 N81-33483  
Heat pipes to reduce engine exhaust emissions  
[NASA-CASE-LEW-12590-1] c 37 N84-22958

**FUEL FLOW**

- System for preconditioning a combustible vapor  
[NASA-CASE-NPO-12072] c 28 N72-22772

**FUEL FLOW REGULATORS**

- Two-step rocket engine bipropellant valve Patent  
[NASA-CASE-XMS-04890-1] c 15 N70-22192  
Passively regulated water electrolysis rocket engine Patent  
[NASA-CASE-XGS-08729] c 28 N71-14044  
Oil cooling system for a gas turbine engine  
[NASA-CASE-LEW-12830-1] c 07 N77-23106

**FUEL GAGES**

- Response analyzers for sensors Patent  
[NASA-CASE-MFS-11204] c 14 N71-29134

**FUEL INJECTION**

- Injector-valve device Patent  
[NASA-CASE-XLE-00303] c 15 N70-36535  
Rocket engine injector Patent  
[NASA-CASE-XLE-00111] c 28 N70-38199  
Injector assembly for liquid fueled rocket engines Patent  
[NASA-CASE-XMF-00968] c 28 N71-15660  
Injection head for delivering liquid fuel and oxidizers  
[NASA-CASE-NPO-10046] c 28 N72-17843  
Injector for use in high voltage isolators for liquid feed lines  
[NASA-CASE-NPO-11377] c 15 N73-27406  
Supercritical fuel injection system  
[NASA-CASE-LEW-12990-1] c 07 N81-29129  
Low thrust monopropellant engine  
[NASA-CASE-GSC-12194-2] c 20 N82-18314  
Heat pipes to reduce engine exhaust emissions  
[NASA-CASE-LEW-12590-1] c 37 N84-22958  
Low loss injector for liquid propellant rocket engines  
[NASA-CASE-MFS-25989-1] c 20 N87-14420

**FUEL OILS**

- Oil cooling system for a gas turbine engine  
[NASA-CASE-LEW-12830-1] c 07 N77-23106

**FUEL PUMPS**

- Fuel injection pump for internal combustion engines Patent  
[NASA-CASE-MSC-12139-1] c 28 N71-14058

**FUEL SYSTEMS**

- Propellant feed isolator Patent  
[NASA-CASE-LEW-10210-1] c 28 N71-26781  
System for preconditioning a combustible vapor  
[NASA-CASE-NPO-12072] c 28 N72-22772  
Supersonic-combustion rocket  
[NASA-CASE-LEW-11058-1] c 20 N74-13502  
Fuel combustor  
[NASA-CASE-LEW-12137-1] c 25 N78-10224  
Fuel delivery system including heat exchanger means  
[NASA-CASE-LEW-12793-1] c 37 N79-11403  
Supercritical fuel injection system  
[NASA-CASE-LEW-12990-1] c 07 N81-29129  
Apparatus for improving the fuel efficiency of a gas turbine engine  
[NASA-CASE-LEW-13142-1] c 07 N83-36029  
Method for improving the fuel efficiency of a gas turbine engine  
[NASA-CASE-LEW-13142-2] c 07 N86-20389

**FUEL TANK PRESSURIZATION**

- Venting vapor apparatus Patent  
[NASA-CASE-XLE-00288] c 15 N70-34247  
Automatic pump Patent  
[NASA-CASE-XNP-04731] c 15 N71-24042  
Propellant tank pressurization system Patent  
[NASA-CASE-XNP-00650] c 27 N71-28929

**FUEL TANKS**

- Reduced gravity liquid configuration simulator  
[NASA-CASE-XLE-02624] c 12 N69-39988  
Flexible ring slosh damping baffle Patent  
[NASA-CASE-LAR-10317-1] c 32 N71-16103  
Buoyant anti-slosh system Patent  
[NASA-CASE-XLA-04605] c 32 N71-16106  
Instrument for measuring the dynamic behavior of liquids Patent  
[NASA-CASE-XLA-05541] c 12 N71-26387  
Electrical apparatus for detection of thermal decomposition of insulation Patent  
[NASA-CASE-XMF-03968] c 14 N71-27186  
High performance channel injection sealant invention abstract  
[NASA-CASE-ARC-14408-1] c 27 N82-33523  
Tanker orbit transfer vehicle and method  
[NASA-CASE-MSC-20543-1] c 18 N84-22610  
Cryogenic insulation strength and bond tester  
[NASA-CASE-MFS-25910-1] c 39 N86-20841  
Cryogenic insulation system  
[NASA-CASE-LAR-13506-1] c 27 N89-12741  
Tank gauging apparatus and method  
[NASA-CASE-MSC-21059-1] c 35 N89-12843

**FUEL VALVES**

- Injector-valve device Patent  
[NASA-CASE-XLE-00303] c 15 N70-36535  
Semitoroidal diaphragm cavitating valve Patent  
[NASA-CASE-XNP-09704] c 12 N71-18615  
Filler valve Patent  
[NASA-CASE-XNP-01747] c 15 N71-23024  
Combination automatic-starting electrical plasma torch and gas shutoff valve --- for satellite attitude control  
[NASA-CASE-XLE-10717] c 37 N75-29426

**FUEL-AIR RATIO**

- Flow modifying device  
[NASA-CASE-LEW-13562-2] c 07 N85-35195

## FUELS

- Atomic hydrogen storage method and apparatus  
[NASA-CASE-LEW-12081-3] c 28 N81-14103

## FUNCTION GENERATORS

- Line following servosystem Patent  
[NASA-CASE-XAC-00001] c 15 N71-28952  
Digital quasi-exponential function generator  
[NASA-CASE-NPO-11130] c 08 N72-20176  
Electro-mechanical sine/cosine generator  
[NASA-CASE-LAR-10503-1] c 09 N72-21248  
Function generator for synthesizing complex vibration mode patterns  
[NASA-CASE-LAR-10310-1] c 10 N73-20253  
Derivation of a tangent function using an integrated circuit four-quadrant multiplier  
[NASA-CASE-MSC-13907-1] c 10 N73-26230

## FURLABLE ANTENNAS

- Unfurlable structure including coiled strips thrust launched upon tension release Patent  
[NASA-CASE-HQN-00937] c 07 N71-28979  
Singly-curved reflector for use in high-gain antennas  
[NASA-CASE-NPO-11361] c 07 N72-32169  
Furlable antenna --- antenna design  
[NASA-CASE-NPO-13553-1] c 33 N76-32457

## FURNACES

- High-speed infrared furnace  
[NASA-CASE-XLE-10466] c 17 N69-25147  
Black-body furnace Patent  
[NASA-CASE-XLE-01399] c 33 N71-15625  
Induction furnace with perforated tungsten foil shielding Patent  
[NASA-CASE-XLE-04026] c 14 N71-23267  
High temperature furnace for melting materials in space  
[NASA-CASE-MFS-20710] c 11 N72-23215  
High temperature strain gage calibration fixture  
[NASA-CASE-LAR-11500-1] c 35 N76-24523  
Exothermic furnace module  
[NASA-CASE-MFS-25707-1] c 35 N82-26631  
Apparatus and method for heating a material in a transparent ampoule --- crystal growth  
[NASA-CASE-MFS-25436-1] c 27 N83-36220  
Apparatus and method for quiescent containerless processing of high temperature metals and alloys in low gravity  
[NASA-CASE-MFS-28087-1] c 35 N87-23944  
Furnace for tensile/fatigue testing  
[NASA-CASE-LEW-14848-1] c 14 N89-28549

## FUSELAGES

- Fuselage structure using advanced technology fiber reinforced composites  
[NASA-CASE-LAR-11688-1] c 24 N82-26384  
Adapter for mounting a microphone flush with the external surface of the skin of a pressurized aircraft  
[NASA-CASE-FRC-11072-1] c 05 N83-27975  
Helicopter anti-torque system using strakes  
[NASA-CASE-LAR-13233-1] c 05 N84-33400  
Multi-body aircraft with an all-movable center fuselage actively controlling fuselage pressure drag  
[NASA-CASE-LAR-13511-1] c 05 N88-23765  
Helicopter anti-torque system using fuselage strakes  
[NASA-CASE-LAR-13630-1] c 08 N88-23809

## FUSION (MELTING)

- Bonding graphite with fused silver chloride  
[NASA-CASE-XGS-00963] c 15 N69-39735  
Method for fiberizing ceramic materials Patent  
[NASA-CASE-XNP-00597] c 18 N71-23088  
One-step dual purpose joining technique  
[NASA-CASE-LAR-12595-1] c 33 N82-26571  
Absorbable-susceptor joining of ceramic surfaces  
[NASA-CASE-NPO-15640-1] c 27 N84-22748  
Multicolor printing plate joining  
[NASA-CASE-LEW-13598-1] c 35 N84-22930  
Induction heating gun  
[NASA-CASE-LAR-13181-1] c 31 N85-29083

## FUSION WELDING

- Method for producing a solar cell having an integral protective covering  
[NASA-CASE-XGS-04531] c 03 N69-24267  
Weld control system using thermocouple wire Patent  
[NASA-CASE-MFS-06074] c 15 N71-20393  
Butt welder for fine gauge tungsten/rhenium thermocouple wire  
[NASA-CASE-LAR-10103-1] c 15 N73-14468  
Diffusion welding in air --- solid state welding of butt joint by fusion welding, surface cleaning, and heating  
[NASA-CASE-LEW-11387-1] c 37 N74-18128

## G

## GADOLINIUM

- Method of making a silicon semiconductor device Patent  
[NASA-CASE-XLE-02792] c 26 N71-10607

- Gd or Sm doped silicon semiconductor composition Patent  
[NASA-CASE-XLE-10715] c 26 N71-23292

## GALILEO PROJECT

- Reed-Solomon decoder  
[NASA-CASE-NPO-15982-1] c 60 N87-21591

## GALLIUM

- Floating two force component measuring device Patent  
[NASA-CASE-XAC-04885] c 14 N71-23790

## GALLIUM ARSENIDES

- GaAs solar detector using manganese as a doping agent Patent  
[NASA-CASE-XNP-01328] c 26 N71-18064  
Simple method of making photovoltaic junctions Patent  
[NASA-CASE-XNP-01960] c 09 N71-23027  
Method of changing the conductivity of vapor deposited gallium arsenide by the introduction of water into the vapor deposition atmosphere Patent  
[NASA-CASE-XNP-01961] c 26 N71-29156  
Vapor phase growth of groups 3-5 compounds by hydrogen chloride transport of the elements  
[NASA-CASE-LAR-11144-1] c 25 N75-26043  
Vapor deposition apparatus --- semiconductors and gallium arsenides  
[NASA-CASE-HQN-10462] c 25 N75-29192  
GaAs Schottky barrier photo-responsive device and method of fabrication  
[NASA-CASE-GSC-12816-1] c 76 N86-20150  
Liquid encapsulated crystal growth  
[NASA-CASE-NPO-16808-1-CU] c 76 N87-25868

## GALLIUM PHOSPHIDES

- Liquid encapsulated crystal growth  
[NASA-CASE-NPO-16808-1-CU] c 76 N87-25868  
Improved properties of SiGe/GaP alloys  
[NASA-CASE-NPO-17259-1-CU] c 76 N88-25358

## GALVANIC SKIN RESPONSE

- Method and apparatus for attaching physiological monitoring electrodes Patent  
[NASA-CASE-XFR-07658-1] c 05 N71-26293

## GAMMA RAY SPECTROMETERS

- Low intensity X-ray and gamma-ray spectrometer  
[NASA-CASE-GSC-12587-1] c 35 N82-32659  
Method and apparatus for mapping the distribution of chemical elements in an extended medium  
[NASA-CASE-GSC-12808-1] c 25 N85-21279

## GAMMA RAYS

- Compton scatter attenuation gamma ray spectrometer  
[NASA-CASE-MFS-21441-1] c 14 N73-30392  
Low intensity X-ray and gamma-ray imaging device --- fiber optics  
[NASA-CASE-GSC-12263-1] c 74 N79-20857  
Real-time 3-D X-ray and gamma-ray viewer  
[NASA-CASE-GSC-12640-1] c 74 N84-11920  
Three-dimensional and tomographic imaging device for X-ray and gamma-ray emitting objects  
[NASA-CASE-GSC-12851-1] c 35 N85-30281

## GANTRY CRANES

- Mechanically extendible telescoping boom  
[NASA-CASE-NPO-11118] c 03 N72-25021

## GAPS

- Electromagnetic transducer recording head having a laminated core section and tapered gap  
[NASA-CASE-NPO-10711-1] c 35 N77-21392  
Method of making a high voltage V-groove solar cell  
[NASA-CASE-LEW-13401-1] c 44 N82-29709

## GARMENTS

- Biomedical electrode arrangement Patent  
[NASA-CASE-XFR-10856] c 05 N71-11189  
Flexible joint for pressurizable garment  
[NASA-CASE-MSC-11072] c 54 N74-32546  
Spacesuit torso closure  
[NASA-CASE-ARC-11100-1] c 54 N78-31736  
Urine collection apparatus --- feminine hygiene  
[NASA-CASE-MSC-18381-1] c 52 N81-28740  
Thermal garment  
[NASA-CASE-XMS-03694-1] c 54 N82-29002

## GAS ANALYSIS

- Gas analyzer for bi-gaseous mixtures Patent  
[NASA-CASE-XLA-01131] c 14 N71-10774  
Microbalance including crystal oscillators for measuring contaminants in a gas system Patent  
[NASA-CASE-NPO-10144] c 14 N71-17701  
Time of flight mass spectrometer with feedback means from the detector to the low source and a specific counter Patent  
[NASA-CASE-XNP-01056] c 14 N71-23041  
Dual resonant cavity absorption cell Patent  
[NASA-CASE-LAR-10305] c 14 N71-26137  
Ion microprobe mass spectrometer for analyzing fluid materials Patent  
[NASA-CASE-ERC-10014] c 14 N71-28863

- Nondispersive gas analyzing method and apparatus wherein radiation is serially passed through a reference and unknown gas  
[NASA-CASE-ARC-10308-1] c 06 N72-31141

- Method and apparatus for determining the contents of contained gas samples  
[NASA-CASE-GSC-10903-1] c 14 N73-12444

- Coaxial anode wire for gas radiation counters  
[NASA-CASE-GSC-11492-1] c 35 N74-26949

- Fast scan control for deflection type mass spectrometers  
[NASA-CASE-LAR-11428-1] c 35 N74-34857

- NDIR gas analyzer based on absorption modulation ratios for known and unknown samples  
[NASA-CASE-ARC-10802-1] c 35 N75-30502

- Stack plume visualization system  
[NASA-CASE-LAR-11675-1] c 45 N76-17656

- Nulling device for detection of trace gases by NDIR absorption  
[NASA-CASE-ARC-10760-1] c 25 N76-22323

- Analysis of volatile organic compounds --- trace amounts of organic volatiles in gas samples  
[NASA-CASE-MSC-14428-1] c 23 N77-17161

- Fluid sampling device  
[NASA-CASE-GSC-12143-1] c 35 N77-32456

- Stark cell optoacoustic detection of constituent gases in sample  
[NASA-CASE-NPO-14143-1] c 25 N81-14015

- Stark effect spectrophone for continuous absorption spectra monitoring --- a technique for gas analysis  
[NASA-CASE-NPO-15102-1] c 25 N81-25159

- Method and device for determining heats of combustion of gaseous hydrocarbons  
[NASA-CASE-LAR-13528-1] c 25 N88-29002

## GAS BAGS

- Omnidirectional multiple impact landing system Patent  
[NASA-CASE-XLA-09881] c 31 N71-16085

## GAS BEARINGS

- Externally pressurized fluid bearing Patent  
[NASA-CASE-XMF-00515] c 15 N70-34664  
Slit regulated gas journal bearing Patent  
[NASA-CASE-XNP-00476] c 15 N70-38620  
Air bearing Patent  
[NASA-CASE-XMF-00339] c 15 N70-39896  
Air bearing Patent  
[NASA-CASE-XMF-01887] c 15 N71-10617  
Fluid power transmission Patent  
[NASA-CASE-XMS-01445] c 12 N71-16031  
Bismuth-lead coatings for gas bearings used in atmospheric environments and vacuum chambers Patent  
[NASA-CASE-XGS-02011] c 15 N71-20739  
Swivel support for gas bearings Patent  
[NASA-CASE-XMF-07808] c 15 N71-23812  
Fluid power transmitting gas bearing Patent  
[NASA-CASE-ERC-10097] c 15 N71-28465  
Angular displacement indicating gas bearing support system Patent  
[NASA-CASE-XLA-09346] c 15 N71-28740  
Air bearing assembly for curved surfaces  
[NASA-CASE-MFS-20423] c 15 N72-11388  
Air bearing  
[NASA-CASE-WLP-10002] c 15 N72-17451  
Axially and radially controllable magnetic bearing  
[NASA-CASE-GSC-11551-1] c 37 N76-18459  
Thrust bearing  
[NASA-CASE-LEW-11949-1] c 37 N76-29588  
Cantilever mounted resilient pad gas bearing  
[NASA-CASE-LEW-12569-1] c 37 N79-10418  
Compliant hydrodynamic fluid journal bearing  
[NASA-CASE-LEW-13670-1] c 37 N86-19606

## GAS CHROMATOGRAPHY

- Micropacked column for a chromatographic system  
[NASA-CASE-XNP-04816] c 06 N69-39936  
Baseline stabilization system for ionization detector Patent  
[NASA-CASE-XNP-03128] c 10 N70-41991  
Procedure and apparatus for determination of water in nitrogen tetroxide  
[NASA-CASE-NPO-10234] c 06 N72-17094  
Analysis of hydrogen-deuterium mixtures  
[NASA-CASE-NPO-11322] c 06 N72-25146  
Ultraviolet atomic emission detector  
[NASA-CASE-HQN-10756-1] c 14 N72-25428  
Method and apparatus for determining the contents of contained gas samples  
[NASA-CASE-GSC-10903-1] c 14 N73-12444  
Gas chromatograph injection system  
[NASA-CASE-ARC-10344-2] c 35 N75-26334  
Chelate-modified polymers for atmospheric gas chromatography  
[NASA-CASE-ARC-11154-1] c 25 N80-23383

## GAS COMPOSITION

- Method and means for helium/hydrogen ratio measurement by alpha scattering  
[NASA-CASE-NPO-14079-1] c 25 N80-20334

Microwave limb sounder --- measuring trace gases in the upper atmosphere  
[NASA-CASE-NPO-14544-1] c 46 N82-12685  
Mobile sampler for use in acquiring samples of terrestrial atmospheric gases  
[NASA-CASE-NPO-15220-1] c 45 N83-25217  
Moisture content and gas sampling device  
[NASA-CASE-MSC-18866-1] c 35 N85-29213

**GAS COOLED REACTORS**

Gas core nuclear reactor Patent  
[NASA-CASE-LEW-10250-1] c 22 N71-28759

**GAS COOLING**

Refrigeration apparatus  
[NASA-CASE-NPO-10309] c 15 N69-23190  
Gas cooled high temperature thermocouple Patent  
[NASA-CASE-XLE-09475-1] c 33 N71-15568  
Apparatus and method for heating a material in a transparent ampoule --- crystal growth  
[NASA-CASE-MFS-25436-1] c 27 N83-36220

**GAS DENSITY**

Dynamic sensor Patent  
[NASA-CASE-XAC-02877] c 14 N70-41681  
Method for measuring the characteristics of a gas Patent  
[NASA-CASE-XLA-03375] c 16 N71-24074  
Device for measuring light scattering wherein the measuring beam is successively reflected between a pair of parallel reflectors Patent  
[NASA-CASE-XER-11203] c 14 N71-28994  
Gaseous control system for nuclear reactors  
[NASA-CASE-XLE-04599] c 22 N72-20597  
Method of producing crystalline materials  
[NASA-CASE-NPO-10440] c 15 N72-21466  
Wide range dynamic pressure sensor  
[NASA-CASE-ARC-10263-1] c 14 N72-22438  
Apparatus for absolute pressure measurement  
[NASA-CASE-LAR-10000] c 14 N73-30394  
Method and apparatus for compensating reflection losses in a path length modulated absorption-absorption trace gas detector --- for determining density of gas  
[NASA-CASE-ARC-10631-1] c 74 N76-20958  
Method and apparatus for convection control of metallic halide vapor density in a metallic halide laser  
[NASA-CASE-NPO-15021-1] c 36 N83-10417

**GAS DETECTORS**

Method for detecting hydrogen gas  
[NASA-CASE-XMF-03873] c 06 N69-39733  
Hydrogen leak detection device Patent  
[NASA-CASE-MFS-11537] c 14 N71-20442  
Leak detector wherein a probe is monitored with ultraviolet radiation Patent  
[NASA-CASE-ERC-10034] c 15 N71-24896  
Miniature carbon dioxide sensor and methods  
[NASA-CASE-MSC-13332-1] c 14 N72-21408  
Fluorescence detector for monitoring atmospheric pollutants  
[NASA-CASE-NPO-13231-1] c 45 N75-27585  
Carbon monoxide monitor --- using real time operation  
[NASA-CASE-MFS-22060-1] c 35 N75-29380  
Method and apparatus for compensating reflection losses in a path length modulated absorption-absorption trace gas detector --- for determining density of gas  
[NASA-CASE-ARC-10631-1] c 74 N76-20958  
Indicator providing continuous indication of the presence of a specific pollutant in air  
[NASA-CASE-NPO-13474-1] c 45 N76-21742  
Particulate and aerosol detector  
[NASA-CASE-LAR-11434-1] c 35 N76-22509  
Cryogenic liquid sensor  
[NASA-CASE-NPO-10619-1] c 35 N77-21393  
Optically selective, acoustically resonant gas detecting transducer  
[NASA-CASE-ARC-10639-1] c 35 N78-13400  
Stark cell optoacoustic detection of constituent gases in sample  
[NASA-CASE-NPO-14143-1] c 25 N81-14015  
Stark effect spectrophone for continuous absorption spectra monitoring --- a technique for gas analysis  
[NASA-CASE-NPO-15102-1] c 25 N81-25159  
Portable remote laser sensor for methane leak detection  
[NASA-CASE-NPO-15790-1] c 36 N85-21631

**GAS DISCHARGE TUBES**

Self-repeating plasma generator having communicating annular and linear arc discharge passages Patent  
[NASA-CASE-XLA-03103] c 25 N71-21693

**GAS DISCHARGES**

Parametric microwave noise generator Patent  
[NASA-CASE-XER-11019] c 09 N71-23598  
Multiplex electric discharge gas laser system  
[NASA-CASE-NPO-16433-1] c 36 N87-23961

**GAS EVOLUTION**

Filter system for control of outgas contamination in vacuum Patent  
[NASA-CASE-MFS-14711] c 15 N71-26185

**GAS EXPANSION**

Sealed battery gas manifold construction Patent  
[NASA-CASE-XNP-03378] c 03 N71-11051  
Refrigeration apparatus Patent  
[NASA-CASE-XNP-08877] c 15 N71-23025  
Gas operated actuator  
[NASA-CASE-NPO-11340] c 15 N72-33477

**GAS FLOW**

Fluid flow restrictor Patent  
[NASA-CASE-NPO-10117] c 15 N71-15608  
High pressure gas filter system Patent  
[NASA-CASE-MFS-12806] c 14 N71-17588  
Burst diaphragm flow initiator Patent  
[NASA-CASE-MFS-12915] c 11 N71-17600  
Method of recording a gas flow pattern Patent  
[NASA-CASE-XMF-01779] c 12 N71-20815  
Respiration monitor  
[NASA-CASE-FRC-10012] c 14 N72-17329  
Shock tube bypass piston tunnel  
[NASA-CASE-NPO-12109] c 11 N72-22245  
Fluidic proportional thruster system  
[NASA-CASE-ARC-10106-1] c 28 N72-22769  
Gas filter mounting structure  
[NASA-CASE-MSC-12297] c 14 N72-23457  
Pressurized lighting system  
[NASA-CASE-KSC-10644] c 09 N72-27227  
Method for controlling vapor content of a gas  
[NASA-CASE-NPO-10633] c 03 N72-28025  
Gas flow control device  
[NASA-CASE-NPO-11479] c 15 N73-13462  
Compact hydrogenator  
[NASA-CASE-NPO-11682-1] c 35 N74-15127  
Apparatus for establishing flow of a fluid mass having a known velocity  
[NASA-CASE-MFS-21424-1] c 34 N74-27730  
Condensate removal device for heat exchanger  
[NASA-CASE-MSC-14143-1] c 77 N75-20139  
Flow measuring apparatus  
[NASA-CASE-LEW-12078-1] c 35 N75-30503  
Gas compression apparatus  
[NASA-CASE-MSC-14757-1] c 35 N78-10428  
Variable cycle gas turbine engines  
[NASA-CASE-LEW-12916-1] c 37 N78-17384  
Covering solid, film cooled surfaces with a duplex thermal barrier coating  
[NASA-CASE-LEW-13450-1] c 31 N83-35177  
Apparatus and method for destructive removal of particles contained in flowing fluid  
[NASA-CASE-NPO-15426-1] c 35 N84-17555  
Vortex generating flow passage design for increased film cooling effectiveness  
[NASA-CASE-LEW-14039-1] c 34 N85-33433  
Technique for measuring gas conversion factors  
[NASA-CASE-LAR-13220-1] c 34 N86-12547  
Low noise lead screw positioner  
[NASA-CASE-NPO-15617-1] c 35 N87-21304

**GAS GENERATORS**

Specialized halogen generator for purification of water Patent  
[NASA-CASE-XLA-08913] c 14 N71-28933  
Quick disconnect coupling  
[NASA-CASE-NPO-11202] c 15 N72-25450  
Electrolytic gas operated actuator  
[NASA-CASE-NPO-11369] c 15 N73-13467  
Vortex breech high pressure gas generator  
[NASA-CASE-LAR-10549-1] c 31 N73-13898  
Hydrogen rich gas generator  
[NASA-CASE-NPO-13342-1] c 37 N76-16446  
Hydrogen-rich gas generator  
[NASA-CASE-NPO-13464-1] c 44 N76-18642  
Hydrogen rich gas generator  
[NASA-CASE-NPO-13342-2] c 44 N76-29700  
Hydrogen rich gas generator  
[NASA-CASE-NPO-13464-2] c 44 N76-29704  
Hydrogen-rich gas generator  
[NASA-CASE-NPO-13560-1] c 44 N77-10636

**GAS GUNS**

Electric arc device for heating gases Patent  
[NASA-CASE-XAC-00319] c 25 N70-41628

**GAS HEATING**

Bi-metallic fluid displacement apparatus --- for stirring and heating stored gases and liquids  
[NASA-CASE-ARC-10441-1] c 35 N74-15126

**GAS INJECTION**

Burning rate control of solid propellants Patent  
[NASA-CASE-XLE-03494] c 27 N71-21819  
Compact hydrogenator  
[NASA-CASE-NPO-11682-1] c 35 N74-15127  
Gas chromatograph injection system  
[NASA-CASE-ARC-10344-2] c 35 N75-26334  
In-situ laser retorting of oil shale  
[NASA-CASE-LEW-12217-1] c 43 N78-14452  
Gas turbine engine with recirculating bleed  
[NASA-CASE-LEW-12452-1] c 07 N78-25089  
Ozonation of cooling tower waters  
[NASA-CASE-NPO-14340-1] c 45 N80-14579

Solid sorbent air sampler  
[NASA-CASE-MSC-20653-1] c 35 N86-26595

**GAS IONIZATION**

Electrostatic plasma modulator for space vehicle re-entry communication Patent  
[NASA-CASE-XLA-01400] c 07 N70-41331  
A multichannel photoionization chamber for absorption analysis Patent  
[NASA-CASE-ERC-10044-1] c 14 N71-27090  
Modulated hydrogen ion flame detector  
[NASA-CASE-ARC-10322-1] c 35 N76-18403  
Gas ion laser construction for electrically isolating the pressure gauge thereof  
[NASA-CASE-MFS-22597] c 36 N78-17366  
Charge transfer reaction laser with preionization means  
[NASA-CASE-NPO-13945-1] c 36 N78-27402  
Hydrogen hollow cathode ion source  
[NASA-CASE-LEW-12940-1] c 72 N80-33186  
Reversal electron attachment ionizer for detection of trace species  
[NASA-CASE-NPO-17596-1-CU] c 35 N89-28795

**GAS JETS**

Apparatus and method to keep the walls of a free-space reactor free from deposits of solid materials  
[NASA-CASE-NPO-15851-1] c 37 N85-21652

**GAS LASERS**

Method and apparatus for stabilizing a gaseous optical maser Patent  
[NASA-CASE-XGS-03644] c 16 N71-18614  
Inert gas metallic vapor laser  
[NASA-CASE-NPO-13449-1] c 36 N75-32441  
Diffused waveguiding capillary tube with distributed feedback for a gas laser  
[NASA-CASE-NPO-13544-1] c 36 N76-18428  
Gas ion laser construction for electrically isolating the pressure gauge thereof  
[NASA-CASE-MFS-22597] c 36 N78-17366  
Charge transfer reaction laser with preionization means  
[NASA-CASE-NPO-13945-1] c 36 N78-27402  
Solar pumped laser  
[NASA-CASE-LAR-12870-1] c 36 N84-16542  
Spectrophone stabilized laser with line center offset frequency control  
[NASA-CASE-NPO-15516-1] c 36 N84-22943  
Long gain length solar pumped box laser  
[NASA-CASE-LAR-13256-1] c 36 N86-29204

**GAS LUBRICANTS**

Gas lubricant compositions Patent  
[NASA-CASE-XLE-00353] c 18 N70-39897  
Thrust bearing  
[NASA-CASE-LEW-11949-1] c 37 N76-29588  
Cantilever mounted resilient pad gas bearing  
[NASA-CASE-LEW-12569-1] c 37 N79-10418  
Dual clearance squeeze film damper  
[NASA-CASE-LEW-13506-1] c 37 N85-33490

**GAS MASERS**

Solid state chemical source for ammonia beam maser Patent  
[NASA-CASE-XGS-01504] c 16 N70-41578  
Atomic hydrogen maser with bulb temperature control to remove wall shift in maser output frequency  
[NASA-CASE-HQN-10654-1] c 16 N73-13489  
Method of producing a storage bulb for an atomic hydrogen maser  
[NASA-CASE-NPO-13050-1] c 36 N75-15029  
Atomic standard with variable storage volume  
[NASA-CASE-GSC-11895-1] c 35 N76-15436

**GAS MIXTURES**

Gas analyzer for bi-gaseous mixtures Patent  
[NASA-CASE-XLA-01131] c 14 N71-10774  
Vapor pressure measuring system and method Patent  
[NASA-CASE-XMS-01618] c 14 N71-20741  
Mixture separation cell Patent  
[NASA-CASE-XMS-02952] c 18 N71-20742  
Analysis of hydrogen-deuterium mixtures  
[NASA-CASE-NPO-11322] c 06 N72-25146  
Hydrogen rich gas generator  
[NASA-CASE-NPO-13342-2] c 44 N76-29700  
Hydrogen-rich gas generator  
[NASA-CASE-NPO-13560-1] c 44 N77-10636  
Chemical vapor deposition reactor --- providing uniform film thickness  
[NASA-CASE-NPO-13650-1] c 25 N79-28253

**GAS PIPES**

Fluid flow restrictor Patent  
[NASA-CASE-NPO-10117] c 15 N71-15608  
Trailer shield assembly for a welding torch  
[NASA-CASE-MFS-29260-1] c 37 N88-24972

**GAS PRESSURE**

Measuring device Patent  
[NASA-CASE-XMS-01546] c 14 N70-40233  
Dynamic sensor Patent  
[NASA-CASE-XAC-02877] c 14 N70-41681

Wide range dynamic pressure sensor  
[NASA-CASE-ARC-10263-1] c 14 N72-22438

Measurement of gas production of microorganisms --- using pressure sensors  
[NASA-CASE-LAR-11326-1] c 35 N75-33368

Depressurization of arc lamps  
[NASA-CASE-NPO-10790-1] c 33 N77-21316

Pressure limiting propellant actuating system  
[NASA-CASE-MS-C-18179-1] c 20 N80-18097

Method and apparatus for producing gas-filled hollow spheres --- target pellets for inertial confinement fusion  
[NASA-CASE-NPO-14596-3] c 31 N83-31896

**GAS STREAMS**  
Method for measuring the characteristics of a gas  
Patent  
[NASA-CASE-XLA-03375] c 16 N71-24074

Stagnation pressure probe --- for measuring pressure of supersonic gas streams  
[NASA-CASE-LAR-11139-1] c 35 N74-32878

Variable mixer propulsion cycle  
[NASA-CASE-LEW-12917-1] c 07 N78-18067

Simultaneous treatment of SO<sub>2</sub> containing stack gases and waste water  
[NASA-CASE-MS-C-16258-1] c 45 N79-12584

Gas levitator having fixed levitation node for containerless processing  
[NASA-CASE-MFS-25509-1] c 35 N83-24828

**GAS TEMPERATURE**  
Method for measuring the characteristics of a gas  
Patent  
[NASA-CASE-XLA-03375] c 16 N71-24074

**GAS TRANSPORT**  
Purging means and method for Xenon arc lamps  
[NASA-CASE-NPO-11978] c 31 N78-17238

**GAS TUBES**  
Toggle mechanism for pinching metal tubes  
[NASA-CASE-GSC-12274-1] c 37 N79-28550

**GAS TUNGSTEN ARC WELDING**  
Electrode carrying wire for GTAW welding  
[NASA-CASE-MFS-29491-1] c 31 N89-23738

Internal wire guide for GTAW welding  
[NASA-CASE-MFS-29489-1] c 31 N89-23739

**GAS TURBINE ENGINES**  
Gas turbine engine fuel control  
[NASA-CASE-LEW-11187-1] c 28 N73-19793

Swirl can primary combustor  
[NASA-CASE-LEW-11326-1] c 23 N73-30665

Controlled separation combustor --- airflow distribution in gas turbine engines  
[NASA-CASE-LEW-11593-1] c 20 N76-14190

Fused silicide coatings containing discrete particles for protecting niobium alloys --- used in space shuttle thermal protection systems and turbine engine components  
[NASA-CASE-LEW-11179-1] c 27 N76-16229

Dual output variable pitch turbofan actuation system  
[NASA-CASE-LEW-12419-1] c 07 N77-14025

Oil cooling system for a gas turbine engine  
[NASA-CASE-LEW-12830-1] c 07 N77-23106

Blade retainer assembly  
[NASA-CASE-LEW-12608-1] c 07 N77-27116

Nickel base alloy --- for gas turbine engine stator vanes  
[NASA-CASE-LEW-12270-1] c 26 N77-32280

Bearing seat usable in a gas turbine engine  
[NASA-CASE-LEW-12477-1] c 37 N77-32501

Oil cooling system for a gas turbine engine  
[NASA-CASE-LEW-12321-1] c 37 N78-10467

Variable cycle gas turbine engines  
[NASA-CASE-LEW-12916-1] c 37 N78-17384

Integrated gas turbine engine-nacelle  
[NASA-CASE-LEW-12389-2] c 07 N78-18066

Variable mixer propulsion cycle  
[NASA-CASE-LEW-12917-1] c 07 N78-18067

Automotive gas turbine fuel control  
[NASA-CASE-LEW-12785-1] c 37 N78-24545

Gas turbine engine with recirculating bleed  
[NASA-CASE-LEW-12452-1] c 07 N78-25089

Independent power generator  
[NASA-CASE-LAR-11208-1] c 44 N78-32539

Redundant disc  
[NASA-CASE-LEW-12496-1] c 07 N78-33101

Integrated gas turbine engine-nacelle  
[NASA-CASE-LEW-12389-3] c 07 N79-14096

Variable area exhaust nozzle  
[NASA-CASE-LEW-12378-1] c 07 N79-14097

Power control for hot gas engines  
[NASA-CASE-NPO-14220-1] c 37 N81-14318

Curved centerline air intake for a gas turbine engine  
[NASA-CASE-LEW-13201-1] c 07 N81-14999

Apparatus for sensor failure detection and correction in a gas turbine engine control system  
[NASA-CASE-LEW-12907-2] c 07 N81-19115

Active clearance control system for a turbomachine  
[NASA-CASE-LEW-12938-1] c 07 N82-32366

Control means for a gas turbine engine  
[NASA-CASE-LEW-14586-1] c 07 N83-31603

Silicon-slurry/aluminide coating --- protecting gas turbine engine vanes and blades  
[NASA-CASE-LEW-13343] c 26 N83-31795

Apparatus for improving the fuel efficiency of a gas turbine engine  
[NASA-CASE-LEW-13142-1] c 07 N83-36029

Tip cap for a rotor blade  
[NASA-CASE-LEW-13654-1] c 07 N84-22560

Combustor liner construction  
[NASA-CASE-LEW-14035-1] c 07 N84-24577

Air modulation apparatus  
[NASA-CASE-LEW-13524-1] c 07 N84-33410

Dual clearance squeeze film damper  
[NASA-CASE-LEW-13506-1] c 37 N85-33490

Compliant hydrodynamic fluid journal bearing  
[NASA-CASE-LEW-13670-1] c 37 N86-19606

Method for improving the fuel efficiency of a gas turbine engine  
[NASA-CASE-LEW-13142-2] c 07 N86-20389

Thermal stress minimized, two component, turbine shroud seal  
[NASA-CASE-LEW-14212-1] c 37 N88-23978

**GAS TURBINES**  
Gas turbine combustor Patent  
[NASA-CASE-LEW-10286-1] c 28 N71-28915

Gas turbine exhaust nozzle --- for noise reduction  
[NASA-CASE-LEW-11569-1] c 07 N74-15453

Gas turbine engine with convertible accessories  
[NASA-CASE-LEW-12390-1] c 07 N78-17056

Counter pumping debris excluder and separator --- gas turbine shaft seals  
[NASA-CASE-LEW-11855-1] c 07 N78-25090

Direct heating surface combustor  
[NASA-CASE-LEW-11877-1] c 34 N78-27357

Apparatus and method for reducing thermal stress in a turbine rotor  
[NASA-CASE-LEW-12232-1] c 07 N79-10057

Method and turbine for extracting kinetic energy from a stream of two-phase fluid  
[NASA-CASE-NPO-14130-1] c 34 N79-20335

Corrosion resistant thermal barrier coating --- protecting gas turbines and other engine parts  
[NASA-CASE-LEW-13088-1] c 26 N81-25188

**GAS VALVES**  
High-temperature, high-pressure spherical segment valve Patent  
[NASA-CASE-XAC-00074] c 15 N70-34817

Shrink-fit gas valve Patent  
[NASA-CASE-XGS-00587] c 15 N70-35087

Thermally operated valve Patent  
[NASA-CASE-XLE-00815] c 15 N70-35407

Transfer valve Patent  
[NASA-CASE-XAC-01158] c 15 N71-23051

Slow opening valve --- valve design for shuttle portable oxygen system  
[NASA-CASE-MS-C-20112-1] c 37 N85-20338

**GAS WELDING**  
Spectral method for monitoring atmospheric contamination of inert-gas welding shields Patent  
[NASA-CASE-XMF-02039] c 15 N71-15871

Grain refinement control in TIG arc welding  
[NASA-CASE-MS-C-19095-1] c 37 N75-19683

**GAS-LIQUID INTERACTIONS**  
Fluid control apparatus and method  
[NASA-CASE-LAR-11110-1] c 34 N75-26282

**GAS-METAL INTERACTIONS**  
Improved refractory coatings --- sputtered coatings on substrates that form stable nitrides  
[NASA-CASE-LEW-23169-2] c 26 N81-16209

Refractory coatings and method of producing the same  
[NASA-CASE-LEW-13169-1] c 26 N82-29415

**GASDYNAMIC LASERS**  
Diatomic infrared gasdynamic laser --- for producing different wavelengths  
[NASA-CASE-ARC-10370-1] c 36 N75-31426

**GASEOUS DIFFUSION**  
Gas purged dry box glove Patent  
[NASA-CASE-XLE-02531] c 05 N71-23080

Gas core nuclear reactor Patent  
[NASA-CASE-LEW-10250-1] c 22 N71-28759

Gas diffusion liquid storage bag and method of use for storing blood  
[NASA-CASE-NPO-13930-1] c 52 N79-14749

**GASEOUS FISSION REACTORS**  
Gas core nuclear reactor Patent  
[NASA-CASE-LEW-10250-1] c 22 N71-28759

**GASEOUS ROCKET PROPELLANTS**  
Ion rocket Patent  
[NASA-CASE-XLE-00376] c 28 N70-37245

Continuous detonation reaction engine Patent  
[NASA-CASE-XMF-06926] c 28 N71-22983

**GASES**  
Gas liquefaction and dispensing apparatus Patent  
[NASA-CASE-NPO-10070] c 15 N71-27372

Observation window for a gas confining chamber  
[NASA-CASE-NPO-10890] c 11 N73-12265

Combustion detector  
[NASA-CASE-LAR-10739-1] c 14 N73-16484

Low gravity phase separator  
[NASA-CASE-MS-C-14773-1] c 35 N78-12390

Water separator  
[NASA-CASE-XMS-01295-1] c 37 N79-21345

Tank gauging apparatus and method  
[NASA-CASE-MS-C-21059-1] c 35 N89-12843

**GASIFICATION**  
Mixed polyvalent-monovalent metal coating for carbon-graphite fibers  
[NASA-CASE-NPO-14987-1] c 24 N83-33950

**GASKETS**  
Cryogenic connector for vacuum use Patent  
[NASA-CASE-XGS-02441] c 15 N70-41629

Reinforced polyquinoxaline gasket and method of preparing the same --- resistant to ionizing radiation and liquid hydrogen temperatures  
[NASA-CASE-MFS-21364-1] c 37 N74-18126

Process for preparing perfluorotriazine elastomers and precursors thereof  
[NASA-CASE-ARC-11402-1] c 27 N84-22744

O-ring gasket test fixture  
[NASA-CASE-MFS-28376-1] c 14 N89-28546

**GATES (CIRCUITS)**  
Flux sensing device using a tubular core with toroidal gating coil and solenoidal output coil wound thereon  
Patent  
[NASA-CASE-XGS-01881] c 09 N70-40123

SCR blocking pulse gate amplifier Patent  
[NASA-CASE-XLA-07497] c 09 N71-12514

Logic AND gate for fluid circuits Patent  
[NASA-CASE-XLA-07391] c 12 N71-17579

Synchronous counter Patent  
[NASA-CASE-GSC-02440] c 08 N71-19432

Increasing efficiency of switching type regulator circuits  
Patent  
[NASA-CASE-XMS-09352] c 09 N71-23316

Memory device for two-dimensional radiant energy array computers  
[NASA-CASE-GSC-11839-2] c 60 N78-10709

Transformer regulated self-stabilizing chopper  
[NASA-CASE-XGS-09186] c 33 N78-17295

Controller for computer control of brushless dc motors --- automobile engines  
[NASA-CASE-NPO-13970-1] c 33 N81-20352

Combinational logic for generating gate drive signals for phase control rectifiers  
[NASA-CASE-MFS-25208-1] c 33 N83-10345

Pulsed phase locked loop strain monitor --- voltage controlled oscillators  
[NASA-CASE-LAR-12772-1] c 33 N83-16626

FET charge sensor and voltage probe  
[NASA-CASE-NPO-16045-1] c 76 N87-13313

**GATES (OPENINGS)**  
Film feed camera having a detent means Patent  
[NASA-CASE-LAR-10686] c 14 N71-28935

**GAW-1 AIRFOIL**  
Airfoil shape for flight at subsonic speeds --- design analysis and aerodynamic characteristics of the GAW-1 airfoil  
[NASA-CASE-LAR-10585-1] c 02 N76-22154

**GEAR TEETH**  
Wobble gear drive mechanism --- for aerospace environments  
[NASA-CASE-WOO-00625] c 37 N78-17385

Belt for transmitting power from a cogged driving member to a cogged driven member  
[NASA-CASE-GSC-12289-1] c 37 N80-32717

**GEARS**  
Precision stepping drive Patent  
[NASA-CASE-MFS-14772] c 15 N71-17692

Bidirectional step torque filter with zero backlash characteristic Patent  
[NASA-CASE-XGS-04227] c 15 N71-21744

Self-lubricating gears and other mechanical parts  
Patent  
[NASA-CASE-MFS-14971] c 15 N71-24984

Concentric differential gearing arrangement  
[NASA-CASE-ARC-10462-1] c 37 N74-27901

Sequencing device utilizing planetary gear set  
[NASA-CASE-MS-C-19514-1] c 37 N79-20377

Power control for hot gas engines  
[NASA-CASE-NPO-14220-1] c 37 N81-14318

Clutchless multiple drive source for output shaft  
[NASA-CASE-ARC-11325-1] c 37 N82-22496

Directional gear ratio transmissions  
[NASA-CASE-LAR-12644-1] c 37 N84-28084

Linear force device  
[NASA-CASE-MS-C-20549-2] c 35 N88-24927

**GELATION**  
Method of controlling a resin curing process --- for fiber reinforced composites  
[NASA-CASE-MS-C-21169-1] c 27 N89-29539

**GELLED ROCKET PROPELLANTS**

Process of forming particles in a cryogenic path  
Patent  
[NASA-CASE-NPO-10250] c 23 N71-16212

**GELS**

Intermittent type silica gel adsorption refrigerator  
Patent  
[NASA-CASE-XNP-00920] c 15 N71-15906  
Cellular thermosetting fluoropolymers and process for making them  
[NASA-CASE-GSC-13008-1] c 27 N88-23894  
Method of dispensing reagent chemicals in space  
[NASA-CASE-LAR-13607-1-CU] c 29 N88-29048

**GENERAL AVIATION AIRCRAFT**

Explosively activated egress area  
[NASA-CASE-LAR-12624-1] c 01 N83-35992

**GENERATORS**

Apparatus for establishing flow of a fluid mass having a known velocity  
[NASA-CASE-MFS-21424-1] c 34 N74-27730  
Continuous laminar smoke generator  
[NASA-CASE-LAR-13014-1] c 09 N85-21178  
A digitally controlled system for effecting and presenting a selected electrical resistance  
[NASA-CASE-MFS-29149-1] c 33 N87-29737

**GEODESY**

Geodetic distance measuring apparatus  
[NASA-CASE-GSC-12609-2] c 36 N83-29681

**GEODETIC SURVEYS**

Geodetic distance measuring apparatus  
[NASA-CASE-GSC-12609-1] c 36 N81-22344

**GEODIMETERS**

Geodetic distance measuring apparatus  
[NASA-CASE-GSC-12609-1] c 36 N81-22344

**GEOLOGICAL SURVEYS**

Borehole geological assessment  
[NASA-CASE-NPO-14231-1] c 46 N80-10709  
Geological assessment probe  
[NASA-CASE-NPO-14558-1] c 46 N80-24906

**GEOMETRY**

Space station architecture, module, berthing hub, shell assembly, berthing mechanism and utility connection channel  
[NASA-CASE-ARC-11505-1] c 18 N84-22612  
Ice detector  
[NASA-CASE-LAR-13776-1] c 35 N88-29149

**GERMANIUM**

Germanium coated microbridge and method  
[NASA-CASE-MFS-23274-1] c 33 N78-13320

**GERMANIUM ALLOYS**

Improved properties of SiGe/GaP alloys  
[NASA-CASE-NPO-17259-1-CU] c 76 N88-25358

**GIMBALS**

Gimballed, partially submerged rocket nozzle Patent  
[NASA-CASE-XMF-01544] c 28 N70-34162  
Azimuth laying system Patent  
[NASA-CASE-XMF-01669] c 21 N71-23289  
Passive caging mechanism Patent  
[NASA-CASE-GSC-10306-1] c 15 N71-24694  
Hermetic sealed vibration damper Patent  
[NASA-CASE-MSC-10959] c 15 N71-26243  
Bearing and gimbal lock mechanism and spiral flex lead module Patent  
[NASA-CASE-GSC-10556-1] c 31 N71-26537  
Failure detection and control means for improved drift performance of a gimballed platform system  
[NASA-CASE-MFS-23551-1] c 04 N76-26175  
Autonomous navigation system --- gyroscopic pendulum for air navigation  
[NASA-CASE-ARC-11257-1] c 04 N81-21047  
Aircraft body-axis rotation measurement system  
[NASA-CASE-FRC-11043-1] c 06 N83-33882

**GLANDS (SEALS)**

Spiral groove seal  
[NASA-CASE-XLE-10326-2] c 15 N72-29488  
Circumferential shaft seal  
[NASA-CASE-LEW-12119-2] c 37 N81-26447

**GLASS**

Method for producing a solar cell having an integral protective covering  
[NASA-CASE-XGS-04531] c 03 N69-24267  
Reduced gravity liquid configuration simulator  
[NASA-CASE-XLE-02624] c 12 N69-39988  
Silicon solar cell with cover glass bonded to cell by metal pattern Patent  
[NASA-CASE-XLE-08569] c 03 N71-23449  
Apparatus for applying cover slides  
[NASA-CASE-NPO-10575] c 03 N72-25019  
Glass-to-metal seals comprising relatively high expansion metals  
[NASA-CASE-LEW-10698-1] c 37 N74-21063  
Covered silicon solar cells and method of manufacture --- with polymeric films  
[NASA-CASE-LEW-11065-2] c 44 N76-14600  
Window defect planar mapping technique  
[NASA-CASE-MSC-19442-1] c 74 N77-10899

Method of forming shrink-fit compression seal  
[NASA-CASE-LAR-11563-1] c 37 N77-23482  
Reaction cured glass and glass coatings  
[NASA-CASE-ARC-11051-1] c 27 N78-32260  
Method of forming frozen spheres in a force-free drop tower  
[NASA-CASE-NPO-14845-1] c 27 N82-28442  
Method for milling and drilling glass  
[NASA-CASE-GSC-12636-1] c 31 N83-27058  
Acoustic bubble removal method  
[NASA-CASE-NPO-15334-1] c 71 N83-35781  
Glass heating panels and method for preparing the same from architectural reflective glass  
[NASA-CASE-NPO-15753-1] c 27 N84-33589

**GLASS COATINGS**

Method of attaching a cover glass to a silicon solar cell Patent  
[NASA-CASE-XLE-08569-2] c 03 N71-24681  
Process for glass coating an ion accelerator grid Patent  
[NASA-CASE-LEW-10278-1] c 15 N71-28582  
Method of coating solar cell with borosilicate glass and resultant product  
[NASA-CASE-GSC-11514-1] c 03 N72-24037  
Transmitting and reflecting diffuser --- using ultraviolet grade fused silica coatings  
[NASA-CASE-LAR-10385-3] c 74 N78-15879  
Method for repair of thin glass coatings --- on space shuttle orbiter tiles  
[NASA-CASE-KSC-11097-1] c 27 N82-33520  
High temperature glass thermal control structure and coating --- for application to spacecraft reusable heat shielding  
[NASA-CASE-ARC-11164-1] c 44 N83-34448

**GLASS ELECTRODES**

Liquid junction and method of fabricating the same Patent Application  
[NASA-CASE-NPO-10682] c 15 N70-34699  
Apparatus and method of inserting a microelectrode in body tissue or the like using vibration means  
[NASA-CASE-NPO-13910-1] c 52 N79-27836

**GLASS FIBER REINFORCED PLASTICS**

Low density bismaleimide-carbon microballoon composites  
[NASA-CASE-ARC-11040-1] c 24 N79-16915  
Method of manufacture of bonded fiber flywheel --- fiberglass-epoxy  
[NASA-CASE-MFS-23674-1] c 24 N81-29163

**GLASS FIBERS**

Non-magnetic battery case Patent  
[NASA-CASE-XGS-00886] c 03 N71-11053  
Lathe tool bit and holder for machining fiberglass materials  
[NASA-CASE-XLA-10470] c 15 N72-21489  
Polyimide resin-fiberglass cloth laminates for printed circuit boards  
[NASA-CASE-MFS-20408] c 18 N73-12604  
Method of repairing discontinuity in fiberglass structures  
[NASA-CASE-LAR-10416-1] c 24 N74-30001  
Fiber modified polyurethane foam for ballistic protection  
[NASA-CASE-ARC-10714-1] c 27 N76-15310  
Vacuum pressure molding technique  
[NASA-CASE-LAR-10073-1] c 37 N76-24575  
Glass compositions with a high modulus of elasticity --- nontoxic glass fibers  
[NASA-CASE-HQN-10274-1] c 27 N82-29451  
High modulus invert analog glass compositions containing beryllia  
[NASA-CASE-HQN-10931-2] c 27 N82-29452  
Method and technique for installing light-weight, fragile, high-temperature fiber insulation  
[NASA-CASE-MSC-16934-3] c 24 N84-16262  
Containerless high purity pulling process and apparatus for glass fiber  
[NASA-CASE-MFS-25905-2] c 31 N86-21718  
Quasi-containerless glass formation method and apparatus  
[NASA-CASE-MFS-28090-1] c 27 N87-21111

**GLASSWARE**

Laboratory glassware rack for seismic safety  
[NASA-CASE-ARC-11422-1] c 35 N86-20751

**GLAUCOMA**

Intra-ocular pressure normalization technique and equipment  
[NASA-CASE-LEW-12955-1] c 52 N80-14684

**GLIDE PATHS**

Integrated lift/drag controller for aircraft  
[NASA-CASE-ARC-10456-1] c 05 N75-12930

**GLOBAL POSITIONING SYSTEM**

Navigation system and method  
[NASA-CASE-GSC-12508-1] c 04 N84-22546  
High dynamic global positioning system receiver  
[NASA-CASE-NPO-16171-1CU] c 04 N86-27270

**GLOBES**

Orbital and entry tracking accessory for globes --- to provide range requirements for reentry vehicles to any landing site  
[NASA-CASE-LAR-10626-1] c 19 N74-21015

**GLOVES**

Gas purged dry box glove Patent  
[NASA-CASE-XLE-02531] c 05 N71-23080  
Restraining mechanism  
[NASA-CASE-MSC-13054] c 54 N78-17677  
Heat resistant protective hand covering  
[NASA-CASE-MSC-20261-2] c 54 N84-23113  
Heat resistant protective hand covering  
[NASA-CASE-MSC-20261-1] c 54 N84-28484

**GLOW DISCHARGES**

Deposition of alloy films --- on irregularly shaped metal object  
[NASA-CASE-LEW-11262-1] c 27 N74-13270  
Boron trifluoride coatings for thermoplastic materials and method of applying same in glow discharge  
[NASA-CASE-ARC-11057-1] c 27 N78-31233  
Electric discharge for treatment of trace contaminants  
[NASA-CASE-ARC-10975-1] c 33 N79-15245  
Use of glow discharge in fluidized beds  
[NASA-CASE-ARC-11245-1] c 28 N82-18401

**GLUCOSE**

Use of the enzyme hexokinase for the reduction of inherent light levels  
[NASA-CASE-XGS-05533] c 04 N69-27487

**GLYCOLS**

Stabilized unsaturated polyesters  
[NASA-CASE-NPO-16103-1] c 27 N85-29043

**GOLD COATINGS**

Thin window, drifted silicon, charged particle detector  
[NASA-CASE-XLE-10529] c 14 N69-23191  
Chromium electrodes for REDOX cells  
[NASA-CASE-LEW-13653-1] c 44 N84-28205

**GONDOLAS**

System for stabilizing torque between a balloon and gondola  
[NASA-CASE-GSC-11077-1] c 02 N73-13008

**GRANULAR MATERIALS**

Soil particles separator, collector and viewer Patent  
[NASA-CASE-XNP-09770] c 15 N71-20440  
Carbon granule probe microphone for leak detection --- recovery boilers  
[NASA-CASE-NPO-16027-1] c 35 N85-21597

**GRAPHITE**

Bonding graphite with fused silver chloride  
[NASA-CASE-XGS-00963] c 15 N69-39735  
Method of preparing graphite reinforced aluminum composite  
[NASA-CASE-MFS-21077-1] c 24 N75-28135  
Method of adhering bone to a rigid substrate using a graphite fiber reinforced bone cement  
[NASA-CASE-NPO-13764-1] c 27 N78-17215  
Atomic hydrogen storage method and apparatus  
[NASA-CASE-LEW-12081-3] c 28 N81-14103  
Mixed polyvalent-monovalent metal coating for carbon-graphite fibers  
[NASA-CASE-NPO-14987-1] c 24 N83-33950  
Multistage spent particle collector and a method for making same  
[NASA-CASE-LEW-13914-1] c 37 N85-33489  
Oxidation resistant slurry coating for carbon-based materials  
[NASA-CASE-LEW-13923-1] c 26 N85-35267  
Light weight fire resistant graphite composites  
[US-PATENT-4,598,007] c 24 N86-28131  
Light weight polymer matrix composite material  
[NASA-CASE-LEW-14734-1] c 24 N89-23623

**GRAPHITE-EPOXY COMPOSITES**

Partial interlaminar separation system for composites  
[NASA-CASE-LAR-12065-1] c 24 N81-14000  
Method and device for detection of a substance --- determining carbon fiber release in fire situations  
[NASA-CASE-NPO-14940-1] c 33 N83-31954  
Seamless metal-clad fiber-reinforced organic matrix composite structures and process for their manufacture  
[NASA-CASE-LAR-13562-1] c 24 N87-18613  
Method for machining holes in composite materials  
[NASA-CASE-MFS-28044-1] c 31 N87-25491

**GRAPHITIZATION**

Brominated graphite fibers and method of producing the same  
[NASA-CASE-LEW-14698-1] c 24 N88-29888  
Graphite fluoride fiber polymer composite material  
[NASA-CASE-LEW-14472-1] c 24 N89-14259

**GRATINGS (SPECTRA)**

Concave grating spectrometer Patent  
[NASA-CASE-XGS-01036] c 14 N70-40003  
Diffractoid grating configuration for X-ray and ultraviolet focusing  
[NASA-CASE-GSC-12357-1] c 74 N80-21140  
Solar energy converter using surface plasma waves  
[NASA-CASE-LEW-13827-1] c 44 N85-21768



A compact fast wide angle broad band spectrometer optical system  
[NASA-CASE-NPO-17562-1-CU] c 74 N89-24153

**GRAVIMETERS**  
Gravimeter Patent  
[NASA-CASE-XMF-05844] c 14 N71-17587

**GRAVITATION**  
Alignment apparatus using a laser having a gravitationally sensitive cavity reflector  
[NASA-CASE-ARC-10444-1] c 16 N73-33397  
Anti-gravity device  
[NASA-CASE-MFS-22758-1] c 70 N75-26789

**GRAVITATIONAL CONSTANT**  
Gravity device Patent  
[NASA-CASE-XMF-00424] c 11 N70-38196

**GRAVITATIONAL EFFECTS**  
Locomotion and restraint aid Patent  
[NASA-CASE-ARC-10153] c 05 N71-28619  
Rotary plant growth accelerating apparatus --- weightlessness  
[NASA-CASE-ARC-10722-1] c 51 N75-25503  
Method and apparatus for simulating gravitational forces on a living organism  
[NASA-CASE-MS-C-20202-1] c 54 N84-16803  
Load positioning system with gravity compensation  
[NASA-CASE-ARC-11525-1] c 37 N86-27629

**GRAVITATIONAL FIELDS**  
Difference circuit Patent  
[NASA-CASE-XNP-08274] c 10 N71-13537  
Process for preparation of large-particle-size monodisperse latexes  
[NASA-CASE-MFS-25000-1] c 25 N81-19242

**GRAVITY GRADIENT SATELLITES**  
Stabilization of gravity oriented satellites Patent  
[NASA-CASE-XAC-01591] c 31 N71-17729  
Station keeping of a gravity gradient stabilized satellite Patent  
[NASA-CASE-XLA-03132] c 31 N71-22969

**GRAVITY GRADIOMETERS**  
Gravity device Patent  
[NASA-CASE-XMF-00424] c 11 N70-38196  
Gravity gradient attitude control system Patent  
[NASA-CASE-GSC-10555-1] c 21 N71-27324

**GRAZING INCIDENCE**  
Diffraction grating configuration for X-ray and ultraviolet focusing  
[NASA-CASE-GSC-12357-1] c 74 N80-21140  
Multispectral glancing incidence X-ray telescope  
[NASA-CASE-MFS-28013-1] c 89 N86-22459

**GRAZING INCIDENCE TELESCOPES**  
Multispectral glancing incidence X-ray telescope  
[NASA-CASE-MFS-28013-1] c 89 N86-22459

**GREENHOUSES**  
Method and apparatus for bio-regenerative life support system  
[NASA-CASE-MS-C-21629-1] c 54 N89-29027

**GRIDS**  
Method of making dished ion thruster grids  
[NASA-CASE-LEW-11694-1] c 20 N75-18310  
Apparatus for forming dished ion thruster grids  
[NASA-CASE-LEW-11694-2] c 37 N76-14461  
Method of constructing dished ion thruster grids to provide hole array spacing compensation  
[NASA-CASE-LEW-11876-1] c 20 N76-21276  
Solar cell grid patterns  
[NASA-CASE-NPO-13087-2] c 44 N76-31666

**GRINDING (MATERIAL REMOVAL)**  
Laser apparatus for removing material from rotating objects Patent  
[NASA-CASE-MFS-11279] c 16 N71-20400  
Method for producing dispersion strengthened alloys by converting metal to a halide, comminuting, reducing the metal halide to the metal and sintering  
[NASA-CASE-LEW-10450-1] c 15 N72-25448  
Method of forming a sharp edge on an optical device  
[NASA-CASE-GSC-12348-1] c 74 N80-24149

**GRINDING MACHINES**  
Grinding arrangement for ball nose milling cutters  
[NASA-CASE-LAR-10450-1] c 37 N74-27905

**GROOVES**  
Energy absorbing device Patent  
[NASA-CASE-XMF-10040] c 15 N71-22877  
Spiral groove seal --- for hydraulic rotating shaft  
[NASA-CASE-LEW-10326-3] c 37 N74-10474  
Spiral groove seal --- for rotating shaft  
[NASA-CASE-XLE-10326-4] c 37 N74-15125  
Monogroove heat pipe design: Insulated liquid channel with bridging wick  
[NASA-CASE-MS-C-20497-1] c 34 N85-29180

**GROUND EFFECT (COMMUNICATIONS)**  
Ground plane interference elimination by passive element  
[NASA-CASE-NPO-16632-1-CU] c 32 N87-15390

**GROUND EFFECT MACHINES**  
Gravity stabilized flying vehicle Patent  
[NASA-CASE-MS-C-12111-1] c 02 N71-11039

Air cushion lift pad Patent  
[NASA-CASE-MFS-14685] c 31 N71-15689  
Open tube guideway for high speed air cushioned vehicles  
[NASA-CASE-LAR-10256-1] c 85 N74-34672

**GROUND HANDLING**  
Supporting and protecting device Patent  
[NASA-CASE-XMF-00580] c 11 N70-35383

**GROUND STATIONS**  
Traffic control system and method Patent  
[NASA-CASE-GSC-10087-1] c 02 N71-19287  
Method and apparatus for mapping planets  
[NASA-CASE-NPO-11001] c 07 N72-21118  
Ultra stable frequency distribution system  
[NASA-CASE-NPO-13836-1] c 32 N78-15323

**GROUND SUPPORT EQUIPMENT**  
Dynamic Doppler simulator Patent  
[NASA-CASE-XMS-05454-1] c 07 N71-12391  
Controlled release device Patent  
[NASA-CASE-XKS-03338] c 15 N71-24043  
Apparatus for measuring an aircraft's speed and height  
[NASA-CASE-LAR-12275-1] c 35 N79-18296

**GROUND-AIR-GROUND COMMUNICATION**  
Retrodirective optical system  
[NASA-CASE-XGS-04480] c 16 N69-27491  
Closed loop ranging system Patent  
[NASA-CASE-XNP-01501] c 21 N70-41930  
Location identification system  
[NASA-CASE-ERC-10324] c 07 N72-25173  
Satellite personal communications system  
[NASA-CASE-NPO-14480-1] c 32 N80-20448

**GROUT**  
Antenna grout replacement system  
[NASA-CASE-NPO-15202-1] c 27 N83-34043

**GUARDS (SHIELDS)**  
Safety shield for vacuum/pressure chamber viewing port  
[NASA-CASE-GSC-12513-1] c 31 N81-19343  
Trailer shield assembly for a welding torch  
[NASA-CASE-MFS-29260-1] c 37 N88-24972

**GUIDANCE (MOTION)**  
Gravity stabilized flying vehicle Patent  
[NASA-CASE-MS-C-12111-1] c 02 N71-11039  
Adjustable attitude guide device Patent  
[NASA-CASE-XLA-07911] c 15 N71-15571  
Film feed camera having a detent means Patent  
[NASA-CASE-LAR-10686] c 14 N71-28935  
Two component bearing Patent  
[NASA-CASE-XLA-00013] c 15 N71-29136  
Cable stabilizer for open shaft cable operated elevators  
[NASA-CASE-KSC-10513] c 15 N72-25453  
Thumb-actuated two-axis controller  
[NASA-CASE-ARC-11372-1] c 08 N86-27288

**GUIDANCE SENSORS**  
Light sensitive digital aspect sensor Patent  
[NASA-CASE-XGS-00359] c 14 N70-34158  
Guidance and maneuver analyzer Patent  
[NASA-CASE-XNP-09572] c 14 N71-15621  
Optical machine tool alignment indicator Patent  
[NASA-CASE-XAC-09489-1] c 15 N71-26673  
Light sensor  
[NASA-CASE-NPO-11311] c 14 N72-25414  
Sun direction detection system  
[NASA-CASE-NPO-13722-1] c 74 N77-22951  
Sun sensing guidance system for high altitude aircraft  
[NASA-CASE-FRC-11052-1] c 04 N82-23231  
Phase sensitive guidance sensor for wire-following vehicles  
[NASA-CASE-NPO-15341-1] c 35 N84-33769

**GUN LAUNCHERS**  
Self-obturator, gas operated launcher  
[NASA-CASE-NPO-11013] c 11 N72-22247

**GUN PROPELLANTS**  
Nitramine propellants --- gun propellant burning rate  
[NASA-CASE-NPO-14103-1] c 28 N78-31255  
Hypervelocity gun --- using both electric and chemical energy for projectile propulsion  
[NASA-CASE-XLE-03186-1] c 09 N79-21084

**GUNN EFFECT**  
Voltage tunable Gunn-type microwave generator Patent  
[NASA-CASE-XER-07894] c 09 N71-18721  
Shielded cathode mode bulk effect devices  
[NASA-CASE-ERC-10119] c 26 N72-21701  
Gunn-type solid state devices  
[NASA-CASE-XER-07895] c 26 N72-25679  
Magnetically actuated tuning method for Gunn oscillators  
[NASA-CASE-NPO-12106] c 09 N73-15235

**GUNS**  
Method of peening and portable peening gun  
[NASA-CASE-MFS-23047-1] c 37 N76-18454

## GYNECOLOGY

Cervix-to-rectum measuring device in a radiation applicator for use in the treatment of cervical cancer  
[NASA-CASE-GSC-12081-2] c 52 N82-22875

## GYRATORS

Gyrator type circuit Patent  
[NASA-CASE-XAC-10608-1] c 09 N71-12517  
Gyrator employing field effect transistors  
[NASA-CASE-MFS-21433] c 09 N73-20232  
Integrated P-channel MOS gyrator  
[NASA-CASE-MFS-22343-1] c 33 N74-34638  
Integrable power gyrator --- with Z-matrix design using parallel transistors  
[NASA-CASE-MFS-22342-1] c 33 N75-30428

## GYROSCOPES

Externally pressurized fluid bearing Patent  
[NASA-CASE-XMF-00515] c 15 N70-34664  
Air bearing Patent  
[NASA-CASE-XMF-00339] c 15 N70-39896  
Spacecraft experiment pointing and attitude control system Patent  
[NASA-CASE-XLA-05464] c 21 N71-14132  
Temperature compensated digital inertial sensor --- circuit for maintaining inertial element of gyroscope or accelerometer at constant position  
[NASA-CASE-NPO-13044-1] c 35 N74-15094  
All sky pointing attitude control system  
[NASA-CASE-ARC-10716-1] c 35 N77-20399

## GYROSCOPIC PENDULUMS

Autonomous navigation system --- gyroscopic pendulum for air navigation  
[NASA-CASE-ARC-11257-1] c 04 N81-21047

## GYROSTABILIZERS

Passive dual spin misalignment compensators --- gyro stabilized device  
[NASA-CASE-GSC-11479-1] c 35 N74-28097  
Annular momentum control device used for stabilization of space vehicles and the like  
[NASA-CASE-LAR-11051-1] c 15 N76-14158  
Aircraft body-axis rotation measurement system  
[NASA-CASE-FRC-11043-1] c 06 N83-33882

## H

## HAFNIUM

Thermal shock resistant hafnia ceramic material  
[NASA-CASE-LAR-10894-1] c 18 N73-14584

## HALIDES

Method for producing dispersion strengthened alloys by converting metal to a halide, comminuting, reducing the metal halide to the metal and sintering  
[NASA-CASE-LEW-10450-1] c 15 N72-25448  
Zinc-halide battery with molten electrolyte  
[NASA-CASE-NPO-11961-1] c 44 N76-18643

## HALL EFFECT

Hall current measuring apparatus having a series resistor for temperature compensation Patent  
[NASA-CASE-XAC-01662] c 14 N71-23037  
Brushless direct current tachometer Patent  
[NASA-CASE-MFS-20385] c 09 N71-24904  
Hall effect transducer  
[NASA-CASE-LAR-10620-1] c 09 N72-25255  
Redundant speed control for brushless Hall effect motor  
[NASA-CASE-MFS-20207-1] c 09 N73-32107  
Hall effect magnetometer  
[NASA-CASE-LEW-11632-2] c 35 N75-13213  
Magnetic field control --- electromechanical torquing device  
[NASA-CASE-MFS-23828-1] c 33 N82-26569

## HALL GENERATORS

Hall current measuring apparatus having a series resistor for temperature compensation Patent  
[NASA-CASE-XAC-01662] c 14 N71-23037

## HALOGENS

Modified polyurethane foams for fuel-fire Patent  
[NASA-CASE-ARC-10098-1] c 06 N71-24739

## HAMMERS

Apparatus for making diamonds  
[NASA-CASE-MFS-20698] c 15 N72-20446

## HAND (ANATOMY)

Mechanically actuated triggered hand  
[NASA-CASE-MFS-20413] c 15 N72-21463  
Therapeutic hand exerciser  
[NASA-CASE-LAR-11667-1] c 52 N76-19785  
Compact artificial hand  
[NASA-CASE-NPO-13906-1] c 54 N79-24652

## HANDLING EQUIPMENT

Supporting and protecting device Patent  
[NASA-CASE-XMF-00580] c 11 N70-35383  
Device for handling printed circuit cards Patent  
[NASA-CASE-MFS-20453] c 15 N71-29133

## HARDENING (MATERIALS)

Method of heat treating age-hardenable alloys  
[NASA-CASE-XNP-01311] c 26 N75-29236



## HARDNESS

## HARDNESS

Deposition of diamondlike carbon films  
[NASA-CASE-LEW-14080-1] c 31 N85-20153

## HARMONIC GENERATORS

Wide band doubler and sine wave quadrature generator  
[NASA-CASE-NPO-11133] c 10 N72-20223

## HARNESSES

Pressure suit tie-down mechanism Patent  
[NASA-CASE-XMS-00784] c 05 N71-12335  
One hand backpack harness  
[NASA-CASE-LAR-10102-1] c 05 N72-23085  
Shoulder harness and lap belt restraint system  
[NASA-CASE-ARC-10519-2] c 05 N75-25915

## HATCHES

Emergency escape system Patent  
[NASA-CASE-MSC-12086-1] c 05 N71-12345  
Hatch cover  
[NASA-CASE-MSC-21356-1] c 18 N88-24671

## HEAD-UP DISPLAYS

Heads up display  
[NASA-CASE-LAR-12630-1] c 06 N84-27733

## HEART FUNCTION

Ratemeter  
[NASA-CASE-MFS-20418] c 14 N73-24473  
Ultrasonic biomedical measuring and recording apparatus --- for recording motion of internal organs such as heart valves  
[NASA-CASE-ARC-10597-1] c 52 N74-20726

## HEART RATE

Digital cardiometer system Patent  
[NASA-CASE-XMS-02399] c 05 N71-22896  
Ratemeter  
[NASA-CASE-MFS-20418] c 14 N73-24473  
Digital computing cardiometer  
[NASA-CASE-MFS-20284-1] c 52 N74-12778  
Pulse transducer with artifact signal attenuator --- heart rate sensors  
[NASA-CASE-FRC-11012-1] c 52 N80-23969

## HEAT

Thermionic converter with current augmented by self induced magnetic field Patent  
[NASA-CASE-XLE-01903] c 22 N71-23599

## HEAT EXCHANGERS

Electro-thermal rocket Patent  
[NASA-CASE-XLE-00267] c 28 N70-33356  
Space suit heat exchanger Patent  
[NASA-CASE-XMS-09571] c 05 N71-19439  
Dual solid cryogenics for spacecraft refrigeration Patent  
[NASA-CASE-GSC-10188-1] c 23 N71-24725  
Shell side liquid metal boiler  
[NASA-CASE-NPO-10831] c 33 N72-20915  
Helium refrigerator and method for decontaminating the refrigerator  
[NASA-CASE-NPO-10634] c 23 N72-25619  
Condensate removal device for heat exchanger  
[NASA-CASE-MSC-14143-1] c 77 N75-20139  
Heat exchanger system and method  
[NASA-CASE-LAR-10799-2] c 34 N76-17317  
Heat transfer device  
[NASA-CASE-MFS-22938-1] c 34 N76-18374  
Heat exchanger  
[NASA-CASE-MFS-22991-1] c 34 N77-10463  
Flat-plate heat pipe  
[NASA-CASE-GSC-11998-1] c 34 N77-32413  
Combustor --- low nitrogen oxide formation  
[NASA-CASE-NPO-13958-1] c 25 N79-11151  
Fuel delivery system including heat exchanger means  
[NASA-CASE-LEW-12793-1] c 37 N79-11403  
Heat exchanger --- rocket combustion chambers and cooling systems  
[NASA-CASE-LEW-12252-1] c 34 N79-13288  
Heat exchanger and method of making --- bonding rocket chambers with a porous metal matrix  
[NASA-CASE-LEW-12441-1] c 34 N79-13289  
Thermal energy transformer  
[NASA-CASE-NPO-14058-1] c 44 N79-18443  
Portable breathing system --- a breathing apparatus using a rebreathing system of heat exchangers for carbon dioxide removal  
[NASA-CASE-MSC-16182-1] c 54 N80-10799  
Heat exchanger and method of making --- rocket lining  
[NASA-CASE-LEW-12441-2] c 34 N80-24573  
Heat exchanger and method of making  
[NASA-CASE-LEW-12441-3] c 44 N81-24519  
Cycling Joule Thomson refrigerator  
[NASA-CASE-NPO-15251-1] c 31 N83-31897  
Reciprocating magnetic refrigerator employing tandem porous matrices within a reciprocating displacer  
[NASA-CASE-NPO-16257-1] c 31 N85-29082  
Heat exchanger for electrothermal devices  
[NASA-CASE-LEW-14037-1] c 20 N87-16875  
Monogroove cold plate  
[NASA-CASE-MSC-20946-1] c 34 N87-28867

High effectiveness contour matching contact heat exchanger  
[NASA-CASE-MSC-20840-1] c 34 N88-29132

Capillary heat transport and fluid management device  
[NASA-CASE-MFS-28217-1] c 34 N89-14392

## HEAT FLUX

Heat flux sensor assembly  
[NASA-CASE-XMS-05909-1] c 14 N69-27459  
Heat flux measuring system Patent  
[NASA-CASE-XFR-03802] c 33 N71-23085  
Radial heat flux transformer  
[NASA-CASE-NPO-10828] c 33 N72-17948

## HEAT MEASUREMENT

Thermal detector of electromagnetic energy by means of a vibrating electrode Patent  
[NASA-CASE-XAC-10768] c 09 N71-18830  
Specific wavelength colorimeter --- for measuring given solute concentration in test sample  
[NASA-CASE-MSC-14081-1] c 35 N74-27860  
Method and device for determining heats of combustion of gaseous hydrocarbons  
[NASA-CASE-LAR-13528-1] c 25 N88-29002

## HEAT OF COMBUSTION

Method and device for determining heats of combustion of gaseous hydrocarbons  
[NASA-CASE-LAR-13528-1] c 25 N88-29002

## HEAT OF VAPORIZATION

Pumped two-phase heat transfer loop  
[NASA-CASE-MSC-20841-1] c 34 N87-22950

## HEAT PIPES

Heat pipe thermionic diode power system Patent  
[NASA-CASE-XMF-05843] c 03 N71-11055  
Microwave power receiving antenna Patent  
[NASA-CASE-MFS-20333] c 09 N71-13486  
Isothermal cover with thermal reservoirs Patent  
[NASA-CASE-MFS-20355] c 33 N71-25353  
Structural heat pipe --- for spacecraft wall thermal insulation system  
[NASA-CASE-GSC-11619-1] c 34 N75-12222  
Method of forming a wick for a heat pipe  
[NASA-CASE-NPO-13391-1] c 34 N76-27515  
Production of I-123  
[NASA-CASE-LEW-11390-3] c 25 N76-29379  
Heat pipe with dual working fluids  
[NASA-CASE-ARC-10198] c 34 N78-17336  
Multi-chamber controllable heat pipe  
[NASA-CASE-ARC-10199] c 34 N78-17337  
Thermal control canister  
[NASA-CASE-GSC-12253-1] c 34 N79-31523  
High thermal power density heat transfer --- thermionic converters  
[NASA-CASE-LEW-12950-1] c 34 N82-11399  
Heat pipes containing alkali metal working fluid  
[NASA-CASE-LEW-12253-1] c 74 N83-19596  
Heat pipe thermal switch  
[NASA-CASE-GSC-12812-1] c 34 N83-35307  
Thermal control system --- removing waste heat from industrial process spacecraft  
[NASA-CASE-GSC-12771-1] c 34 N84-14461  
Heat pipe cooled probe  
[NASA-CASE-LAR-12588-1] c 34 N85-21568  
High thermal power density heat transfer apparatus providing electrical isolation at high temperature using heat pipes  
[NASA-CASE-LEW-12912-2] c 34 N85-29179  
Multi-leg heat pipe evaporator  
[NASA-CASE-MSC-20812-1] c 34 N86-27593  
Monogroove cold plate  
[NASA-CASE-MSC-20946-1] c 34 N87-28867  
Space vehicle thermal rejection system  
[NASA-CASE-LAR-13738-1] c 18 N87-29586  
Polymeric heat pipe wick  
[NASA-CASE-GSC-13019-1] c 34 N88-29133

## HEAT PUMPS

Thermal pump-compressor for space use Patent  
[NASA-CASE-XLA-00377] c 33 N71-17610  
Manually actuated heat pump  
[NASA-CASE-NPO-10677] c 05 N72-11084  
Pump for delivering heated fluids  
[NASA-CASE-NPO-11417] c 15 N73-24513  
Magnetic heat pumping  
[NASA-CASE-LEW-12508-1] c 34 N78-17335  
Cooling system for high speed aircraft  
[NASA-CASE-LAR-12406-1] c 05 N81-26114  
Magnetic heat pumping  
[NASA-CASE-LEW-12508-3] c 34 N83-29625

## HEAT RADIATORS

Capillary radiator Patent  
[NASA-CASE-XLE-03307] c 33 N71-14035  
Radiator deployment actuator Patent  
[NASA-CASE-MSC-11817-1] c 15 N71-26611  
Space simulation and radiative property testing system and method Patent  
[NASA-CASE-MFS-20096] c 14 N71-30026  
Space vehicle thermal rejection system  
[NASA-CASE-LAR-13738-1] c 18 N87-29586

Arc-textured high emittance radiator surfaces  
[NASA-CASE-LEW-14679-1] c 27 N89-28651

## HEAT RESISTANT ALLOYS

High temperature nickel-base alloy Patent  
[NASA-CASE-XLE-00151] c 17 N70-33283  
Nickel-base alloy Patent  
[NASA-CASE-XLE-00283] c 17 N70-36616  
High temperature cobalt-base alloy Patent  
[NASA-CASE-XLE-02991] c 17 N71-16025  
Brazing alloy Patent  
[NASA-CASE-XNP-03063] c 17 N71-23365  
Method of forming superalloys  
[NASA-CASE-LEW-10805-1] c 15 N73-13465  
Method of making pressure tight seal for super alloy  
[NASA-CASE-LAR-10170-1] c 37 N74-11301  
Method of forming articles of manufacture from superalloy powders  
[NASA-CASE-LEW-10805-2] c 37 N74-13179  
Refractory porcelain enamel passive control coating for high temperature alloys  
[NASA-CASE-MFS-22324-1] c 27 N75-27160  
Cermets composition and method of fabrication --- heat resistant alloys and powders  
[NASA-CASE-NPO-13120-1] c 27 N76-15311  
Metallic hot wire anemometer --- for high speed wind tunnel tests  
[NASA-CASE-ARC-10911-1] c 35 N77-20400  
Method of growing composites of the type exhibiting the Soret effect --- improved structure of eutectic alloy crystals  
[NASA-CASE-MFS-22926-1] c 24 N77-27187  
Directionally solidified eutectic gamma plus beta nickel-base superalloys  
[NASA-CASE-LEW-12906-1] c 26 N77-32279  
Nickel base alloy --- for gas turbine engine stator vanes  
[NASA-CASE-LEW-12270-1] c 26 N77-32280  
Directionally solidified eutectic gamma-gamma nickel-base superalloys  
[NASA-CASE-LEW-12905-1] c 26 N78-18183  
Coating with overlay metallic-cermet alloy systems  
[NASA-CASE-LEW-13639-2] c 26 N84-27855  
Heat treatment for superalloy  
[NASA-CASE-LEW-14262-1] c 26 N87-28647  
Elevated temperature aluminum alloys  
[NASA-CASE-LAR-13632-1] c 26 N87-29650

## HEAT SHIELDING

Heat flux sensor assembly  
[NASA-CASE-XMS-05909-1] c 14 N69-27459  
Heat shield oven  
[NASA-CASE-XMS-04318] c 15 N69-27871  
Heat shield Patent  
[NASA-CASE-XMS-00486] c 33 N70-33344  
Sandwich panel construction Patent  
[NASA-CASE-XLA-00349] c 33 N70-37979  
Hypersonic reentry vehicle Patent  
[NASA-CASE-XMS-04142] c 31 N70-41631  
Transpirationally cooled heat ablation system Patent  
[NASA-CASE-XMS-02677] c 31 N70-42075  
Azine polymers and process for preparing the same Patent  
[NASA-CASE-XMF-08656] c 06 N71-11242  
Synthesis of polymeric Schiff bases by reaction of acetals and amine compounds Patent  
[NASA-CASE-XMF-08652] c 06 N71-11243  
Lightweight refractory insulation and method of preparing the same Patent  
[NASA-CASE-XMF-05279] c 18 N71-16124  
Thermal radiation shielding Patent  
[NASA-CASE-XLE-03432] c 33 N71-24145  
Spacecraft Patent  
[NASA-CASE-MSC-13047-1] c 31 N71-25434  
Fabric for micrometeoroid protection garment Patent  
[NASA-CASE-MSC-12109] c 18 N71-26285  
Thermal insulation attaching means --- adhesive bonding of felt vibration insulators under ceramic tiles  
[NASA-CASE-MSC-12619-2] c 27 N79-12221  
Thermal insulation protection means  
[NASA-CASE-MSC-12737-1] c 24 N79-25142  
Installing fiber insulation  
[NASA-CASE-MSC-16973-1] c 37 N81-14317  
Thermal barrier pressure seal --- shielding junctions between spacecraft control surfaces and structures  
[NASA-CASE-MSC-18134-1] c 37 N81-15363  
Multiwall thermal protection system  
[NASA-CASE-LAR-12620-1] c 24 N82-32417  
High temperature silicon carbide impregnated insulating fabrics  
[NASA-CASE-MSC-18832-1] c 27 N83-18908  
Mechanical fastener  
[NASA-CASE-LAR-12738-2] c 37 N85-30335

## HEAT SINKS

Thermal conductive connection and method of making same Patent  
[NASA-CASE-XMS-02087] c 09 N70-41717

- Constant temperature heat sink for calorimeters Patent  
[NASA-CASE-XMF-04208] c 33 N71-29051
- Tubular sublimatory evaporator heat sink  
[NASA-CASE-ARC-10912-1] c 34 N77-19353
- Compact pulsed laser having improved heat conductance  
[NASA-CASE-NPO-13147-1] c 36 N77-25502
- Hypersonic airbreathing missile  
[NASA-CASE-LAR-12264-1] c 15 N78-32168
- Electroexplosive device  
[NASA-CASE-NPO-13858-1] c 28 N79-11231
- Thermal control canister  
[NASA-CASE-GSC-12253-1] c 34 N79-31523
- Heat pipe thermal switch  
[NASA-CASE-GSC-12812-1] c 34 N83-35307
- Self-actuating heat switches for redundant refrigeration systems  
[NASA-CASE-NPO-17085-1-CU] c 31 N89-12785
- HEAT SOURCES**
- Conically shaped cavity radiometer with a dual purpose cone winding Patent  
[NASA-CASE-XNP-09701] c 14 N71-26475
- Thermally cascaded thermoelectric generator  
[NASA-CASE-NPO-10753] c 03 N72-26031
- Protected isotope heat source --- for atmospheric reentry protection and heat transmission to spacecraft  
[NASA-CASE-LEW-11227-1] c 73 N75-30876
- Portable electrophoresis apparatus using minimum electrolyte  
[NASA-CASE-NPO-13274-1] c 25 N79-10163
- Low gravity exothermic heating/cooling apparatus  
[NASA-CASE-MSC-25707-1] c 35 N85-29214
- High temperature electric arc furnace  
[NASA-CASE-MFS-28281-1] c 09 N88-28938
- HEAT STORAGE**
- Solar energy trap  
[NASA-CASE-MFS-22744-1] c 44 N76-24696
- Thermal energy storage system --- operating on superheating of liquids  
[NASA-CASE-MFS-23167-1] c 44 N76-31667
- Saltless solar pond  
[NASA-CASE-NPO-15808-1] c 44 N84-34792
- Stable density stratification solar pond  
[NASA-CASE-NPO-15419-2] c 44 N85-30474
- HEAT TRANSFER**
- Thermal switch Patent  
[NASA-CASE-XNP-00463] c 33 N70-36847
- Sandwich panel construction Patent  
[NASA-CASE-XLA-00349] c 33 N70-37979
- Apparatus for transferring cryogenic liquids Patent  
[NASA-CASE-XLE-00345] c 15 N70-38020
- Method of improving heat transfer characteristics in a nucleate boiling process Patent  
[NASA-CASE-XMS-04268] c 33 N71-16277
- Transmission line thermal short Patent  
[NASA-CASE-XNP-09775] c 09 N71-20445
- Heat sensing instrument Patent  
[NASA-CASE-XLA-01551] c 14 N71-22989
- Fluid phase analyzer Patent  
[NASA-CASE-NPO-10691] c 14 N71-26199
- Heat conductive resiliently compressible structure for space electronics package modules Patent  
[NASA-CASE-MSC-12389] c 33 N71-29052
- Space simulation and radiative property testing system and method Patent  
[NASA-CASE-MFS-20096] c 14 N71-30026
- Manually actuated heat pump  
[NASA-CASE-NPO-10677] c 05 N72-11084
- High intensity radiant energy pulse source having means for opening shutter when light flux has reached a desired level  
[NASA-CASE-ARC-10178-1] c 09 N72-17152
- Apparatus for sensing temperature  
[NASA-CASE-XLE-05230] c 14 N72-27410
- Thermal control system for a spacecraft modular housing  
[NASA-CASE-GSC-11018-1] c 31 N73-30829
- Thermal flux transfer system  
[NASA-CASE-NPO-12070-1] c 28 N73-32606
- Electrostatically controlled heat shutter  
[NASA-CASE-NPO-11942-1] c 33 N73-32818
- Heat transfer device  
[NASA-CASE-NPO-11120-1] c 34 N74-18552
- Heat exchanger  
[NASA-CASE-MFS-22991-1] c 34 N77-10463
- Heat pipe with dual working fluids  
[NASA-CASE-ARC-10198] c 34 N78-17336
- Low cost cryostat  
[NASA-CASE-NPO-14513-1] c 35 N81-14287
- Heat exchanger and method of making  
[NASA-CASE-LEW-12441-3] c 44 N81-24519
- Thermochemical generation of hydrogen  
[NASA-CASE-NPO-15015-1] c 25 N82-28368
- Heat pipes containing alkali metal working fluid  
[NASA-CASE-LEW-12253-1] c 74 N83-19596
- Automatic thermal switch --- spacecraft applications  
[NASA-CASE-GSC-12553-1] c 34 N83-28356
- Heat pipe thermal switch  
[NASA-CASE-GSC-12812-1] c 34 N83-35307
- Tip cap for a rotor blade  
[NASA-CASE-LEW-13654-1] c 07 N84-22560
- Heat pipes to reduce engine exhaust emissions  
[NASA-CASE-LEW-12590-1] c 37 N84-22958
- High thermal power density heat transfer apparatus providing electrical isolation at high temperature using heat pipes  
[NASA-CASE-LEW-12950-2] c 34 N85-29179
- Monogroove heat pipe design: Insulated liquid channel with bridging wick  
[NASA-CASE-MSC-20497-1] c 34 N85-29180
- Pumped two-phase heat transfer loop  
[NASA-CASE-MSC-20841-1] c 34 N87-22950
- Pumped two-phase heat transfer loop  
[NASA-CASE-MSC-20841-2] c 34 N88-23958
- Method and apparatus for growing crystals  
[NASA-CASE-MFS-28137-1] c 76 N88-24544
- HEAT TRANSMISSION**
- Heat flow calorimeter --- measures output of Ni-Cd batteries  
[NASA-CASE-GSC-11434-1] c 34 N74-27859
- Protected isotope heat source --- for atmospheric reentry protection and heat transmission to spacecraft  
[NASA-CASE-LEW-11227-1] c 73 N75-30876
- Heat transparent high intensity high efficiency solar cell  
[NASA-CASE-LEW-12892-1] c 44 N83-14692
- HEAT TREATMENT**
- High-speed infrared furnace  
[NASA-CASE-XLE-10466] c 17 N69-25147
- Heat shield oven  
[NASA-CASE-XMS-04318] c 15 N69-27871
- Method for molding compounds Patent  
[NASA-CASE-XLA-01091] c 15 N71-10672
- Method of producing refractory bodies having controlled porosity Patent  
[NASA-CASE-LEW-10393-1] c 17 N71-15468
- Inorganic thermal control pigment Patent  
[NASA-CASE-XNP-02139] c 18 N71-24184
- Thermal compression bonding of interconnectors  
[NASA-CASE-GSC-10303] c 15 N72-22487
- Method of heat treating a formed powder product material  
[NASA-CASE-LEW-10805-3] c 26 N74-10521
- Diffusion welding --- heat treatment of nickel alloys following single step vacuum welding process  
[NASA-CASE-LEW-11388-2] c 37 N74-21055
- Heat sterilizable patient ventilator  
[NASA-CASE-NPO-13313-1] c 54 N75-27761
- Method of heat treating age-hardenable alloys  
[NASA-CASE-XNP-01311] c 26 N75-29236
- Method for detecting pollutants --- through chemical reactions and heat treatment  
[NASA-CASE-LAR-11405-1] c 45 N76-31714
- Method of producing complex aluminum alloy parts of high temper, and products thereof  
[NASA-CASE-MSC-19693-1] c 26 N78-24333
- Bakeable McLeod gauge  
[NASA-CASE-XGS-01293-1] c 35 N79-33450
- Heat treat fixture and method of heat treating  
[NASA-CASE-LAR-11821-1] c 26 N80-28492
- Active hold-down for heat treating  
[NASA-CASE-NPO-16892-1-CU] c 37 N87-14704
- Heat treatment for superalloy  
[NASA-CASE-LEW-14262-1] c 26 N87-28647
- Method of preparing fiber reinforced ceramic material  
[NASA-CASE-LEW-14392-1] c 27 N87-28656
- Cellular thermosetting fluoropolymers and process for making them  
[NASA-CASE-GSC-13008-1] c 27 N88-23894
- HEATERS**
- Inherent redundancy electric heater  
[NASA-CASE-MFS-21462-1] c 33 N74-14935
- HEATING**
- System for preconditioning a combustible vapor  
[NASA-CASE-NPO-12072] c 28 N72-22772
- Diffusion welding in air --- solid state welding of butt joint by fusion welding, surface cleaning, and heating  
[NASA-CASE-LEW-11387-1] c 37 N74-18128
- Heating and cooling system --- for fatigue test specimens  
[NASA-CASE-LAR-12393-1] c 34 N83-34221
- Low gravity exothermic heating/cooling apparatus  
[NASA-CASE-MSC-25707-1] c 35 N85-29214
- Method for improving the fuel efficiency of a gas turbine engine  
[NASA-CASE-LEW-13142-2] c 07 N86-20389
- Acoustic convective system  
[NASA-CASE-NPO-17278-1-CU] c 31 N88-24818
- Thermocouple for heating and cooling of memory metal actuators  
[NASA-CASE-NPO-17068-1-CU] c 35 N88-29151
- Furnace for tensile/fatigue testing  
[NASA-CASE-LEW-14848-1] c 14 N89-28549
- HEATING EQUIPMENT**
- Method and apparatus for controllably heating fluid Patent  
[NASA-CASE-XMF-04237] c 33 N71-16278
- Electric arc apparatus Patent  
[NASA-CASE-XAC-01677] c 09 N71-20816
- Radial heat flux transducer  
[NASA-CASE-NPO-10828] c 33 N72-17948
- Self-cycling fluid heater  
[NASA-CASE-MSC-15567-1] c 33 N73-16918
- Portable heatable container  
[NASA-CASE-NPO-14237-1] c 44 N80-20808
- Glass heating panels and method for preparing the same from architectural reflective glass  
[NASA-CASE-NPO-15753-1] c 27 N84-33589
- Precision manipulator heating and cooling apparatus for use in UHV systems with sample transfer capability  
[NASA-CASE-LAR-13040-1] c 37 N85-29286
- Active control of boundary layer transition and turbulence  
[NASA-CASE-LAR-13532-1] c 34 N86-26575
- Spacecraft component heater control system  
[NASA-CASE-MFS-28327-1] c 18 N89-28556
- HEIGHT**
- Sidelooking laser altimeter for a flight simulator  
[NASA-CASE-ARC-11312-1] c 36 N83-34304
- HELICAL ANTENNAS**
- Weatherproof helix antenna Patent  
[NASA-CASE-XKS-08485] c 07 N71-19493
- Collapsible high gain antenna  
[NASA-CASE-KSC-10392] c 07 N73-26117
- HELICOPTER CONTROL**
- Helicopter anti-torque system using fuselage strakes  
[NASA-CASE-LAR-13630-1] c 08 N88-23809
- HELICOPTER DESIGN**
- Helicopter anti-torque system using fuselage strakes  
[NASA-CASE-LAR-13630-1] c 08 N88-23809
- HELICOPTER WAKES**
- Variable geometry rotor system  
[NASA-CASE-LAR-10557] c 02 N72-11018
- HELICOPTERS**
- Hingeless helicopter rotor with improved stability  
[NASA-CASE-ARC-10807-1] c 05 N77-17029
- Non-destructive method for applying and removing instrumentation on helicopter rotor blades  
[NASA-CASE-LAR-11201-1] c 35 N78-24515
- Constant lift rotor for a heavier than air craft  
[NASA-CASE-ARC-11045-1] c 05 N79-17847
- Shapes for rotating airfoils  
[NASA-CASE-LAR-12396-1] c 02 N84-28732
- Helicopter anti-torque system using strakes  
[NASA-CASE-LAR-13233-1] c 05 N84-33400
- Swashplate control system  
[NASA-CASE-ARC-11633-1] c 08 N87-23631
- High lift, low pitching moment airfoils  
[NASA-CASE-LAR-13215-1] c 02 N89-14224
- HELIOSTATS**
- Solar tracking system  
[NASA-CASE-MFS-23999-1] c 44 N81-24520
- HELIUM**
- Helium refining by superfluidity Patent  
[NASA-CASE-XNP-00733] c 06 N70-34946
- High pressure helium purifier Patent  
[NASA-CASE-XMF-06888] c 15 N71-24044
- Method and apparatus for generating coherent radiation in the ultra-violet region and above by use of distributed feedback  
[NASA-CASE-NPO-13346-1] c 36 N76-29575
- Cryostat system for temperatures on the order of 2 deg K or less  
[NASA-CASE-NPO-13459-1] c 31 N77-10229
- Thermal compensator for closed-cycle helium refrigerator --- assuring constant temperature for an infrared laser diode  
[NASA-CASE-GSC-12168-1] c 31 N79-17029
- Reciprocating magnetic refrigerator employing tandem porous matrices within a reciprocating displacer  
[NASA-CASE-NPO-16257-1] c 31 N85-29082
- HELIUM HYDROGEN ATMOSPHERES**
- Method and means for helium/hydrogen ratio measurement by alpha scattering  
[NASA-CASE-NPO-14079-1] c 25 N80-20334
- HELIUM IONS**
- Charge transfer reaction laser with preionization means  
[NASA-CASE-NPO-13945-1] c 36 N78-27402
- HELIUM-NEON LASERS**
- Laser communication system for controlling several functions at a location remote to the laser  
[NASA-CASE-LAR-10311-1] c 16 N73-16536
- Direction sensitive laser velocimeter --- determining the direction of particles using a helium-neon laser  
[NASA-CASE-LAR-12177-1] c 36 N81-24422

HELMETS

- Helmet assembly and latch means therefor Patent  
[NASA-CASE-XMS-04935] c 05 N71-11190
- Electrode construction Patent  
[NASA-CASE-ARC-10043-1] c 05 N71-11193
- Venting device for pressurized space suit helmet Patent  
[NASA-CASE-XMS-09652-1] c 05 N71-26333
- Helmet latching and attaching ring  
[NASA-CASE-XMS-04670] c 54 N78-17678
- Protective garment ventilation system  
[NASA-CASE-XMS-04928] c 54 N78-17679
- Helmet feedport  
[NASA-CASE-XMS-09653] c 54 N78-17680
- Emergency space-suit helmet  
[NASA-CASE-MS-10954-1] c 54 N78-18761
- Helmet weight simulator  
[NASA-CASE-LAR-12320-1] c 54 N81-27806

HELMHOLTZ RESONATORS

- Acoustic ground impedance meter  
[NASA-CASE-LAR-12995-1] c 35 N84-22933

HEMISPHERICAL SHELLS

- Anti-glare improvement for optical imaging systems Patent  
[NASA-CASE-NPO-10337] c 14 N71-15604

HERMETIC SEALS

- Line cutter Patent  
[NASA-CASE-XMS-04072] c 15 N70-42017
- Hermetically sealed explosive release mechanism Patent  
[NASA-CASE-XGS-00824] c 15 N71-16078
- Traveling sealer for contoured table Patent  
[NASA-CASE-XLA-01494] c 15 N71-24164
- Method for detecting leaks in hermetically sealed containers Patent  
[NASA-CASE-ERC-10045] c 15 N71-24910
- Hermetic sealed vibration damper Patent  
[NASA-CASE-MS-10959] c 15 N71-26243
- Method of forming ceramic to metal seal Patent  
[NASA-CASE-XNP-01263-2] c 15 N71-26312
- Pressure seal Patent  
[NASA-CASE-NPO-10796] c 15 N71-27068
- Tube sealing device Patent  
[NASA-CASE-NPO-10431] c 15 N71-29132
- Hermetically sealed elbow actuator  
[NASA-CASE-MFS-14710] c 09 N72-22195
- Heat transfer device  
[NASA-CASE-NPO-11120-1] c 34 N74-18552
- Device for tensioning test specimens within an hermetically sealed chamber  
[NASA-CASE-MFS-23281-1] c 35 N77-22450
- Cooling system for removing metabolic heat from an hermetically sealed spacesuit  
[NASA-CASE-ARC-11059-1] c 54 N78-32721
- Hermetic seal for a shaft  
[NASA-CASE-NPO-15115-1] c 37 N82-24493
- Method for forming hermetic seals  
[NASA-CASE-NPO-16423-1-CU] c 37 N87-21334
- Hermetically sealable package for hybrid solid-state electronic devices and the like  
[NASA-CASE-MS-20181-1] c 33 N88-23941

HEXAGONS

- Hexagon solar power panel  
[NASA-CASE-NPO-12148-1] c 44 N78-27515

HEXAMETHYLENETETRAMINE

- Structural wood panels with improved fire resistance  
[NASA-CASE-ARC-11174-1] c 24 N81-13999

HEXOKINASE

- Use of the enzyme hexokinase for the reduction of inherent light levels  
[NASA-CASE-XGS-05533] c 04 N69-27487

HIGH ACCELERATION

- Universal pilot restraint suit and body support therefor Patent  
[NASA-CASE-XAC-00405] c 05 N70-41819
- High acceleration cable deployment system  
[NASA-CASE-ARC-11256-1] c 15 N82-24272

HIGH ALTITUDE

- Balanced bellows spirometer  
[NASA-CASE-XAR-01547] c 05 N69-21473
- Sun sensing guidance system for high altitude aircraft  
[NASA-CASE-FRC-11052-1] c 04 N82-23231

HIGH ALTITUDE BALLOONS

- Thin film strain transducer  
[NASA-CASE-WLP-10055-1] c 35 N84-28015
- Thin film strain transducer --- suitable for in-flight measurement of scientific balloon strain  
[NASA-CASE-WLP-10055-2] c 35 N85-21598

HIGH ALTITUDE ENVIRONMENTS

- Method of making a solid propellant rocket motor Patent  
[NASA-CASE-XLA-04126] c 28 N71-26779

HIGH ASPECT RATIO

- Landing arrangement for aerial vehicles Patent  
[NASA-CASE-XLA-00142] c 02 N70-33286

- Landing arrangement for aerial vehicle Patent  
[NASA-CASE-XLA-00806] c 02 N70-34858
- Means for controlling aerodynamically induced twist  
[NASA-CASE-LAR-12175-1] c 05 N82-28279

HIGH FREQUENCIES

- Apparatus for ballasting high frequency transistors  
[NASA-CASE-XGS-05003] c 09 N69-24318
- Holder for crystal resonators Patent  
[NASA-CASE-XNP-03637] c 15 N71-21311
- Multiple varactor frequency doubler Patent  
[NASA-CASE-XMF-04958-1] c 10 N71-26414
- Filtering technique based on high-frequency plant modeling for high-gain control  
[NASA-CASE-LAR-12215-1] c 08 N79-23097
- Method of and apparatus for double-exposure holographic interferometry  
[NASA-CASE-MFS-25405-1] c 35 N84-22929
- JFET reflection oscillator  
[NASA-CASE-GSC-12555-1] c 33 N86-19515

HIGH GAIN

- Filtering technique based on high-frequency plant modeling for high-gain control  
[NASA-CASE-LAR-12215-1] c 08 N79-23097

HIGH PASS FILTERS

- Radio frequency coaxial high pass filter Patent  
[NASA-CASE-XGS-01418] c 09 N71-23573

HIGH POLYMERS

- Variable stiffness polymeric damper  
[NASA-CASE-XAC-11225] c 14 N69-27486

HIGH POWER LASERS

- Large volume multiple-path nuclear pumped laser  
[NASA-CASE-LAR-12592-1] c 36 N82-13415
- Pulse switching for high energy lasers  
[NASA-CASE-NPO-14556-1] c 33 N82-24418
- High power metallic halide laser --- amplifying a copper chloride laser  
[NASA-CASE-NPO-14782-1] c 36 N82-28616
- Solar pumped laser  
[NASA-CASE-LAR-12870-1] c 36 N84-16542

HIGH PRESSURE

- High-temperature, high-pressure spherical segment valve Patent  
[NASA-CASE-XAC-00074] c 15 N70-34817
- High pressure four-way valve Patent  
[NASA-CASE-XNP-00214] c 15 N70-36908
- High pressure filter Patent  
[NASA-CASE-XNP-00732] c 28 N70-41447
- Antiflutter ball check valve Patent  
[NASA-CASE-XNP-01152] c 15 N70-41811
- Liquid flow sight assembly Patent  
[NASA-CASE-XLE-02998] c 14 N70-42074
- High pressure regulator valve Patent  
[NASA-CASE-XNP-00710] c 15 N71-10778
- Hypersonic test facility Patent  
[NASA-CASE-XLA-00378] c 11 N71-15925
- High pressure air valve Patent  
[NASA-CASE-MS-11010] c 15 N71-19485
- Valve seat with resilient support member Patent  
[NASA-CASE-XKS-02582] c 15 N71-21234
- High pressure helium purifier Patent  
[NASA-CASE-XMF-06888] c 15 N71-24044
- Liquid aerosol dispenser  
[NASA-CASE-MFS-20829] c 12 N72-21310
- Gas compression apparatus  
[NASA-CASE-MS-14757-1] c 35 N78-10428
- Purging means and method for Xenon arc lamps  
[NASA-CASE-NPO-11978] c 31 N78-17238
- Shaft seal assembly for high speed and high pressure applications  
[NASA-CASE-LEW-11873-1] c 37 N79-22475
- Surface conforming thermal/pressure seal --- tail assemblies of space shuttle orbiters  
[NASA-CASE-MS-18422-1] c 37 N82-16408
- Damping seal for turbomachinery  
[NASA-CASE-MFS-25842-2] c 37 N86-20788
- High-temperature, high-pressure optical cell  
[NASA-CASE-MFS-26000-1] c 74 N87-14971
- Ultrasonic depth gauge for liquids under high pressure  
[NASA-CASE-LAR-13300-1-CU] c 35 N89-14407

HIGH RESOLUTION

- High pulse rate high resolution optical radar system  
[NASA-CASE-NPO-11426] c 07 N73-26119
- High resolution Fourier interferometer-spectrophotopolarimeter  
[NASA-CASE-NPO-13604-1] c 35 N76-31490
- High resolution threshold photoelectron spectroscopy by electron attachment  
[NASA-CASE-NPO-14078-1] c 72 N80-14877
- Interferometer --- high resolution  
[NASA-CASE-NPO-14448-1] c 74 N81-29963
- High speed multi focal plane optical system  
[NASA-CASE-GSC-12683-1] c 74 N83-36898
- Correlation spectrometer having high resolution and multiplexing capability  
[NASA-CASE-NPO-15558-1] c 35 N84-34705

HIGH SPEED

- Balanced bellows spirometer  
[NASA-CASE-XAR-01547] c 05 N69-21473
- High speed low level electrical stepping switch Patent  
[NASA-CASE-XAC-00060] c 09 N70-39915
- Impact testing machine Patent  
[NASA-CASE-XNP-04817] c 14 N71-23225
- Traversing probe Patent  
[NASA-CASE-XFR-02007] c 12 N71-24692
- High speed rolling element bearing  
[NASA-CASE-LEW-10856-1] c 15 N72-22490
- Two stage light gas-plasma projectile accelerator  
[NASA-CASE-MFS-22287-1] c 75 N76-14931
- Selective data segment monitoring system --- using shift registers  
[NASA-CASE-ARC-10899-1] c 60 N77-19760
- Shaft seal assembly for high speed and high pressure applications  
[NASA-CASE-LEW-11873-1] c 37 N79-22475
- High speed multi focal plane optical system  
[NASA-CASE-GSC-12683-1] c 74 N83-36898
- Pressure measuring probe  
[NASA-CASE-LAR-13853-1] c 35 N89-14423

HIGH SPEED CAMERAS

- Electrically-operated rotary shutter Patent  
[NASA-CASE-XNP-00637] c 14 N70-40273

HIGH STRENGTH

- Method of making fiber composites  
[NASA-CASE-LEW-10424-2-2] c 18 N72-25539
- High resistance and raised modulus carbon fibers  
[NASA-TM-76884] c 24 N85-25436

HIGH STRENGTH ALLOYS

- High temperature cobalt-base alloy Patent  
[NASA-CASE-XLE-00726] c 17 N71-15644
- Low temperature aluminum alloy Patent  
[NASA-CASE-XMF-02786] c 17 N71-20743
- Method of producing refractory composites containing tantalum carbide, hafnium carbide, and hafnium boride Patent  
[NASA-CASE-XLE-03940] c 18 N71-26153
- Nickel base alloy  
[NASA-CASE-LEW-10874-1] c 17 N72-22535
- Cobalt-base alloy  
[NASA-CASE-LEW-10436-1] c 17 N73-32415
- High toughness-high strength iron alloy  
[NASA-CASE-LEW-12542-3] c 26 N80-32484

HIGH STRENGTH STEELS

- Prevention of hydrogen embrittlement of high strength steel by hydrazine compositions --- by adding potassium hydroxide to hydrazine  
[NASA-CASE-NPO-12122-1] c 24 N76-14203
- Process for making a high toughness-high strength iron alloy  
[NASA-CASE-LEW-12542-2] c 26 N79-22271

HIGH TEMPERATURE

- High temperature heat source Patent  
[NASA-CASE-XLE-00490] c 33 N70-34545
- Thermionic diode switch Patent  
[NASA-CASE-NPO-10404] c 03 N71-12255
- Hypersonic test facility Patent  
[NASA-CASE-XLA-00378] c 11 N71-15925
- Method for fiberizing ceramic materials Patent  
[NASA-CASE-XNP-00597] c 18 N71-23088
- Induction furnace with perforated tungsten foil shielding Patent  
[NASA-CASE-XLE-04026] c 14 N71-23267
- Method of forming ceramic to metal seal Patent  
[NASA-CASE-XNP-01263-2] c 15 N71-26312
- Method of making fiber composites  
[NASA-CASE-LEW-10424-2-2] c 18 N72-25539
- Method of forming superalloys  
[NASA-CASE-LEW-10805-1] c 15 N73-13461
- High temperature beryllium oxide capacitor  
[NASA-CASE-LEW-11938-1] c 33 N76-15371
- Low to high temperature energy conversion system  
[NASA-CASE-NPO-13510-1] c 44 N77-3258
- Thermocouples of molybdenum and iridium alloys for more stable vacuum-high temperature performance  
[NASA-CASE-LEW-12174-2] c 35 N79-14346
- High thermal power density heat transfer --- thermionic converters  
[NASA-CASE-LEW-12950-1] c 34 N82-11399
- Overlay metallic-cermet alloy coating systems  
[NASA-CASE-LEW-13639-1] c 26 N84-33551
- Chemical approach for controlling nadimide cure temperature and rate  
[NASA-CASE-LEW-13770-5] c 27 N85-21352
- Multistage spent particle collector and a method for making same  
[NASA-CASE-LEW-13914-1] c 37 N85-33489
- Negative electrode catalyst for the iron chromium redox energy storage system  
[NASA-CASE-LEW-14028-1] c 44 N86-1972
- High-temperature, high-pressure optical cell  
[NASA-CASE-MFS-26000-1] c 74 N87-1497

- Method of making a flexible diaphragm  
[NASA-CASE-MSC-20797-1] c 37 N87-23981
- High temperature flexible seal  
[NASA-CASE-LEW-14695-1] c 37 N89-28830
- HIGH TEMPERATURE AIR**  
Apparatus and method for generating large mass flow of high temperature air at hypersonic speeds  
[NASA-CASE-LAR-10612-1] c 12 N73-28144
- HIGH TEMPERATURE ENVIRONMENTS**  
High-speed infrared furnace  
[NASA-CASE-XLE-10466] c 17 N69-25147
- Nickel-base alloy Patent  
[NASA-CASE-XLE-00283] c 17 N70-36616
- Strain sensor for high temperatures Patent  
[NASA-CASE-XNP-09205] c 14 N71-17657
- Trielectrode capacitive pressure transducer  
[NASA-CASE-ARC-10711-2] c 33 N76-21390
- Integrated structure vacuum tube  
[NASA-CASE-ARC-10445-1] c 31 N76-31365
- Installing fiber insulation  
[NASA-CASE-MSC-16973-1] c 37 N81-14317
- Corrosion resistant thermal barrier coating --- protecting gas turbines and other engine parts  
[NASA-CASE-LEW-13088-1] c 26 N81-25188
- High temperature penetrator assembly with bayonet plug and ramp-activated lock  
[NASA-CASE-MSC-18526-1] c 37 N82-24494
- Fully plasma-sprayed compliant backed ceramic turbine seal  
[NASA-CASE-LEW-13268-1] c 27 N82-29453
- Heat pipe cooled probe  
[NASA-CASE-LAR-12588-1] c 34 N85-21568
- Thermal barrier coating system  
[NASA-CASE-LEW-14057-1] c 24 N85-35233
- HIGH TEMPERATURE FLUIDS**  
Self-cycling fluid heater  
[NASA-CASE-MSC-15567-1] c 33 N73-16918
- High-temperature microphone system --- for measuring pressure fluctuations in gases at high temperature  
[NASA-CASE-LAR-12375-1] c 32 N79-24203
- HIGH TEMPERATURE GASES**  
Instrument for the quantitative measurement of radiation at multiple wave lengths Patent  
[NASA-CASE-XLE-00011] c 14 N70-41946
- Ablative resin Patent  
[NASA-CASE-XLE-05913] c 33 N71-14032
- Transient heat transfer gauge Patent  
[NASA-CASE-XNP-09802] c 33 N71-15641
- Apparatus and method for generating large mass flow of high temperature air at hypersonic speeds  
[NASA-CASE-LAR-10578-1] c 12 N73-25262
- Isotope separation using metallic vapor lasers  
[NASA-CASE-NPO-13550-1] c 36 N77-26477
- Start up system for hydrogen generator used with an internal combustion engine  
[NASA-CASE-NPO-13849-1] c 28 N80-10374
- Free-piston regenerative hot gas hydraulic engine  
[NASA-CASE-LEW-12274-1] c 37 N80-31790
- Hot gas engine with dual crankshafts  
[NASA-CASE-NPO-14221-1] c 37 N81-25370
- Curved film cooling admission tube  
[NASA-CASE-LEW-13174-1] c 34 N83-27144
- HIGH TEMPERATURE LUBRICANTS**  
Method of making self lubricating fluoride-metal composite materials Patent  
[NASA-CASE-XLE-08511-2] c 18 N71-16105
- Self-lubricating fluoride metal composite materials Patent  
[NASA-CASE-XLE-08511] c 18 N71-23710
- Method of making bearing materials --- self-lubricating, oxidation resistant composites for high temperature applications  
[NASA-CASE-LEW-11930-4] c 24 N79-17916
- HIGH TEMPERATURE PLASMAS**  
Method and apparatus for producing a plasma Patent  
[NASA-CASE-XLA-00147] c 25 N70-34661
- HIGH TEMPERATURE PROPELLANTS**  
Feed system for an ion thruster  
[NASA-CASE-NPO-10737] c 28 N72-11709
- HIGH TEMPERATURE RESEARCH**  
Gas cooled high temperature thermocouple Patent  
[NASA-CASE-XLE-09475-1] c 33 N71-15568
- Light shield and infrared reflector for fatigue testing Patent  
[NASA-CASE-XLA-01782] c 14 N71-26136
- High temperature oxidation resistant cermet compositions  
[NASA-CASE-NPO-13666-1] c 27 N77-13217
- HIGH TEMPERATURE TESTS**  
High-temperature, high-pressure spherical segment valve Patent  
[NASA-CASE-XAC-00074] c 15 N70-34817
- High temperature testing apparatus Patent  
[NASA-CASE-XLE-00335] c 14 N70-35368
- Apparatus for positioning and loading a test specimen Patent  
[NASA-CASE-XLE-01300] c 15 N70-41993
- Containerless high temperature calorimeter apparatus  
[NASA-CASE-MFS-23923-1] c 35 N81-19426
- Heating and cooling system --- for fatigue test specimens  
[NASA-CASE-LAR-12393-1] c 34 N83-34221
- HIGH VACUUM**  
Sealing device for an electrochemical cell Patent  
[NASA-CASE-XGS-02630] c 03 N71-22974
- Vacuum evaporator with electromagnetic ion steering Patent  
[NASA-CASE-NPO-10331] c 09 N71-26701
- Apparatus for absolute pressure measurement  
[NASA-CASE-LAR-10000] c 14 N73-30394
- Plasma cleaning device --- designed for high vacuum environments  
[NASA-CASE-MFS-22906-1] c 75 N78-27913
- HIGH VACUUM ORBITAL SIMULATOR**  
Space environmental work simulator Patent  
[NASA-CASE-MSC-07488] c 11 N71-18773
- HIGH VOLTAGES**  
Electrode and insulator with shielded dielectric junction  
[NASA-CASE-XLE-03778] c 09 N69-21542
- High-voltage cable Patent  
[NASA-CASE-XNP-00738] c 09 N70-38201
- High voltage pulse generator Patent  
[NASA-CASE-MSC-12178-1] c 09 N71-13518
- High voltage transistor circuit Patent  
[NASA-CASE-XNP-06937] c 09 N71-19516
- High voltage divider system Patent  
[NASA-CASE-XLE-02008] c 09 N71-21583
- High voltage distributor  
[NASA-CASE-GSC-11849-1] c 33 N76-16332
- Sustained arc ignition system  
[NASA-CASE-LEW-12444-1] c 33 N77-28385
- High voltage planar multijunction solar cell  
[NASA-CASE-LEW-13400-1] c 44 N82-31764
- Electronic system for high power load control --- solar arrays  
[NASA-CASE-NPO-15358-1] c 33 N83-27126
- High voltage v-groove solar cell  
[NASA-CASE-LEW-13401-2] c 44 N83-32177
- High voltage isolation transformer  
[NASA-CASE-GSC-12817-1] c 33 N85-29146
- High voltage power supply  
[NASA-CASE-GSC-12818-1] c 33 N85-29147
- HIGHWAYS**  
Traffic survey system --- using optical scanners  
[NASA-CASE-MSC-22631-1] c 66 N76-19888
- HINGES**  
Foldable beam  
[NASA-CASE-LAR-12077-1] c 31 N81-25259
- Joint for deployable structures  
[NASA-CASE-NPO-16038-1] c 37 N86-19605
- Synchronously deployable double fold beam and planar truss structure  
[NASA-CASE-LAR-13490-1] c 18 N87-14413
- Locking hinge  
[NASA-CASE-MSC-21056-1] c 18 N88-23827
- Payload deployment method and system  
[NASA-CASE-MSC-21330-1] c 16 N88-24660
- Space station erectable manipulator placement system  
[NASA-CASE-MSC-21096-1] c 18 N89-12621
- HISTOGRAMS**  
Data compression system  
[NASA-CASE-XNP-09785] c 08 N69-21928
- HOLDERS**  
Water cooled contactor for anode in carbon arc mechanism  
[NASA-CASE-XMS-03700] c 15 N69-24266
- Quick disconnect latch and handle combination Patent  
[NASA-CASE-MFS-11132] c 15 N71-17649
- Holder for crystal resonators Patent  
[NASA-CASE-XNP-03637] c 15 N71-21311
- Adjustable force probe  
[NASA-CASE-MFS-20760] c 14 N72-33377
- Fifth wheel  
[NASA-CASE-FRC-10081-1] c 37 N77-14477
- Combined docking and grasping device  
[NASA-CASE-MFS-23088-1] c 37 N77-23483
- Plural output optometric sample cell and analysis system  
[NASA-CASE-NPO-10233-1] c 74 N78-33913
- Method and apparatus for holding two separate metal pieces together for welding  
[NASA-CASE-GSC-12318-1] c 37 N80-23655
- Head for high speed spinner having a vacuum chuck --- holding silicon dioxide chips for etching  
[NASA-CASE-NPO-15227-1] c 37 N81-33482
- Scriber for silicon wafers  
[NASA-CASE-NPO-15539-1] c 37 N82-11469
- Liquid immersion apparatus for minute articles  
[NASA-CASE-MFS-25363-1] c 37 N82-12441
- Spray coating apparatus having a rotatable workpiece holder  
[NASA-CASE-ARC-11110-1] c 37 N82-24492
- Compression test apparatus  
[NASA-CASE-MSC-18723-1] c 35 N83-21312
- Holding fixture for a hot stamping press  
[NASA-CASE-GSC-12619-1] c 37 N84-12491
- Hot melt recharge system --- repairing damaged or missing tiles on space shuttle orbiter  
[NASA-CASE-LAR-12881-1] c 27 N84-14323
- Method and apparatus for gripping uniaxial fibrous composite materials  
[NASA-CASE-LEW-13758-1] c 24 N84-27829
- Laboratory glassware rack for seismic safety  
[NASA-CASE-ARC-11422-1] c 35 N86-20751
- Apparatus and method for inspecting a bearing ball  
[NASA-CASE-MFS-25833-1] c 35 N86-32698
- Active hold-down for heat treating  
[NASA-CASE-NPO-16892-1-CU] c 37 N87-14704
- Apparatus for mounting a field emission cathode  
[NASA-CASE-LEW-14108-1] c 33 N87-28832
- Gripping device  
[NASA-CASE-MSC-21365-1] c 37 N89-12865
- HOLE DISTRIBUTION (MECHANICS)**  
Thermocouple installation  
[NASA-CASE-NPO-13540-1] c 35 N77-14409
- HOLE GEOMETRY (MECHANICS)**  
Device for measuring hole elongation in a bolted joint  
[NASA-CASE-LAR-13453-1] c 37 N88-14361
- HOLE MOBILITY**  
Depositing semiconductor films utilizing a thermal gradient  
[NASA-CASE-XKS-04614] c 15 N69-21460
- HOLES (MECHANICS)**  
Hole cutter --- drill bits and rotating shaft  
[NASA-CASE-MFS-22649-1] c 37 N75-25186
- Device for measuring hole elongation in a bolted joint  
[NASA-CASE-LAR-13453-1] c 37 N88-14361
- HOLLOW**  
Dual membrane hollow fiber fuel cell and method of operating same  
[NASA-CASE-NPO-13732-1] c 44 N79-10513
- HOLLOW CATHODES**  
Hydrogen hollow cathode ion source  
[NASA-CASE-LEW-12940-1] c 72 N80-33186
- Hollow cathode apparatus  
[NASA-CASE-NPO-15560-1] c 33 N85-21491
- HOLMIUM**  
Tm:Ho:YLF laser end-pumped by a semiconductor diode laser array  
[NASA-CASE-NPO-17282-1-CU] c 36 N89-12856
- HOLOGRAPHIC INTERFEROMETRY**  
Interferometric angle monitor  
[NASA-CASE-GSC-12614-1] c 74 N83-32577
- Method of and apparatus for double-exposure holographic interferometry  
[NASA-CASE-MFS-25405-1] c 35 N84-22929
- Dual wavelength holographic interferometry system  
[NASA-CASE-MFS-28242-1] c 35 N89-26202
- HOLOGRAPHY**  
Focused image holography with extended sources Patent  
[NASA-CASE-ERC-10019] c 16 N71-15551
- Hybrid holographic system using reflected and transmitted object beams simultaneously Patent  
[NASA-CASE-MFS-20074] c 16 N71-15565
- Recording and reconstructing focused image holograms Patent  
[NASA-CASE-ERC-10017] c 16 N71-15567
- Method and means for recording and reconstructing holograms without use of a reference beam Patent  
[NASA-CASE-ERC-10020] c 16 N71-26154
- Multiple image storing system for high speed projectile holography  
[NASA-CASE-MFS-20596] c 14 N72-17324
- Holographic thin film analyzer  
[NASA-CASE-MFS-20823-1] c 16 N73-30476
- Method and apparatus for checking the stability of a setup for making reflection type holograms  
[NASA-CASE-MFS-21455-1] c 35 N74-15146
- Real time moving scene holographic camera system  
[NASA-CASE-MFS-21087-1] c 35 N74-17153
- Holography utilizing surface plasmon resonances  
[NASA-CASE-MFS-22040-1] c 35 N74-26946
- Holographic system for nondestructive testing  
[NASA-CASE-MFS-21704-1] c 35 N75-25124
- Real time, large volume, moving scene holographic camera system  
[NASA-CASE-MFS-22537-1] c 35 N75-27328
- Holographic motion picture camera with Doppler shift compensation  
[NASA-CASE-MFS-22517-1] c 35 N76-18402

Optical process for producing classification maps from multispectral data  
[NASA-CASE-MSC-14472-1] c 43 N77-10584

**HOMING DEVICES**  
Location identification system  
[NASA-CASE-ERC-10324] c 07 N72-25173

**HONEYCOMB CORES**  
Method of making inflatable honeycomb Patent  
[NASA-CASE-XLA-03492] c 15 N71-22713  
Method of forming shapes from planar sheets of thermosetting materials  
[NASA-CASE-NPO-11036] c 15 N72-24522  
Honeycomb core structures of minimal surface tubule sections  
[NASA-CASE-ERC-10363] c 18 N72-25541

**HONEYCOMB STRUCTURES**  
Method for making a heat insulating and ablative structure  
[NASA-CASE-XMS-01108] c 15 N69-24322  
Inflatable honeycomb Patent  
[NASA-CASE-XLA-0204] c 32 N70-36536  
Fluid flow control valve Patent  
[NASA-CASE-XLE-00703] c 15 N71-15967  
Method and apparatus for making a heat insulating and ablative structure Patent  
[NASA-CASE-XMS-02009] c 33 N71-20834  
Honeycomb panel and method of making same Patent  
[NASA-CASE-XMF-01402] c 18 N71-21651  
Cryogenic thermal insulation Patent  
[NASA-CASE-XMF-05046] c 33 N71-28892  
Honeycomb panels formed of minimal surface periodic tubule layers  
[NASA-CASE-ERC-10364] c 18 N72-25540  
Bonding or repairing process  
[NASA-CASE-MSC-12357] c 15 N73-12489  
Insert facing tool --- manually operated cutting tool for forming studs in honeycomb material  
[NASA-CASE-MFS-21485-1] c 37 N74-25968  
Vacuum pressure molding technique  
[NASA-CASE-LAR-10073-1] c 37 N76-24575  
Honeycomb-laminate composite structure  
[NASA-CASE-ARC-10913-1] c 24 N78-15180  
Method of making a composite sandwich lattice structure  
[NASA-CASE-LAR-11898-2] c 24 N78-17149  
Low density bismaleimide-carbon microballoon composites  
[NASA-CASE-ARC-11040-1] c 24 N79-16915  
Ceramic honeycomb structures and the method thereof  
[NASA-CASE-ARC-11652-1] c 27 N87-23737

**HOOP COLUMN ANTENNAS**  
Latching mechanism for deployable/re-stowable columns useful in satellite construction  
[NASA-CASE-LAR-13169-1] c 37 N86-25791  
Antenna surface contour control system  
[NASA-CASE-LAR-13798-1] c 32 N89-25363

**HOPPERS**  
Energy efficient continuous flow ash lockhopper  
[NASA-CASE-NPO-16985-1-CU] c 31 N88-24814

**HORIZONTAL SCANNERS**  
Electromagnetic mirror drive system  
[NASA-CASE-XLA-03724] c 14 N69-27461  
Multi-lobar scan horizon sensor Patent  
[NASA-CASE-XGS-00809] c 21 N70-35427  
Attitude orientation of spin-stabilized space vehicles Patent  
[NASA-CASE-XLA-00281] c 21 N70-36943  
Amplifier clamping circuit for horizon scanner Patent  
[NASA-CASE-XGS-01784] c 10 N71-20782  
Horizon sensor with a plurality of fixedly positioned radiation compensated radiation sensitive detectors Patent  
[NASA-CASE-XNP-06957] c 14 N71-21088  
Infrared horizon locator  
[NASA-CASE-LAR-10726-1] c 14 N73-20475

**HORIZONTAL SPACECRAFT LANDING**  
Variable-geometry winged reentry vehicle Patent  
[NASA-CASE-XLA-00241] c 31 N70-37986

**HORIZONTAL TAIL SURFACES**  
Translating horizontal tail Patent  
[NASA-CASE-XLA-08801-1] c 02 N71-11043

**HORN ANTENNAS**  
Antenna beam-shaping apparatus Patent  
[NASA-CASE-XNP-00611] c 09 N70-35219  
Parabolic reflector horn feed with spillover correction Patent  
[NASA-CASE-XNP-00540] c 09 N70-35382  
Horn feed having overlapping apertures Patent  
[NASA-CASE-GSC-10452] c 07 N71-12396  
Dual mode horn antenna Patent  
[NASA-CASE-XNP-01057] c 07 N71-15907  
Multi-purpose antenna employing dish reflector with plural coaxial horn feeds  
[NASA-CASE-NPO-11264] c 07 N72-25174

Horn antenna having V-shaped corrugated slots  
[NASA-CASE-LAR-11112-1] c 32 N76-15330

Highly efficient antenna system using a corrugated horn and scanning hyperbolic reflector  
[NASA-CASE-NPO-13568-1] c 32 N76-21365

Reflex feed system for dual frequency antenna with frequency cutoff means  
[NASA-CASE-NPO-14022-1] c 32 N78-31321

Dual band combiner for horn antenna  
[NASA-CASE-NPO-14519-1] c 32 N80-23524

Collapsible corrugated horn antenna  
[NASA-CASE-LAR-11745-1] c 32 N80-29539

Multifrequency broadband polarized horn antenna  
[NASA-CASE-NPO-14588-1] c 32 N81-25278

**HOSSES**  
Self-contained, single-use hose and tubing cleaning module  
[NASA-CASE-MSC-20857-1] c 37 N87-17035

**HOT CATHODES**  
Ion thruster cathode  
[NASA-CASE-XLE-07087] c 06 N69-39889

**HOT CORROSION**  
Castable hot corrosion resistant alloy  
[NASA-CASE-LEW-14134-2] c 26 N89-14303

**HOT PRESSING**  
Method of making a cermet Patent  
[NASA-CASE-LEW-10219-1] c 18 N71-28729  
Holding fixture for a hot stamping press  
[NASA-CASE-GSC-12619-1] c 37 N84-12491

**HOT WORKING**  
Method for forming plastic materials Patent  
[NASA-CASE-XMS-05516] c 15 N71-17803

**HOT-FILM ANEMOMETERS**  
Crossflow vorticity sensor  
[NASA-CASE-LAR-13436-1-CU] c 02 N88-23759  
Method of forming a multiple layer dielectric and a hot film sensor therewith  
[NASA-CASE-LAR-13678-1] c 76 N88-25355

**HOT-WIRE ANEMOMETERS**  
Metallic hot wire anemometer --- for high speed wind tunnel tests  
[NASA-CASE-ARC-10911-1] c 35 N77-20400  
Method for making a hot wire anemometer and product thereof  
[NASA-CASE-ARC-10900-1] c 35 N77-24454

**HOT-WIRE FLOWMETERS**  
Hot wire liquid level detector for cryogenic fluids Patent  
[NASA-CASE-XLE-00454] c 23 N71-17802  
Flow separation detector  
[NASA-CASE-ARC-11046-1] c 35 N78-14364  
Hot foil transducer skin friction sensor  
[NASA-CASE-LAR-12321-1] c 35 N82-24470

**HOUSINGS**  
Sealed cabinetry Patent  
[NASA-CASE-MSC-12168-1] c 09 N71-18600  
Open type urine receptacle  
[NASA-CASE-MSC-12324-1] c 05 N72-22093  
Universal environment package with sectional component housing  
[NASA-CASE-KSC-10031] c 15 N72-22486  
Gas flow control device  
[NASA-CASE-NPO-11479] c 15 N73-13462  
Cryogenic gyroscope housing --- with annular disks for gas spin-up  
[NASA-CASE-MFS-21136-1] c 35 N74-18323  
Heat transfer device  
[NASA-CASE-NPO-11120-1] c 34 N74-18552  
Deformable bearing seat  
[NASA-CASE-LEW-12527-1] c 37 N77-32500  
Preloadable vector sensitive latch  
[NASA-CASE-MSC-20910-1] c 37 N87-25582

**HOVERING**  
Gravity stabilized flying vehicle Patent  
[NASA-CASE-MSC-12111-1] c 02 N71-11039

**HUBBLE SPACE TELESCOPE**  
System for the measurement of ultra-low stray light levels --- determining the adequacy of large space telescope systems  
[NASA-CASE-MFS-23513-1] c 74 N79-11865  
Orbital maneuvering end effectors  
[NASA-CASE-MFS-28161-1] c 37 N87-18817

**HUBS**  
Self-locking mechanical center joint  
[NASA-CASE-LAR-12864-1] c 37 N85-30336

**HUGENIOT EQUATION OF STATE**  
Determining particle density using known material Hugoniot curves  
[NASA-CASE-LAR-11059-1] c 76 N75-12810

**HULLS (STRUCTURES)**  
Hydrofoil Patent  
[NASA-CASE-XLA-00229] c 12 N70-33305

**HUMAN BEINGS**  
Skeletal stressing method and apparatus Patent  
[NASA-CASE-ARC-10100-1] c 05 N71-24738

Emergency escape system Patent  
[NASA-CASE-XKS-07814] c 15 N71-27067

**HUMAN BODY**  
Mass measuring system Patent  
[NASA-CASE-XMS-03371] c 05 N70-42000  
Biomedical electrode arrangement Patent  
[NASA-CASE-XFR-10856] c 05 N71-11189  
Garments for controlling the temperature of the body Patent  
[NASA-CASE-XMS-10269] c 05 N71-24147  
Tilting table for ergometer and for other biomedical devices  
[NASA-CASE-MFS-21010-1] c 05 N73-30078  
Method and system for in vivo measurement of bone tissue using a two level energy source  
[NASA-CASE-MSC-14276-1] c 52 N77-14737  
Circumferential pressure probe  
[NASA-CASE-LAR-13775-1] c 35 N89-14408

**HUMAN FACTORS ENGINEERING**  
Shock absorbing support and restraint means Patent  
[NASA-CASE-XMS-01240] c 05 N70-35152  
Harness assembly Patent  
[NASA-CASE-MFS-14671] c 05 N71-12341  
Multiple circuit switch apparatus with improved pivot actuator structure Patent  
[NASA-CASE-XAC-03777] c 10 N71-15909  
Three-axis finger tip controller for switches Patent  
[NASA-CASE-XAC-02405] c 09 N71-16089  
Extravehicular tunnel suit system Patent  
[NASA-CASE-MSC-12243-1] c 05 N71-24728  
EEG sleep analyzer and method of operation Patent  
[NASA-CASE-MSC-13282-1] c 05 N71-24729  
Spacesuit mobility joints  
[NASA-CASE-ARC-11058-1] c 54 N78-31735  
Spacesuit torso closure  
[NASA-CASE-ARC-11100-1] c 54 N78-31736  
Apparatus and method of inserting a microelectrode in body tissue or the like using vibration means  
[NASA-CASE-NPO-13910-1] c 52 N79-27836  
Locking mechanism for orthopedic braces  
[NASA-CASE-GSC-12082-2] c 52 N81-25661  
Urine collection apparatus --- feminine hygiene  
[NASA-CASE-MSC-18381-1] c 52 N81-28740  
Spectrally balanced chromatic landing approach lighting system  
[NASA-CASE-ARC-10990-1] c 04 N82-16059  
Thermal garment  
[NASA-CASE-XMS-03694-1] c 54 N82-29002  
Kinesimetric method and apparatus  
[NASA-CASE-MSC-18929-1] c 39 N83-20280  
Torso sizing ring construction for hard space suit  
[NASA-CASE-ARC-11616-1] c 54 N86-28618  
Shoulder and hip joint for hard space suits  
[NASA-CASE-ARC-11543-1] c 54 N86-28620  
Multi-adjustable headband --- for headsets  
[NASA-CASE-KSC-11322-1] c 54 N89-29953

**HUMAN PERFORMANCE**  
Color perception tester  
[NASA-CASE-KSC-10278] c 05 N72-16015

**HUMAN REACTIONS**  
Reaction tester  
[NASA-CASE-MSC-13604-1] c 05 N73-13114  
Visual accommodation trainer-tester  
[NASA-CASE-ARC-11426-2] c 52 N89-16256

**HUMAN WASTES**  
Reduced gravity fecal collector seat and urinal  
[NASA-CASE-MFS-22102-1] c 54 N74-20725  
Automatic biowaste sampling  
[NASA-CASE-MSC-14640-1] c 54 N76-14804  
Absorbent product to absorb fluids --- for collection of human wastes  
[NASA-CASE-MSC-18223-1] c 24 N82-29362  
Absorbent product and articles made therefrom  
[NASA-CASE-MSC-18223-2] c 54 N84-11758

**HUMIDITY**  
Passive intrusion detection system  
[NASA-CASE-NPO-13804-1] c 33 N80-23559  
Apparatus for supplying conditioned air at a substantially constant temperature and humidity  
[NASA-CASE-GSC-12191-1] c 31 N80-32583

**HUMIDITY MEASUREMENT**  
Water-absorbing capacitor system for measuring relative humidity  
[NASA-CASE-NPO-16544-1-CU] c 35 N87-22953

**HYBRID CIRCUITS**  
Integrating IR detector imaging systems  
[NASA-CASE-NPO-15805-1] c 74 N84-28590  
Hybrid power semiconductor  
[NASA-CASE-LEW-13922-1] c 33 N86-20672  
Hermetically sealable package for hybrid solid-state electronic devices and the like  
[NASA-CASE-MSC-20181-1] c 33 N88-23941

**HYBRID COMPUTERS**  
Adaptive voting computer system  
[NASA-CASE-MSC-13932-1] c 62 N74-14920

**HYBRID PROPELLANTS**

Solid propellant liner Patent  
[NASA-CASE-XNP-09744] c 27 N71-16392

**HYDRAULIC CONTROL**

Shear modulated fluid amplifier Patent  
[NASA-CASE-MFS-10412] c 12 N71-17578  
Multiple orifice throttle valve Patent  
[NASA-CASE-XNP-09698] c 15 N71-18580  
Fluidic-thermochromic display device Patent  
[NASA-CASE-ERC-10031] c 12 N71-18603  
Hydraulic transformer Patent  
[NASA-CASE-MFS-20830] c 15 N71-30028  
Hydraulic drain means for servo-systems  
[NASA-CASE-NPO-10316-1] c 37 N77-22479

**HYDRAULIC EQUIPMENT**

Support apparatus for dynamic testing Patent  
[NASA-CASE-XMF-01772] c 11 N70-41677  
Hydraulic support for dynamic testing Patent  
[NASA-CASE-XMF-03248] c 11 N71-10604  
Hydraulic drive mechanism Patent  
[NASA-CASE-XMS-03252] c 15 N71-10658  
Anti-backlash circuit for hydraulic drive system Patent  
[NASA-CASE-XNP-01020] c 03 N71-12260  
Hydraulic grip Patent  
[NASA-CASE-XLA-05100] c 15 N71-17696  
Shock absorber Patent  
[NASA-CASE-XMS-03722] c 15 N71-21530  
Hydraulic casting of liquid polymers Patent  
[NASA-CASE-XNP-07659] c 06 N71-22975  
Energy limiter for hydraulic actuators Patent  
[NASA-CASE-ARC-10131-1] c 15 N71-27754  
Mechanically limited, electrically operated hydraulic valve system for aircraft controls Patent  
[NASA-CASE-XAC-00048] c 02 N71-29128  
Hydraulic transformer Patent  
[NASA-CASE-MFS-20830] c 15 N71-30028  
Mechanically extendible telescoping boom  
[NASA-CASE-NPO-11118] c 03 N72-25021  
Geysering inhibitor for vertical cryogenic transfer pipe  
[NASA-CASE-KSC-10615] c 15 N73-12486  
Redundant hydraulic control system for actuators  
[NASA-CASE-MFS-20944] c 15 N73-13466  
Combined pressure regulator and shutoff valve  
[NASA-CASE-NPO-13201-1] c 37 N75-15050  
Ultrasonically bonded valve assembly  
[NASA-CASE-NPO-13360-1] c 37 N75-25185  
Filter regeneration systems --- a system for regenerating a system filter in a fluid flow line  
[NASA-CASE-MS-C-14273-1] c 34 N75-33342  
Quick disconnect filter coupling  
[NASA-CASE-MFS-22323-1] c 37 N76-14463  
Actuator device for artificial leg  
[NASA-CASE-MFS-23225-1] c 52 N77-14735  
Phase-angle controller for Stirling engines  
[NASA-CASE-NPO-14388-1] c 37 N81-17432  
Underground mineral extraction  
[NASA-CASE-NPO-14140-1] c 43 N81-26509  
Gas-to-hydraulic power converter  
[NASA-CASE-MS-C-18794-1] c 44 N83-14693  
Tubing and cable cutting tool  
[NASA-CASE-LAR-12786-1] c 37 N84-28085  
Personnel emergency carrier vehicle  
[NASA-CASE-KSC-11282-1] c 85 N87-21755  
Fatigue testing a plurality of test specimens and method  
[NASA-CASE-MFS-28118-1] c 39 N87-25601  
Control surface actuator  
[NASA-CASE-LAR-12852-1] c 05 N89-11738  
Passively activated prehensile digit for a robotic end effector  
[NASA-CASE-NPO-16766-1-CU] c 37 N89-13785

**HYDRAULIC FLUIDS**

Free-piston regenerative hot gas hydraulic engine  
[NASA-CASE-LEW-12274-1] c 37 N80-31790

**HYDRAULIC JETS**

Warm fog dissipation using large volume water sprays  
[NASA-CASE-MFS-25962-1] c 09 N89-25242

**HYDRAZINE ENGINES**

Reciprocating engines  
[NASA-CASE-MS-C-16239-1] c 37 N81-32510

**HYDRAZINE NITROFORM**

Hydrazinium nitroformate propellant with saturated polymeric hydrocarbon binder  
[NASA-CASE-NPO-12015] c 27 N73-16764

**HYDRAZINES**

Ignition means for monopropellant Patent  
[NASA-CASE-XNP-00876] c 28 N70-41311  
Solder flux which leaves corrosion-resistant coating Patent  
[NASA-CASE-XNP-03459-2] c 18 N71-15688  
Prevention of hydrogen embrittlement of high strength steel by hydrazine compositions --- by adding potassium hydroxide to hydrazine  
[NASA-CASE-NPO-12122-1] c 24 N76-14203

**HYDRIDES**

Ten degree Kelvin hydride refrigerator  
[NASA-CASE-NPO-16393-1-CU] c 31 N87-21159

**HYDROCARBON COMBUSTION**

In-situ laser retorting of oil shale  
[NASA-CASE-LEW-12217-1] c 43 N78-14452

**HYDROCARBON FUEL PRODUCTION**

Molten salt pyrolysis of latex --- synthetic hydrocarbon fuel production using the Guayule shrub  
[NASA-CASE-NPO-14315-1] c 27 N81-17261

**HYDROCARBON FUELS**

Apparatus for making a metal slurry product Patent  
[NASA-CASE-XLE-00010] c 15 N70-33382  
Hydrogen rich gas generator  
[NASA-CASE-NPO-13342-2] c 44 N76-29700  
Hydrogen rich gas generator  
[NASA-CASE-NPO-13464-2] c 44 N76-29704  
Dual-fuel, dual-mode rocket engine  
[NASA-CASE-LAR-13773-1] c 20 N88-24685

**HYDROCARBONS**

Hydrazinium nitroformate propellant with saturated polymeric hydrocarbon binder  
[NASA-CASE-NPO-12015] c 27 N73-16764  
Hydrogen rich gas generator  
[NASA-CASE-NPO-13342-1] c 37 N76-16446  
Combustion engine --- for air pollution control  
[NASA-CASE-NPO-13671-1] c 37 N77-31497  
Curable liquid hydrocarbon prepolymers containing hydroxyl groups and process for producing same  
[NASA-CASE-NPO-13137-1] c 27 N80-32514  
Technique for measuring gas conversion factors  
[NASA-CASE-LAR-13220-1] c 34 N86-12547  
Method and device for determining heats of combustion of gaseous hydrocarbons  
[NASA-CASE-LAR-13528-1] c 25 N88-29002

**HYDROCHLORIC ACID**

Indicator providing continuous indication of the presence of a specific pollutant in air  
[NASA-CASE-NPO-13474-1] c 45 N76-21742

**HYDROCHLORIDES**

Method and apparatus for rebalancing a REDOX flow cell system  
[NASA-CASE-LEW-14127-1] c 33 N86-20680

**HYDRODYNAMICS**

Dual clearance squeeze film damper  
[NASA-CASE-LEW-13506-1] c 37 N85-33490

**HYDROFOILS**

Hydrofoil Patent  
[NASA-CASE-XLA-00229] c 12 N70-33305

**HYDROFORMING**

Hydroforming techniques using epoxy molds Patent  
[NASA-CASE-XLE-05641-1] c 15 N71-26346

**HYDROGEN**

Method for detecting hydrogen gas  
[NASA-CASE-XMF-03873] c 06 N69-39733  
Prevention of pressure build-up in electrochemical cells Patent  
[NASA-CASE-XGS-01419] c 03 N70-41864  
Pulse activated polarographic hydrogen detector Patent  
[NASA-CASE-XMF-06531] c 14 N71-17575  
Hydrogen leak detection device Patent  
[NASA-CASE-MFS-11537] c 14 N71-20442  
Analysis of hydrogen-deuterium mixtures  
[NASA-CASE-NPO-11322] c 06 N72-25146  
Hydrogen fire blink detector  
[NASA-CASE-MFS-15063] c 14 N72-25412  
Process for separation of dissolved hydrogen from water by use of palladium and process for coating palladium with palladium black  
[NASA-CASE-MS-C-13335-1] c 06 N72-31140  
Atomic hydrogen maser with bulb temperature control to remove wall shift in maser output frequency  
[NASA-CASE-HQN-10654-1] c 16 N73-13489  
Method of producing a storage bulb for an atomic hydrogen maser  
[NASA-CASE-NPO-13050-1] c 36 N75-15029  
Atomic standard with variable storage volume  
[NASA-CASE-GSC-11895-1] c 35 N76-15436  
Hydrogen rich gas generator  
[NASA-CASE-NPO-13342-1] c 37 N76-16446  
Hydrogen-bromine secondary battery  
[NASA-CASE-NPO-13237-1] c 44 N76-18641  
Hydrogen-rich gas generator  
[NASA-CASE-NPO-13464-1] c 44 N76-18642  
Solar hydrogen generator  
[NASA-CASE-LAR-11361-1] c 44 N77-22607  
Solar photolysis of water  
[NASA-CASE-NPO-13675-1] c 44 N77-32580  
Method and automated apparatus for detecting coliform organisms  
[NASA-CASE-MS-C-16777-1] c 51 N80-27067  
Method of cross-linking polyvinyl alcohol and other water soluble resins  
[NASA-CASE-LEW-13103-1] c 27 N80-32516

Fluidized bed desulfurization  
[NASA-CASE-NPO-15924-1] c 25 N85-35253

**HYDROGEN ATOMS**

Atomic hydrogen storage method and apparatus  
[NASA-CASE-LEW-12081-1] c 28 N78-24365  
Atomic hydrogen storage --- cryotrapping and magnetic field strength  
[NASA-CASE-LEW-12081-2] c 28 N80-20402  
Atomic hydrogen storage method and apparatus  
[NASA-CASE-LEW-12081-3] c 28 N81-14103

**HYDROGEN EMBRITTLEMENT**

Prevention of hydrogen embrittlement of high strength steel by hydrazine compositions --- by adding potassium hydroxide to hydrazine  
[NASA-CASE-NPO-12122-1] c 24 N76-14203

**HYDROGEN ENGINES**

Hydrogen-fueled engine  
[NASA-CASE-NPO-13763-1] c 44 N78-33526

**HYDROGEN FUELS**

Hydrogen rich gas generator  
[NASA-CASE-NPO-13342-2] c 44 N76-29700  
Hydrogen rich gas generator  
[NASA-CASE-NPO-13464-2] c 44 N76-29704  
Hydrogen-rich gas generator  
[NASA-CASE-NPO-13560-1] c 44 N77-10636  
Dual-fuel, dual-mode rocket engine  
[NASA-CASE-LAR-13773-1] c 20 N88-24685

**HYDROGEN IONS**

Hydrogen hollow cathode ion source  
[NASA-CASE-LEW-12940-1] c 72 N80-33186

**HYDROGEN OXYGEN FUEL CELLS**

Electrolytically regenerative hydrogen-oxygen fuel cell Patent  
[NASA-CASE-XLE-04526] c 03 N71-11052  
Passively regulated water electrolysis rocket engine Patent  
[NASA-CASE-XGS-08729] c 28 N71-14044

**HYDROGEN PEROXIDE**

Decomposition unit Patent  
[NASA-CASE-XMS-00583] c 28 N70-38504

**HYDROGEN PRODUCTION**

Start up system for hydrogen generator used with an internal combustion engine  
[NASA-CASE-NPO-13849-1] c 28 N80-10374  
Thermochemical generation of hydrogen  
[NASA-CASE-NPO-15015-1] c 25 N82-28368  
Liquid hydrogen polygeneration system and process  
[NASA-CASE-KSC-11304-2] c 28 N86-23744

**HYDROGENATION**

Production of high purity silicon carbide Patent  
[NASA-CASE-XLA-00158] c 26 N70-36805  
Compact hydrogenator  
[NASA-CASE-NPO-11682-1] c 35 N74-15127

**HYDROLOGY**

Radar target for remotely sensing hydrological phenomena  
[NASA-CASE-LAR-12344-1] c 43 N80-18498

**HYDROLYSIS**

Hydrodesulfurization of chlorinated coal  
[NASA-CASE-NPO-15304-1] c 25 N83-31743

**HYDROSTATIC PRESSURE**

Method and apparatus for simulating gravitational forces on a living organism  
[NASA-CASE-MS-C-20202-1] c 54 N84-16803

**HYDROSTATICS**

Hydrostatic bearing support  
[NASA-CASE-LEW-11158-1] c 37 N77-28486

**HYDROXIDES**

Method for determining presence of OH in magnesium oxide  
[NASA-CASE-NPO-10774] c 06 N72-17095  
Separator for alkaline electric batteries and method of making  
[NASA-CASE-GSC-10018-1] c 44 N82-24644  
Synthesis of dawsonites --- for use in fire extinguishing operations  
[NASA-CASE-ARC-11326-1] c 25 N83-33977

**HYDROXYL COMPOUNDS**

Synthesis of polyformals  
[NASA-CASE-ARC-11244-1] c 23 N82-16174

**HYGIENE**

Urine collection apparatus --- feminine hygiene  
[NASA-CASE-MS-C-18381-1] c 52 N81-28740

**HYGROMETERS**

Polymeric electrolytic hygrometer  
[NASA-CASE-NPO-13948-1] c 35 N78-25391  
Trace water sensor  
[NASA-CASE-NPO-15722-1] c 35 N85-29212

**HYGROSCOPICITY**

Method of evaluating moisture barrier properties of encapsulating materials Patent  
[NASA-CASE-NPO-10051] c 18 N71-24934

**HYPERCUBE MULTIPROCESSORS**

A method of up-front load balancing for local memory parallel processors  
[NASA-CASE-MS-C-21348-1] c 62 N89-24084



## HYPERFINE STRUCTURE

- Process for producing dispersion strengthened nickel with aluminum Patent  
[NASA-CASE-XLE-06969] c 17 N71-24142
- HYPERGOLIC ROCKET PROPELLANTS**  
Apparatus for igniting solid propellants Patent  
[NASA-CASE-XLE-00207] c 28 N70-33375  
Small rocket engine Patent  
[NASA-CASE-XLE-00685] c 28 N70-41992  
Method of igniting solid propellants Patent  
[NASA-CASE-XLE-01988] c 27 N71-15634
- HYPERSONIC AIRCRAFT**  
Multistage aerospace craft --- perspective drawings of conceptual design  
[NASA-CASE-XMF-02263] c 05 N74-10907
- HYPERSONIC FLIGHT**  
Hypersonic airbreathing missile  
[NASA-CASE-LAR-12264-1] c 15 N78-32168
- HYPERSONIC FLOW**  
Hypersonic test facility Patent  
[NASA-CASE-XLA-05378] c 11 N71-21475
- HYPERSONIC SPEED**  
Reentry vehicle leading edge Patent  
[NASA-CASE-XLA-00165] c 31 N70-33242  
Landing arrangement for aerospace vehicle Patent  
[NASA-CASE-XLA-00805] c 31 N70-38010  
Variable geometry manned orbital vehicle Patent  
[NASA-CASE-XLA-03691] c 31 N71-15674  
High speed flight vehicle control Patent  
[NASA-CASE-XLA-08967] c 02 N71-27088  
Apparatus and method for generating large mass flow of high temperature air at hypersonic speeds  
[NASA-CASE-LAR-10578-1] c 12 N73-25262  
Apparatus and method for generating large mass flow of high temperature air at hypersonic speeds  
[NASA-CASE-LAR-10612-1] c 12 N73-28144
- HYPERSONIC VEHICLES**  
Techniques for insulating cryogenic fuel containers Patent  
[NASA-CASE-XLA-01967] c 31 N70-42015
- HYPERSONIC WIND TUNNELS**  
Sound shield  
[NASA-CASE-LAR-12883-1] c 71 N83-17235  
Quantitative surface temperature measurement using two-color thermographic phosphors and video equipment  
[NASA-CASE-LAR-13740-1] c 35 N88-30105
- HYPERTHERMIA**  
Hyperthermia heating apparatus --- cancer therapy  
[NASA-CASE-NPO-14549-2] c 52 N82-33996
- HYPERVELOCITY GUNS**  
Dust particle injector for hypervelocity accelerators Patent  
[NASA-CASE-XGS-06628] c 24 N71-16213  
Hypervelocity gun Patent  
[NASA-CASE-XAC-05902] c 11 N71-18578  
Collapsible pistons  
[NASA-CASE-MS-C-13789-1] c 11 N73-32152  
Hypervelocity gun --- using both electric and chemical energy for projectile propulsion  
[NASA-CASE-XLE-03186-1] c 09 N79-21084
- HYPERVELOCITY IMPACT**  
Method of and device for determining the characteristics and flux distribution of micrometeorites --- scanning puncture holes in sheet material with photoelectric cell  
[NASA-CASE-NPO-12127-1] c 91 N74-13130
- HYPERVELOCITY PROJECTILES**  
Impact measuring technique  
[NASA-CASE-LAR-10913] c 14 N72-16282  
Multiple image storing system for high speed projectile holography  
[NASA-CASE-MFS-20596] c 14 N72-17324
- HYPERVELOCITY WIND TUNNELS**  
Hypersonic test facility Patent  
[NASA-CASE-XLA-00378] c 11 N71-15925  
Hypersonic test facility Patent  
[NASA-CASE-XLA-05378] c 11 N71-21475
- HYSTERESIS**  
Belleville spring assembly with elastic guides  
[NASA-CASE-XNP-09452] c 15 N69-27504
- ICE**  
Ice detector  
[NASA-CASE-LAR-13776-1] c 35 N88-29149
- IDENTIFYING**  
Lightning discharge identification system  
[NASA-CASE-KSC-11099-1] c 47 N82-24779
- IGNITERS**  
Solid propellant rocket motor  
[NASA-CASE-NPO-11559] c 28 N73-24784  
Remote fire stack igniter --- with solenoid-controlled valve  
[NASA-CASE-MFS-21675-1] c 25 N74-33378

- Molded composite pyrogen igniter for rocket motors --- solid propellant ignition  
[NASA-CASE-LAR-12018-1] c 20 N78-24275  
Plasma igniter for internal combustion engine  
[NASA-CASE-NPO-13828-1] c 37 N79-11405  
Hollow cathode apparatus  
[NASA-CASE-NPO-15560-1] c 33 N85-21491  
Low gravity exothermic heating/cooling apparatus  
[NASA-CASE-MS-C-25707-1] c 35 N85-29214
- IGNITION**  
Magnetically controlled plasma accelerator Patent  
[NASA-CASE-XLA-00327] c 25 N71-29184  
Device and method for frictionally testing materials for ignitability  
[NASA-CASE-MS-C-20622-1] c 25 N86-19413
- IGNITION LIMITS**  
High voltage pulse generator Patent  
[NASA-CASE-MS-C-12178-1] c 09 N71-13518
- IGNITION SYSTEMS**  
Apparatus for igniting solid propellants Patent  
[NASA-CASE-XLE-00207] c 28 N70-33375  
Ignition system for monopropellant combustion devices Patent  
[NASA-CASE-XNP-00249] c 28 N70-38249  
Rocket motor system Patent  
[NASA-CASE-XLE-00323] c 28 N70-38505  
Ignition means for monopropellant Patent  
[NASA-CASE-XNP-00876] c 28 N70-41311  
Sustained arc ignition system  
[NASA-CASE-LEW-12444-1] c 33 N77-28385
- IGNITION TEMPERATURE**  
Autoignition test cell Patent  
[NASA-CASE-KSC-10198] c 11 N71-28629
- ILLUMINATORS**  
Image magnification adapter for cameras Patent  
[NASA-CASE-XMF-03844-1] c 14 N71-26474  
Illumination system including a virtual light source Patent  
[NASA-CASE-HQN-10781] c 23 N71-30292
- IMAGE ANALYSIS**  
Real-time image difference detection using a polarization rotation spatial light modulator  
[NASA-CASE-NPO-17144-1-CU] c 74 N88-25305  
Method and apparatus for sensor fusion  
[NASA-CASE-MS-C-21334-1] c 32 N89-25360
- IMAGE CONTRAST**  
Video signal enhancement system with dynamic range compression and modulation index expansion Patent  
[NASA-CASE-NPO-10343] c 07 N71-27341  
Method and apparatus for producing an image from a transparent object  
[NASA-CASE-GSC-11989-1] c 74 N77-28932
- IMAGE CONVERTERS**  
Deep trap, laser activated image converting system  
[NASA-CASE-NPO-13131-1] c 36 N75-19652  
Resistive anode image converter  
[NASA-CASE-HQN-10876-1] c 33 N76-27473  
Wedge immersed thermistor bolometers  
[NASA-CASE-XGS-01245-1] c 35 N79-33449  
Photocapacitive image converter  
[NASA-CASE-LAR-12513-1] c 44 N82-32841
- IMAGE CORRELATORS**  
Multiple hologram recording and readout system Patent  
[NASA-CASE-ERC-10151] c 16 N71-29131  
Automatic focus control for facsimile cameras  
[NASA-CASE-LAR-11213-1] c 35 N75-15014  
Azimuth correlator for real-time synthetic aperture radar image processing  
[NASA-CASE-NPO-14019-1] c 32 N79-14268  
Servomechanism for Doppler shift compensation in optical correlator for synthetic aperture radar  
[NASA-CASE-NPO-14998-1] c 32 N83-18975  
Optical stereo video signal processor  
[NASA-CASE-MFS-25752-1] c 74 N86-21348
- IMAGE DISSECTOR TUBES**  
Apparatus for calibrating an image dissector tube  
[NASA-CASE-MFS-22208-1] c 33 N75-26244  
Electronic optical transfer function analyzer  
[NASA-CASE-MFS-21672-1] c 74 N76-19935
- IMAGE ENHANCEMENT**  
Method and means for an improved electron beam scanning system Patent  
[NASA-CASE-ERC-10552] c 09 N71-12539  
Physical correction filter for improving the optical quality of an image  
[NASA-CASE-HQN-10542-1] c 74 N75-25706  
Method of obtaining intensified image from developed photographic films and plates  
[NASA-CASE-MFS-23461-1] c 35 N79-10389  
Dynamic range compression/expansion of light beams by photorefractive crystals  
[NASA-CASE-NPO-17140-1-CU] c 74 N89-14077
- IMAGE FILTERS**  
Motion picture camera for optical pyrometry Patent  
[NASA-CASE-XLA-00062] c 14 N70-33254

- Compact spectroradiometer  
[NASA-CASE-HQN-10683] c 14 N71-34389  
Physical correction filter for improving the optical quality of an image  
[NASA-CASE-HQN-10542-1] c 74 N75-25706
- IMAGE INTENSIFIERS**  
Magnifying image intensifier  
[NASA-CASE-GSC-12010-1] c 74 N78-18905  
Method of obtaining intensified image from developed photographic films and plates  
[NASA-CASE-MFS-23461-1] c 35 N79-10389
- IMAGE PROCESSING**  
Azimuth correlator for real-time synthetic aperture radar image processing  
[NASA-CASE-NPO-14019-1] c 32 N79-14268  
Interleaving device  
[NASA-CASE-GSC-12111-2] c 33 N81-29342  
Clutter free synthetic aperture radar correlator  
[NASA-CASE-NPO-14035-1] c 32 N83-19968  
Longwall shearer tracking system  
[NASA-CASE-MFS-25717-1] c 35 N84-33768  
Data volume reduction for imaging radar polarimetry  
[NASA-CASE-NPO-17184-1-CU] c 32 N88-26541  
Programmable pipelined image processor  
[NASA-CASE-NPO-16461-1CU] c 60 N89-26400
- IMAGE RESOLUTION**  
Constant magnification optical tracking system  
[NASA-CASE-NPO-14813-1] c 74 N82-24072
- IMAGE ROTATION**  
Rhomboid prism pair for rotating the plane of parallel light beams  
[NASA-CASE-ARC-11311-1] c 74 N83-13978
- IMAGE TUBES**  
Image tube --- deriving electron beam replica of image  
[NASA-CASE-GSC-11602-1] c 33 N74-21850  
System for producing chroma signals  
[NASA-CASE-MS-C-14683-1] c 74 N77-18893
- IMAGERY**  
Atmospheric autorotating imaging device  
[NASA-CASE-NPO-17390-1-CU] c 35 N88-24944  
Television monitor field shifter and an opto-electronic method for obtaining a stereo image of optimal depth resolution and reduced depth distortion on a single screen  
[NASA-CASE-NPO-17249-1-CU] c 32 N89-28676
- IMAGES**  
Image magnification adapter for cameras Patent  
[NASA-CASE-XMF-03844-1] c 14 N71-26474  
Stereoscopic television system and apparatus  
[NASA-CASE-ARC-10160-1] c 23 N72-27728  
Wide-angle flat field telescope  
[NASA-CASE-GSC-12825-1] c 74 N86-28732
- IMAGING RADAR**  
Data volume reduction for imaging radar polarimetry  
[NASA-CASE-NPO-17184-1-CU] c 32 N88-26541
- IMAGING TECHNIQUES**  
Optical mirror apparatus Patent  
[NASA-CASE-ERC-10001] c 23 N71-24868  
Method and apparatus for eliminating coherent noise in a coherent energy imaging system without destroying spatial coherence  
[NASA-CASE-GSC-11133-1] c 23 N72-11568  
Phototransistor imaging system  
[NASA-CASE-MFS-20809] c 23 N73-13660  
Multispectral imaging system  
[NASA-CASE-MS-C-12404-1] c 23 N73-13661  
Multiple pass reimaging optical system  
[NASA-CASE-ARC-10194-1] c 23 N73-20741  
Ritchey-Chretien Telescope  
[NASA-CASE-GSC-11487-1] c 14 N73-30393  
Data storage, image tube type  
[NASA-CASE-MS-C-14053-1] c 60 N74-12888  
Optical instruments  
[NASA-CASE-MS-C-14096-1] c 74 N74-15095  
Electron microscope aperture system  
[NASA-CASE-ARC-10448-3] c 35 N77-14408  
Method and apparatus for producing an image from a transparent object  
[NASA-CASE-GSC-11989-1] c 74 N77-28932  
Full color hybrid display for aircraft simulators --- landing aids  
[NASA-CASE-ARC-10903-1] c 09 N78-18083  
Multispectral imaging and analysis system --- using charge coupled devices and linear arrays  
[NASA-CASE-NPO-13691-1] c 43 N79-17288  
System and method for obtaining wide screen Schlieren photographs  
[NASA-CASE-NPO-14174-1] c 74 N79-20856  
Low intensity X-ray and gamma-ray imaging device --- fiber optics  
[NASA-CASE-GSC-12263-1] c 74 N79-20857  
Diffraction grating configuration for X-ray and ultraviolet focusing  
[NASA-CASE-GSC-12357-1] c 74 N80-21140  
Multispectral scanner optical system  
[NASA-CASE-MS-C-18255-1] c 74 N80-33210



- System for forming a quadrified image comprising angularly related fields of view of a three dimensional object  
[NASA-CASE-NPO-14219-1] c 74 N81-17886
- Time delay and integration detectors using charge transfer devices  
[NASA-CASE-GSC-12324-1] c 33 N81-33403
- Image readout device with electronically variable spatial resolution  
[NASA-CASE-LAR-12633-1] c 33 N82-24416
- Low intensity X-ray and gamma-ray spectrometer  
[NASA-CASE-GSC-12587-1] c 35 N82-32659
- Multibeam single frequency synthetic aperture radar processor for imaging separate range swaths  
[NASA-CASE-NPO-14525-2] c 32 N83-31918
- High speed multi focal plane optical system  
[NASA-CASE-GSC-12683-1] c 74 N83-36898
- Real-time 3-D X-ray and gamma-ray viewer  
[NASA-CASE-GSC-12640-1] c 74 N84-11920
- Longwall shearer tracking system  
[NASA-CASE-MFS-25717-1] c 35 N84-33768
- Optical system  
[NASA-CASE-NPO-15801-1] c 74 N85-23396
- Three-dimensional and tomographic imaging device for X-ray and gamma-ray emitting objects  
[NASA-CASE-GSC-12851-1] c 35 N85-30281
- Method and apparatus for Delta Kappa synthetic aperture radar measurement of ocean current  
[NASA-CASE-NPO-15704-1] c 32 N85-34327
- Multispectral linear array multiband selection device  
[NASA-CASE-GSC-12911-1] c 74 N86-29650
- Optical scanner  
[NASA-CASE-GSC-12897-1] c 74 N87-21679
- Quantitative surface temperature measurement using two-color thermographic phosphors and video equipment  
[NASA-CASE-LAR-13740-1] c 35 N88-30105
- IMIDES**
- Imidazopyrrolone/imide copolymers Patent  
[NASA-CASE-XLA-08802] c 06 N71-11238
- Molding process for imidazopyrrolone polymers  
[NASA-CASE-LAR-10547-1] c 31 N74-13177
- Phosphorus-containing imide resins  
[NASA-CASE-ARC-11368-1] c 27 N83-31854
- Polyphenylene ethers with imide linking groups  
[NASA-CASE-LAR-12980-1] c 27 N84-22749
- Phosphorus-containing imide resins  
[NASA-CASE-ARC-11368-2] c 27 N85-21347
- High performance mixed bisimide resins and composites based thereon  
[NASA-CASE-ARC-11538-1SB] c 24 N86-21590
- Fire and heat resistant laminating resins based on maleimido substituted aromatic cyclotriphosphazene polymer  
[NASA-CASE-ARC-11428-2] c 27 N87-16909
- Process for preparing phthalocyanine polymer from imide containing bisphthalonitrile  
[NASA-CASE-ARC-11511-2] c 27 N87-21112
- Fire and heat resistant laminating resins based on maleimido and citraconimido substituted 1-(diorgano oxyphosphoryl) methyl -2,4- and -2,6- diaminobenzenes  
[NASA-CASE-ARC-11533-3] c 27 N87-24564
- Aromatic cyclotriphosphazenes  
[NASA-CASE-ARC-11428-3] c 23 N88-24692
- Fire and heat resistant laminating resin based on maleimido and citraconimido substituted 1-(diorgano oxyphosphoryl-methyl)-2,4- and -2,6-diaminobenzenes  
[NASA-CASE-ARC-11533-2] c 27 N89-16042
- IMINES**
- Synthesis of polymeric schiff bases by schiff-base exchange reactions Patent  
[NASA-CASE-XMF-08651] c 06 N71-11236
- Direct synthesis of polymeric schiff bases from two amines and two aldehydes Patent  
[NASA-CASE-XMF-08655] c 06 N71-11239
- Synthesis of polymeric schiff bases by reaction of acetals and amine compounds Patent  
[NASA-CASE-XMF-08652] c 06 N71-11243
- Aromatic diamine-aromatic dialdehyde high molecular weight Schiff base polymers prepared in a monofunctional Schiff base Patent  
[NASA-CASE-XMF-03074] c 06 N71-24740
- IMMOBILIZATION**
- Stretcher Patent  
[NASA-CASE-XMF-06589] c 05 N71-23159
- Absolute focus lock for microscopes  
[NASA-CASE-LAR-10184] c 14 N72-22445
- Spine immobilization apparatus  
[NASA-CASE-ARC-11167-1] c 52 N81-25662
- Active hold-down for heat treating  
[NASA-CASE-NPO-16892-1CU] c 37 N87-14704
- IMPACT**
- Impact energy absorbing system utilizing fractureable material  
[NASA-CASE-NPO-10671] c 15 N72-20443
- Cosmic dust or other similar outer space particles impact location detector  
[NASA-CASE-GSC-11291-1] c 25 N72-33696
- Impact position detector for outer space particles  
[NASA-CASE-GSC-11829-1] c 35 N75-27331
- IMPACT ACCELERATION**
- Suspended mass impact damper Patent  
[NASA-CASE-LAR-10193-1] c 15 N71-27146
- IMPACT DAMAGE**
- Micrometeoroid penetration measuring device Patent  
[NASA-CASE-XLA-00941] c 14 N71-23240
- Curved cap corrugated sheet  
[NASA-CASE-LAR-12884-1] c 18 N84-33450
- IMPACT LOADS**
- Force transducer Patent  
[NASA-CASE-XAC-01101] c 14 N70-41957
- Impact testing machine Patent  
[NASA-CASE-XNP-04817] c 14 N71-23225
- IMPACT RESISTANCE**
- Electric storage battery  
[NASA-CASE-NPO-11021] c 03 N72-20032
- Hybrid composite laminate structures  
[NASA-CASE-LEW-12118-1] c 24 N77-27188
- IMPACT STRENGTH**
- High impact pressure regulator Patent  
[NASA-CASE-NPO-10175] c 14 N71-18625
- IMPACT TESTING MACHINES**
- Lunar penetrometer Patent  
[NASA-CASE-XLA-00934] c 14 N71-22765
- Impact testing machine Patent  
[NASA-CASE-XNP-04817] c 14 N71-23225
- Impacting device for testing insulation  
[NASA-CASE-MFS-25862-2] c 37 N84-33807
- IMPACT TESTS**
- Impacting device for testing insulation  
[NASA-CASE-MFS-25862-2] c 37 N84-33807
- IMPACT TOLERANCES**
- High impact antenna Patent  
[NASA-CASE-NPO-10231] c 07 N71-26101
- Vehicular impact absorption system  
[NASA-CASE-NPO-14014-1] c 37 N79-10420
- IMPEDANCE**
- Low noise tuned amplifier  
[NASA-CASE-GSC-12567-1] c 33 N84-22887
- Power supply conditioning circuit  
[NASA-CASE-NPO-17233-1CU] c 33 N88-29095
- IMPEDANCE MATCHING**
- Signal multiplexer  
[NASA-CASE-XGS-01110] c 07 N69-24334
- Reflectometer for receiver input impedance match measurement Patent  
[NASA-CASE-XNP-10843] c 07 N71-11267
- Radio frequency coaxial high pass filter Patent  
[NASA-CASE-XGS-01418] c 09 N71-23573
- Triaxial antenna Patent  
[NASA-CASE-XGS-02290] c 07 N71-28809
- IMPEDANCE MEASUREMENT**
- High impedance measuring apparatus Patent  
[NASA-CASE-XMS-08589-1] c 09 N71-20569
- Apparatus for measuring semiconductor device resistance  
[NASA-CASE-NPO-14424-1] c 33 N80-32650
- IMPELLERS**
- Turbomachinery shaft insert  
[NASA-CASE-MFS-28345-2] c 37 N89-28842
- IMPLANTATION**
- Telemeter adaptable for implanting in an animal Patent  
[NASA-CASE-XAC-05706] c 05 N71-12342
- Magnetic electrical connectors for biomedical percutaneous implants  
[NASA-CASE-KSC-11030-1] c 52 N77-25772
- Prosthetic occlusive device for an internal passageway  
[NASA-CASE-MFS-25740-1] c 52 N84-11744
- IMPLANTED ELECTRODES (BIOLOGY)**
- Pocket ECG electrode  
[NASA-CASE-ARC-11258-1] c 52 N80-33081
- Subcutaneous electrode structure  
[NASA-CASE-ARC-11117-1] c 52 N81-14612
- Implantable electrical device  
[NASA-CASE-GSC-12560-1] c 52 N82-29863
- IMPLOSIONS**
- Hypervelocity gun Patent  
[NASA-CASE-XAC-05902] c 11 N71-18578
- IMPREGNATING**
- Composite lamination method  
[NASA-CASE-LAR-12019-1] c 24 N78-17150
- Insoluble polyelectrolyte and ion-exchange hollow fiber impregnated therewith  
[NASA-CASE-NPO-13530-1] c 25 N81-17187
- High temperature silicon carbide impregnated insulating fabrics  
[NASA-CASE-MSC-18832-1] c 27 N83-18908
- IMPULSE GENERATORS**
- Percutaneous connector device  
[NASA-CASE-KSC-10849-1] c 52 N77-14738
- IMPURITIES**
- Method of making impurity-type semiconductor electrical contacts Patent  
[NASA-CASE-XMF-01016] c 26 N71-17818
- Method of mitigating titanium impurities effects in p-type silicon material for solar cells  
[NASA-CASE-NPO-14635-1] c 44 N80-24741
- Electromigration process for the purification of molten silicon during crystal growth  
[NASA-CASE-NPO-14831-1] c 76 N82-30105
- IN-FLIGHT MONITORING**
- System for use in conducting wake investigation for a wing in flight --- differential pressure measurements for drag investigations  
[NASA-CASE-FRC-11024-1] c 02 N80-28300
- INCIDENCE**
- Method of and means for testing a glancing-incidence mirror system of an X-ray telescope  
[NASA-CASE-MFS-22409-2] c 74 N78-15880
- INCIDENT RADIATION**
- Solar cell assembly --- for use under high intensity illumination  
[NASA-CASE-LEW-11549-1] c 44 N77-19571
- A compact fast wide angle broad band spectrometer optical system  
[NASA-CASE-NPO-17562-1CU] c 74 N89-24153
- INCLINATION**
- Hingeless helicopter rotor with improved stability  
[NASA-CASE-ARC-10807-1] c 05 N77-17029
- INCOHERENT SCATTERING**
- Rapidly pulsed, high intensity, incoherent light source  
[NASA-CASE-XLE-2529-3] c 33 N74-20859
- INDICATING INSTRUMENTS**
- Missile stage separation indicator and stage initiator Patent  
[NASA-CASE-XLA-00791] c 03 N70-39930
- Inductive liquid level detection system Patent  
[NASA-CASE-XLE-01609] c 14 N71-10500
- Apparatus for the determination of the existence or non-existence of a bonding between two members Patent  
[NASA-CASE-MFS-13686] c 15 N71-18132
- Hydrogen fire detection system with logic circuit to analyze the spectrum of temporal variations of the optical spectrum  
[NASA-CASE-MFS-13130] c 10 N72-17173
- Fatigue failure load indicator  
[NASA-CASE-LAR-12027-1] c 39 N79-22537
- System for providing an integrated display of instantaneous information relative to aircraft attitude, heading, altitude, and horizontal situation  
[NASA-CASE-FRC-11005-1] c 06 N82-16075
- Film advance indicator  
[NASA-CASE-LAR-12474-1] c 35 N82-26628
- Adjustable indicating device for load position  
[NASA-CASE-MFS-28008-1] c 35 N85-20300
- Fluid leak indicator  
[NASA-CASE-MSC-20783-1] c 35 N86-20756
- INDIUM ALLOYS**
- Method for attaching a fused-quartz mirror to a conductive metal substrate  
[NASA-CASE-MFS-23405-1] c 26 N77-29260
- Solar cell collector  
[NASA-CASE-LEW-12552-1] c 44 N78-25527
- Aluminum alloy  
[NASA-CASE-LAR-13924-1CU] c 26 N89-28621
- INDIUM COMPOUNDS**
- Liquid crystal light valve structures  
[NASA-CASE-MSC-20036-1] c 76 N85-33826
- INDUCTANCE**
- Current dependent filter inductance  
[NASA-CASE-ERC-10139] c 09 N72-17154
- Inductance device with vacuum insulation  
[NASA-CASE-LEW-10330-1] c 09 N72-27226
- Direct reading inductance meter  
[NASA-CASE-NPO-13792-1] c 35 N77-32455
- INDUCTION HEATING**
- Induction furnace with perforated tungsten foil shielding Patent  
[NASA-CASE-XLE-04026] c 14 N71-23267
- Apparatus for use in the production of ribbon-shaped crystals from a silicon melt  
[NASA-CASE-NPO-14297-1] c 33 N81-19389
- One-step dual purpose joining technique  
[NASA-CASE-LAR-12595-1] c 33 N82-26571
- Induction heating gun  
[NASA-CASE-LAR-13181-1] c 31 N85-29083
- INDUCTION MOTORS**
- Induction motor control system with voltage controlled oscillator circuit  
[NASA-CASE-MFS-21465-1] c 10 N73-32145

Variable frequency inverter for ac induction motors with torque, speed and braking control  
[NASA-CASE-MFS-22088-1] c 33 N75-15874

Power factor control system for AC induction motors  
[NASA-CASE-MFS-23280-1] c 33 N78-10376

Three phase power factor controller  
[NASA-CASE-MFS-25535-1] c 33 N81-12330

Power factor control system for ac induction motors  
[NASA-CASE-MFS-23988-1] c 33 N81-27395

Motor power factor controller with a reduced voltage starter  
[NASA-CASE-MFS-25586-1] c 33 N82-11360

Magnetic field control --- electromechanical torquing device  
[NASA-CASE-MFS-23828-1] c 33 N82-26569

Electrical power generating system  
[NASA-CASE-MFS-25302-1] c 33 N83-28319

Triac failure detector  
[NASA-CASE-MFS-25607-1] c 33 N83-34190

Control system for an induction motor with energy recovery  
[NASA-CASE-MFS-25477-1] c 33 N84-14424

Three phase power factor controller  
[NASA-CASE-MFS-25535-2] c 33 N84-22885

Motor power control circuit for ac induction motors  
[NASA-CASE-MFS-25323-1] c 33 N84-22886

Coupling an induction motor type generator to ac power lines --- making windmill generators compatible with public power lines  
[NASA-CASE-MFS-25302-2] c 33 N84-33660

Three-phase power factor controller with induced EMF sensing  
[NASA-CASE-MFS-25852-1] c 33 N84-33661

Solar powered actuator with continuously variable auxiliary power control  
[NASA-CASE-MFS-25637-1] c 44 N85-21769

Power control for ac motor  
[NASA-CASE-MFS-25861-1] c 33 N85-22877

**INDUCTORS**

Inductive liquid level detection system Patent  
[NASA-CASE-XLE-01609] c 14 N71-10500

Vacuum deposition apparatus Patent  
[NASA-CASE-XMF-01667] c 15 N71-17647

Constant frequency output two stage induction machine systems Patent  
[NASA-CASE-ERC-10065] c 09 N71-27364

Elimination of current spikes in buck power converters  
[NASA-CASE-NPO-14505-1] c 33 N81-19393

**INDUSTRIAL PLANTS**

Process for making diamonds  
[NASA-CASE-MFS-20698-2] c 15 N73-19457

**INDUSTRIAL WASTES**

Process of forming catalytic surfaces for wet oxidation reactions  
[NASA-CASE-MSC-14831-1] c 25 N78-10225

Process for purification of waste water produced by a Kraft process pulp and paper mill  
[NASA-CASE-NPO-13847-2] c 85 N79-17747

**INERT ATMOSPHERE**

Method for retarding dye fading during archival storage of developed color photographic film --- inert atmosphere  
[NASA-CASE-MFS-23250-1] c 35 N82-11432

**INERTIA**

Bidirectional step torque filter with zero backlash characteristic Patent  
[NASA-CASE-XGS-04227] c 15 N71-21744

**INERTIAL CONFINEMENT FUSION**

Method and apparatus for producing gas-filled hollow spheres --- target pellets for inertial confinement fusion  
[NASA-CASE-NPO-14596-3] c 31 N83-31896

Contactless pellet fabrication  
[NASA-CASE-NPO-15592-1] c 71 N84-16940

**INERTIAL GUIDANCE**

Hermetic sealed vibration damper Patent  
[NASA-CASE-MSC-10959] c 15 N71-26243

**INERTIAL NAVIGATION**

Autonomous navigation system --- gyroscopic pendulum for air navigation  
[NASA-CASE-ARC-11257-1] c 04 N81-21047

**INERTIAL PLATFORMS**

Clamping assembly for inertial components Patent  
[NASA-CASE-XMS-02184] c 15 N71-20813

Azimuth laying system Patent  
[NASA-CASE-XMF-01669] c 21 N71-23289

Temperature compensated digital inertial sensor --- circuit for maintaining inertial element of gyroscope or accelerometer at constant position  
[NASA-CASE-NPO-13044-1] c 35 N74-15094

Attitude control system  
[NASA-CASE-MFS-22787-1] c 15 N77-10113

Rim inertial measuring system  
[NASA-CASE-LAR-12052-1] c 18 N81-29152

**INERTIAL REFERENCE SYSTEMS**

Attitude control system Patent  
[NASA-CASE-XGS-04393] c 21 N71-14159

Inertial reference apparatus Patent  
[NASA-CASE-XAC-03107] c 23 N71-16098

**INFLATABLE SPACECRAFT**

Thermal control of space vehicles Patent  
[NASA-CASE-XLA-01291] c 33 N70-36617

Passive communication satellite Patent  
[NASA-CASE-XLA-00210] c 30 N70-40309

Rotating mandrel for assembly of inflatable devices Patent  
[NASA-CASE-XLA-04143] c 15 N71-17687

Method of making an inflatable panel Patent  
[NASA-CASE-XLA-03497] c 15 N71-23052

Orbital escape device Patent  
[NASA-CASE-XMS-06162] c 31 N71-28851

**INFLATABLE STRUCTURES**

Aeroflexible structures  
[NASA-CASE-XLA-06095] c 01 N69-39981

Life raft Patent  
[NASA-CASE-XMS-00863] c 05 N70-34857

Life preserver Patent  
[NASA-CASE-XMS-00864] c 05 N70-36493

Inflatable honeycomb Patent  
[NASA-CASE-XLA-00204] c 32 N70-36536

Inflatable radar reflector unit Patent  
[NASA-CASE-XMS-00893] c 07 N70-40063

Excessive temperature warning system Patent  
[NASA-CASE-XLA-01926] c 14 N71-15620

Inflation system for balloon type satellites Patent  
[NASA-CASE-XGS-03351] c 31 N71-16081

Aerodynamic protection for space flight vehicles Patent  
[NASA-CASE-XNP-02507] c 31 N71-17679

Self supporting space vehicle Patent  
[NASA-CASE-XLA-00117] c 31 N71-17680

Conforming polisher for aspheric surface of revolution Patent  
[NASA-CASE-XGS-02884] c 15 N71-22705

Method of making inflatable honeycomb Patent  
[NASA-CASE-XLA-03492] c 15 N71-22713

Collapsible antenna boom and transmission line Patent  
[NASA-CASE-MFS-20068] c 07 N71-27191

Inflatable tether Patent  
[NASA-CASE-XMS-10993] c 15 N71-28936

Inflatable transpiration cooled nozzle  
[NASA-CASE-MFS-20619] c 28 N72-11708

Modification of one man life raft  
[NASA-CASE-LAR-10241-1] c 54 N74-14845

Emergency space-suit helmet  
[NASA-CASE-MSC-10954-1] c 54 N78-18761

Pressure control valve --- inflating flexible bladders  
[NASA-CASE-ARC-11251-1] c 37 N81-17433

Pneumatic inflatable end effector  
[NASA-CASE-MFS-23696-1] c 54 N81-26718

Inflatable device for installing strain gage bridges  
[NASA-CASE-FRC-11068-1] c 35 N84-12443

**INFORMATION RETRIEVAL**

Multiple hologram recording and readout system Patent  
[NASA-CASE-ERC-10151] c 16 N71-29131

**INFRARED DETECTORS**

Temperature sensitive capacitor device  
[NASA-CASE-XNP-09750] c 14 N69-39937

Sight switch using an infrared source and sensor Patent  
[NASA-CASE-XMF-03934] c 09 N71-22985

Infrared detectors  
[NASA-CASE-LAR-10728-1] c 14 N73-12445

Doped Josephson tunneling junction for use in a sensitive IR detector  
[NASA-CASE-NPO-13348-1] c 33 N75-31332

Multispectral scanner optical system  
[NASA-CASE-MSC-18255-1] c 74 N80-33210

Broadband optical radiation detector  
[US-PATENT-4,262,198] c 74 N83-19597

Integrating IR detector imaging systems  
[NASA-CASE-NPO-15805-1] c 74 N84-28590

Integrated photo-responsive metal oxide semiconductor circuit  
[NASA-CASE-GSC-12782-1] c 33 N88-14271

Field induced gap infrared detector  
[NASA-CASE-NPO-17526-1-CU] c 35 N89-28796

**INFRARED INSTRUMENTS**

Infrared scanner Patent  
[NASA-CASE-XLA-00120] c 21 N70-33181

Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NAS 1.71:NPO-15494-2] c 35 N85-34373

**INFRARED INTERFEROMETERS**

Over-under double-pass interferometer  
[NASA-CASE-NPO-13999-1] c 35 N78-18395

**INFRARED LASERS**

Monitoring atmospheric pollutants with a heterodyne radiometer transmitter-receiver  
[NASA-CASE-NPO-11919-1] c 35 N74-11284

Gregorian all-reflective optical system  
[NASA-CASE-GSC-12058-1] c 74 N77-26942

Thermal compensator for closed-cycle helium refrigerator --- assuring constant temperature for an infrared laser diode  
[NASA-CASE-GSC-12168-1] c 31 N79-17029

**INFRARED PHOTOMETRY**

Tailorable infrared sensing device with strain layer superlattice structure  
[NASA-CASE-NPO-16607-1-CU] c 76 N88-14836

**INFRARED RADIATION**

High-speed infrared furnace  
[NASA-CASE-XLE-10466] c 17 N69-25147

High field CdS detector for infrared radiation  
[NASA-CASE-LAR-11027-1] c 35 N74-18088

Double photon excitation of high-Rydberg atoms as a long-lived submillimeter detector  
[NASA-CASE-NPO-16372-1] c 72 N86-33127

Long wavelength infrared detector  
[NASA-CASE-NPO-17543-1-CU] c 74 N89-30044

**INFRARED REFLECTION**

Electromagnetic radiation energy arrangement --- coatings for solar energy absorption and infrared reflection  
[NASA-CASE-WOO-00428-1] c 32 N79-19186

**INFRARED SCANNERS**

Infrared scanner Patent  
[NASA-CASE-XLA-00120] c 21 N70-33181

Infrared horizon locator  
[NASA-CASE-LAR-10726-1] c 14 N73-20475

**INFRARED SPECTRA**

Diatomic infrared gasdynamic laser --- for producing different wavelengths  
[NASA-CASE-ARC-10370-1] c 36 N75-31426

Gas particle radiator  
[NASA-CASE-LEW-14297-1] c 35 N89-12048

**INFRARED SPECTROMETERS**

Telespectrograph Patent  
[NASA-CASE-XLA-03273] c 14 N71-18699

Cooled echelle grating spectrometer --- for space telescope applications  
[NASA-CASE-NPO-14372-1] c 35 N80-26635

**INFRARED SPECTROSCOPY**

Apparatus for providing a servo drive signal in a high-speed stepping interferometer  
[NASA-CASE-NPO-13569-2] c 35 N79-14348

**INFRARED TELESCOPES**

Optical system with reflective baffles  
[NASA-CASE-ARC-11502-1] c 74 N86-20125

**INFRASONIC FREQUENCIES**

Resonant infrasonic gauging apparatus  
[NASA-CASE-MSC-11847-1] c 14 N72-11363

**INHIBITORS**

Inhibited solid propellant composition containing beryllium hydride  
[NASA-CASE-NPO-10866-1] c 28 N79-14228

**INITIATORS (EXPLOSIVES)**

Missile stage separation indicator and stage initiator Patent  
[NASA-CASE-XLA-00791] c 03 N70-39930

Safe-arm initiator Patent  
[NASA-CASE-LAR-10372] c 09 N71-18599

Electroexplosive device  
[NASA-CASE-NPO-13858-1] c 28 N79-11231

Four-terminal electrical testing device --- initiator bridewire resistance  
[NASA-CASE-MSC-21166-1] c 35 N87-25555

**INJECTION**

Thickness measuring and injection device Patent  
[NASA-CASE-MFS-20261] c 14 N71-27005

High performance channel injection sealant invention abstract  
[NASA-CASE-ARC-14408-1] c 27 N82-33523

**INJECTION LASERS**

Arrangement for damping the resonance in a laser diode  
[NASA-CASE-NPO-15980-1] c 36 N85-30305

**INJECTORS**

Rocket propellant injector Patent  
[NASA-CASE-XLE-00103] c 28 N70-33241

Rocket engine injector Patent  
[NASA-CASE-XLE-00111] c 28 N70-38199

Injector for bipropellant rocket engines Patent  
[NASA-CASE-XMF-00148] c 28 N70-38710

Dust particle injector for hypervelocity accelerators Patent  
[NASA-CASE-XGS-06628] c 24 N71-16213

Control valve and co-axial variable injector Patent  
[NASA-CASE-XNP-09702] c 15 N71-17654

Rocket engine injector Patent  
[NASA-CASE-XLE-03157] c 28 N71-24736

Bipropellant injector  
[NASA-CASE-XNP-09461] c 28 N72-23809

Coaxial injector for reaction motors  
[NASA-CASE-NPO-11095] c 15 N72-25455

- Injector for use in high voltage isolators for liquid feed lines  
[NASA-CASE-NPO-11377] c 15 N73-27406
- Rocket injector head  
[NASA-CASE-XMF-04592-1] c 20 N79-21125
- INKS**  
Multicolor printing plate joining  
[NASA-CASE-LEW-13598-1] c 35 N84-22930
- INLET FLOW**  
High pressure four-way valve Patent  
[NASA-CASE-XNP-00214] c 15 N70-36908
- Gas turbine combustor Patent  
[NASA-CASE-LEW-10286-1] c 28 N71-28915
- Airflow control system for supersonic inlets  
[NASA-CASE-LEW-11188-1] c 02 N74-20646
- Variably positioned guide vanes for aerodynamic choking  
[NASA-CASE-LAR-10642-1] c 07 N74-31270
- Shock position sensor for supersonic inlets --- measuring pressure in the throat of a supersonic inlet  
[NASA-CASE-LEW-11915-1] c 35 N76-14431
- Method for fabricating a mass spectrometer inlet leak  
[NASA-CASE-GSC-12077-1] c 35 N77-24455
- Gas turbine engine with recirculating bleed  
[NASA-CASE-LEW-12452-1] c 07 N78-25089
- Self stabilizing sonic inlet  
[NASA-CASE-LEW-11890-1] c 05 N79-24976
- INLET NOZZLES**  
Rocket injector head  
[NASA-CASE-XMF-04592-1] c 20 N79-21125
- INLET PRESSURE**  
Fluid jet amplifier  
[NASA-CASE-XLE-03512] c 12 N69-21466
- Shock position sensor for supersonic inlets --- measuring pressure in the throat of a supersonic inlet  
[NASA-CASE-LEW-11915-1] c 35 N76-14431
- INOCULATION**  
Automatic inoculating apparatus --- includes movable carriage, drive motor, and swabbing motor  
[NASA-CASE-LAR-11074-1] c 51 N75-13502
- INORGANIC COATINGS**  
Diffuse reflective coating  
[NASA-CASE-GSC-11214-1] c 06 N73-13128
- Boron trifluoride coatings for thermoplastic materials and method of applying same in glow discharge  
[NASA-CASE-ARC-11057-1] c 27 N78-31233
- INORGANIC COMPOUNDS**  
Method of making membranes  
[NASA-CASE-XNP-04264] c 03 N69-21337
- Inorganic solid film lubricants Patent  
[NASA-CASE-XMF-03988] c 15 N71-21403
- Modified polyurethane foams for fuel-fire Patent  
[NASA-CASE-ARC-10098-1] c 06 N71-24739
- Inorganic thermal control coatings  
[NASA-CASE-MFS-20011] c 18 N72-22566
- Inorganic-organic separators for alkaline batteries  
[NASA-CASE-LEW-12649-1] c 44 N78-25530
- Method for the preparation of inorganic single crystal and polycrystalline electronic materials  
[NASA-CASE-XLE-02545-1] c 76 N79-21910
- INORGANIC PEROXIDES**  
Process for preparing higher oxides of the alkali and alkaline earth metals  
[NASA-CASE-ARC-10992-1] c 26 N78-32229
- Process for the preparation of calcium superoxide  
[NASA-CASE-ARC-11053-1] c 25 N79-10162
- INPUT**  
Remodulator filter Patent  
[NASA-CASE-NPO-10198] c 09 N71-24806
- Active RC networks  
[NASA-CASE-ARC-10020] c 10 N72-17172
- High-speed multiplexing of keyboard data inputs  
[NASA-CASE-NPO-14554-1] c 60 N81-27814
- INPUT/OUTPUT ROUTINES**  
Analog to digital converter  
[NASA-CASE-NPO-13385-1] c 33 N76-18345
- INSERTION**  
Apparatus and method of inserting a microelectrode in body tissue or the like using vibration means  
[NASA-CASE-NPO-13910-1] c 52 N79-27836
- INSERTION LOSS**  
Insertion loss measuring apparatus having transformer means connected across a pair of bolometers Patent  
[NASA-CASE-XNP-01193] c 10 N71-16057
- INSERTS**  
Method of repairing hidden leaks in tubes  
[NASA-CASE-MFS-19796-1] c 37 N86-32736
- Turbomachinery shaft insert  
[NASA-CASE-MFS-28345-2] c 37 N89-28842
- INSPECTION**  
Automatic visual inspection system for microelectronics  
[NASA-CASE-NPO-13282] c 38 N78-17396
- Method for refurbishing and processing parachutes  
[NASA-CASE-KSC-11042-1] c 09 N82-29330
- Apparatus and method for inspecting a bearing ball  
[NASA-CASE-MFS-25833-1] c 35 N86-32698
- Method of radiographic inspection of wooden members  
[NASA-CASE-LAR-13724-1] c 38 N88-23983
- INSTALLING**  
Device for installing rocket engines  
[NASA-CASE-MFS-19220-1] c 20 N76-22296
- Thermocouple installation  
[NASA-CASE-NPO-13540-1] c 35 N77-14409
- A method and technique for installing light-weight fragile, high-temperature fiber insulation  
[NASA-CASE-MSC-18934-3] c 24 N82-26387
- Inflatable device for installing strain gage bridges  
[NASA-CASE-FRC-11068-1] c 35 N84-12443
- INSTRUMENT COMPENSATION**  
Compensation for primary reflector wavefront error  
[NASA-CASE-NPO-16869-1CU] c 74 N86-33138
- INSTRUMENT ERRORS**  
Radiation direction detector including means for compensating for photocell aging Patent  
[NASA-CASE-XLA-00183] c 14 N70-40239
- INSTRUMENT FLIGHT RULES**  
Controlled visibility device for an aircraft Patent  
[NASA-CASE-XFR-04147] c 11 N71-10748
- INSTRUMENT ORIENTATION**  
Plurality of photosensitive cells on a pyramidal base for planetary trackers  
[NASA-CASE-XNP-04180] c 07 N89-39736
- Azimuth laying system Patent  
[NASA-CASE-XMF-01669] c 21 N71-23289
- Optical machine tool alignment indicator Patent  
[NASA-CASE-XAC-09489-1] c 15 N71-26673
- Solar energy powered heliotrope  
[NASA-CASE-GSC-10945-1] c 21 N72-31637
- INSTRUMENT PACKAGES**  
Apparatus for ejection of an instrument cover  
[NASA-CASE-XMF-04132] c 15 N69-27502
- Method and apparatus for shock protection Patent  
[NASA-CASE-XLA-00482] c 15 N70-36409
- Foam generator Patent  
[NASA-CASE-XLA-00838] c 03 N70-36778
- Velocity package Patent  
[NASA-CASE-XLA-01339] c 31 N71-15692
- Processing for producing a sterilized instrument Patent  
[NASA-CASE-XNP-09763] c 14 N71-20461
- Thermal control canister  
[NASA-CASE-GSC-12253-1] c 34 N79-31523
- INSTRUMENTS**  
Radio frequency shielded enclosure Patent  
[NASA-CASE-XMF-09422] c 07 N71-19436
- Linear differential pressure sensor Patent  
[NASA-CASE-XMF-01974] c 14 N71-22752
- Precision thrust gage Patent  
[NASA-CASE-XGS-02319] c 14 N71-22965
- Self-calibrating displacement transducer Patent  
[NASA-CASE-XLA-00781] c 09 N71-22999
- Sensing probe  
[NASA-CASE-LEW-10281-1] c 14 N72-17327
- Scientific experiment flexible mount  
[NASA-CASE-MSC-12372-1] c 31 N72-25842
- Magnetic suspension and pointing system  
[NASA-CASE-LAR-11889-2] c 37 N78-27424
- Rotary leveling base platform  
[NASA-CASE-ARC-10981-1] c 37 N78-27425
- INSULATED STRUCTURES**  
Piping arrangement through a double chamber structure  
[NASA-CASE-XNP-08882] c 15 N69-39935
- INSULATION**  
Electrode construction Patent  
[NASA-CASE-ARC-10043-1] c 05 N71-11193
- Foamed in place ceramic refractory insulating material Patent  
[NASA-CASE-XGS-02435] c 18 N71-22998
- Method of removing insulated material from insulated wires  
[NASA-CASE-FRC-10038] c 15 N72-20444
- Inductance device with vacuum insulation  
[NASA-CASE-LEW-10330-1] c 09 N72-27226
- Insulated electrocardiographic electrodes --- without paste electrolyte  
[NASA-CASE-MSC-14339-1] c 05 N75-24716
- Silica reusable surface insulation  
[NASA-CASE-ARC-10721-1] c 27 N76-22376
- Two-component ceramic coating for silica insulation  
[NASA-CASE-MSC-14270-1] c 27 N76-22377
- Three-component ceramic coating for silica insulation  
[NASA-CASE-MSC-14270-2] c 27 N76-23426
- Field effect transistor and method of construction thereof  
[NASA-CASE-MFS-23312-1] c 33 N78-27326
- Cork-resin ablative insulation for complex surfaces and method for applying the same  
[NASA-CASE-MFS-23626-1] c 24 N80-26388
- Impacting device for testing insulation  
[NASA-CASE-MFS-25862-2] c 37 N84-33807
- Cryogenic insulation system  
[NASA-CASE-LAR-13506-1] c 27 N89-12741
- INSULATORS**  
Electrostatic thruster with improved insulators Patent  
[NASA-CASE-XLE-01902] c 28 N71-10574
- High temperature resistant cermet and ceramic compositions --- for thermal resistant insulators and refractory coatings  
[NASA-CASE-NPO-13690-1] c 27 N78-19302
- Pyroelectric detector arrays  
[NASA-CASE-LAR-12363-2] c 33 N83-24763
- INTAKE SYSTEMS**  
Inlet deflector for jet engines Patent  
[NASA-CASE-XLE-00388] c 28 N70-34788
- The engine air intake system  
[NASA-CASE-ARC-10761-1] c 07 N77-18154
- Fluid sampling device  
[NASA-CASE-GSC-12143-1] c 35 N77-32456
- Passive propellant system  
[NASA-CASE-MFS-23642-1] c 20 N80-10278
- Reciprocating engines  
[NASA-CASE-MSC-16239-1] c 37 N81-32510
- Continuous laminar smoke generator  
[NASA-CASE-LAR-13014-1] c 09 N85-21178
- Solid sorbent air sampler  
[NASA-CASE-MSC-20653-1] c 35 N86-26595
- INTEGRATED CIRCUITS**  
Counter and shift register Patent  
[NASA-CASE-XNP-01753] c 08 N71-22897
- Pulse rise time and amplitude detector Patent  
[NASA-CASE-XMF-08804] c 09 N71-24717
- Method and apparatus for swept-frequency impedance measurements of welds  
[NASA-CASE-ARC-10176-1] c 15 N72-21464
- Integrated circuit including field effect transistor and cermet resistor  
[NASA-CASE-GSC-10835-1] c 09 N72-33205
- Derivation of a tangent function using an integrated circuit four-quadrant multiplier  
[NASA-CASE-MSC-13907-1] c 10 N73-26230
- Coaxial inverted geometry transistor having buried emitter  
[NASA-CASE-ARC-10330-1] c 09 N73-32112
- Integrated circuit package with lead structure and method of preparing the same  
[NASA-CASE-MFS-21374-1] c 33 N74-12951
- Integrated P-channel MOS gyrator  
[NASA-CASE-MFS-22343-1] c 33 N74-34638
- Four phase logic systems --- including integrated microcircuits  
[NASA-CASE-MSC-14240-1] c 33 N75-14957
- Integrable power gyrator --- with Z-matrix design using parallel transistors  
[NASA-CASE-MFS-22342-1] c 33 N75-30428
- Cross correlation anomaly detection system  
[NASA-CASE-NPO-13283] c 38 N78-17395
- Complementary DMOS-VMOS integrated circuit structure  
[NASA-CASE-GSC-12190-1] c 33 N79-12321
- Method for analyzing radiation sensitivity of integrated circuits  
[NASA-CASE-NPO-14350-1] c 33 N80-14332
- Solar cell system having alternating current output  
[NASA-CASE-LEW-12806-2] c 44 N81-12542
- Microwave integrated circuit for Josephson voltage standards  
[NASA-CASE-MFS-23845-1] c 33 N81-17348
- Method for sequentially processing a multi-level interconnect circuit in a vacuum chamber  
[NASA-CASE-MFS-256704-1] c 33 N84-22884
- Split-cross-bridge resistor for testing for proper fabrication of integrated circuits  
[NASA-CASE-NPO-16021-1] c 33 N85-30187
- Cross-contact chain  
[NASA-CASE-NPO-16784-1] c 33 N87-10231
- Method of examining microcircuit patterns  
[NASA-CASE-NPO-16299-1] c 33 N87-14594
- Ion beam sputter etching  
[NASA-CASE-LEW-13899-1] c 31 N87-21160
- Integrated photo-responsive metal oxide semiconductor circuit  
[NASA-CASE-GSC-12782-1] c 33 N88-14271
- Integrated circuit reliability testing  
[NASA-CASE-NPO-17393-1CU] c 33 N89-29679
- INTEGRATORS**  
Operational integrator Patent  
[NASA-CASE-NPO-10230] c 09 N71-12520
- Variable duration pulse integrator Patent  
[NASA-CASE-XLA-01219] c 10 N71-23084
- Variable width pulse integrator Patent  
[NASA-CASE-XLA-03356] c 10 N71-23315
- Feedback integrator with grounded capacitor Patent  
[NASA-CASE-XAC-10607] c 10 N71-23669

## INTERFACES

- High speed phase detector Patent  
[NASA-CASE-XNP-01306-2] c 09 N71-24596  
Adaptive control system for line-commutated inverters  
[NASA-CASE-MFS-25209-1] c 33 N83-35227

## INTERFACES

- Geometries for roughness shapes in laminar flow  
[NASA-CASE-LAR-13255-1] c 02 N87-16793  
Expandable pallet for space station interface attachments  
[NASA-CASE-MSC-21117-1] c 18 N88-28958  
Laser Doppler velocimeter multiplexer interface for simultaneous measured events  
[NASA-CASE-ARC-11536-1] c 33 N89-14384  
Space module assembly apparatus with docking alignment flexibility and restraint  
[NASA-CASE-MSC-21211-1] c 18 N89-28553  
Expandable pallet for space station interface attachments  
[NASA-CASE-MSC-21117-2] c 18 N89-28554

## INTERFACIAL TENSION

- Passive propellant system  
[NASA-CASE-MFS-23642-1] c 20 N80-10278  
Sphere forming method and apparatus  
[NASA-CASE-NPO-15070-1] c 31 N83-35176  
Surface tension confined liquid cryogen cooler  
[NASA-CASE-GSC-13112-1] c 31 N89-29578

## INTERFEROMETERS

- Apparatus for controlling the velocity of an electromechanical drive for interferometers and the like Patent  
[NASA-CASE-XGS-03532] c 14 N71-17627  
Incremental motion drive system Patent  
[NASA-CASE-XNP-08897] c 15 N71-17694  
Laser grating interferometer Patent  
[NASA-CASE-XLA-04295] c 16 N71-24170  
Fringe counter for interferometers Patent  
[NASA-CASE-LAR-10204] c 14 N71-27215  
Interferometer-polarimeter  
[NASA-CASE-NPO-11239] c 14 N73-12446  
Interferometric rotation sensor  
[NASA-CASE-ARC-10278-1] c 14 N73-25463  
High resolution Fourier interferometer-spectrophotopolarimeter  
[NASA-CASE-NPO-13604-1] c 35 N76-31490  
Apparatus for providing a servo drive signal in a high-speed stepping interferometer  
[NASA-CASE-NPO-13569-2] c 35 N79-14348  
Velocity servo for continuous scan Fourier interference spectrometer  
[NASA-CASE-NPO-14093-1] c 35 N80-20563  
Interferometer  
[NASA-CASE-NPO-14502-1] c 74 N81-17888  
Interferometer --- high resolution  
[NASA-CASE-NPO-14448-1] c 74 N81-29963  
Optical gyroscope system  
[NASA-CASE-NPO-14258-1] c 35 N81-33448  
Dual-beam skin friction interferometer  
[NASA-CASE-ARC-11354-1] c 74 N83-21949  
Interferometric angle monitor  
[NASA-CASE-GSC-12614-1] c 74 N83-32577  
Low noise lead screw positioner  
[NASA-CASE-NPO-15617-1] c 35 N87-21304

## INTERFEROMETRY

- Surface roughness measuring system --- synthetic aperture radar measurements of ocean wave height and terrain peaks  
[NASA-CASE-NPO-13862-1] c 35 N79-10391  
Interferometric locating system  
[NASA-CASE-NPO-14173-1] c 04 N80-32359  
Dual differential interferometer  
[NASA-CASE-LAR-12966-1] c 35 N85-30282  
Ranging system which compares an object reflected component of a light beam to a reference component of the light beam  
[NASA-CASE-NPO-15865-1] c 74 N85-34629

## INTERLAYERS

- Method of making a partial interlaminar separation composite system  
[NASA-CASE-LAR-12065-2] c 24 N81-33235

## INTERMEDIATE FREQUENCY AMPLIFIERS

- Multichannel logarithmic RF level detector  
[NASA-CASE-LAR-11021-1] c 32 N76-14321

## INTERMETALLICS

- Twisted multifilament superconductor  
[NASA-CASE-LEW-11726-1] c 26 N73-26752  
Synthesis of superconducting compounds by explosive compaction of powders  
[NASA-CASE-MFS-20861-1] c 18 N73-32437  
Oxidation resistant slurry coating for carbon-based materials  
[NASA-CASE-LEW-13923-1] c 26 N85-35267  
Nickel base coating alloy  
[NASA-CASE-LEW-13834-1] c 26 N87-14482

## INTERNAL COMBUSTION ENGINES

- Fuel injection pump for internal combustion engines Patent  
[NASA-CASE-MSC-12139-1] c 28 N71-14058  
Continuous detonation reaction engine Patent  
[NASA-CASE-XMF-06926] c 28 N71-22983  
System for preconditioning a combustible vapor  
[NASA-CASE-NPO-12072] c 28 N72-22772  
System for minimizing internal combustion engine pollution emission  
[NASA-CASE-NPO-13402-1] c 37 N76-18457  
Combustion engine --- for air pollution control  
[NASA-CASE-NPO-13671-1] c 37 N77-31497  
Hydrogen-fueled engine  
[NASA-CASE-NPO-13763-1] c 44 N78-33526  
Plasma igniter for internal combustion engine  
[NASA-CASE-NPO-13828-1] c 37 N79-11405  
Indicated mean-effective pressure instrument  
[NASA-CASE-LEW-12661-1] c 35 N79-14345  
Start up system for hydrogen generator used with an internal combustion engine  
[NASA-CASE-NPO-13849-1] c 28 N80-10374  
Supercritical fuel injection system  
[NASA-CASE-LEW-12990-1] c 07 N81-29129  
Automatic compression adjusting mechanism for internal combustion engines  
[NASA-CASE-MSC-18807-1] c 37 N83-36483  
Real time pressure signal system for a rotary engine  
[NASA-CASE-LEW-13622-1] c 07 N84-22559  
Composite piston  
[NASA-CASE-LAR-13435-1] c 37 N88-23981

## INTERPLANETARY SPACE

- Heat shield Patent  
[NASA-CASE-XMS-00486] c 33 N70-33344  
RC networks and amplifiers employing the same  
[NASA-CASE-XAC-05462-2] c 10 N72-17171

## INTERPLANETARY SPACECRAFT

- Transpirationally cooled heat ablation system Patent  
[NASA-CASE-XMS-02677] c 31 N70-42075

## INTERPLANETARY TRAJECTORIES

- Means for visually indicating flight paths of vehicles between the Earth, Venus, and Mercury Patent  
[NASA-CASE-XNP-00708] c 14 N70-35394

## INTRACRANIAL PRESSURE

- Induction powered biological radiosonde  
[NASA-CASE-ARC-11120-1] c 52 N80-18691

## INTRAOCULAR PRESSURE

- Intra-ocular pressure normalization technique and equipment  
[NASA-CASE-LEW-12955-1] c 52 N80-14684  
Intra-ocular pressure normalization technique and equipment  
[NASA-CASE-LEW-12723-1] c 52 N80-18690

## INTRAVEHICULAR ACTIVITY

- Space suit  
[NASA-CASE-MSC-12609-1] c 05 N73-32012

## INTRAVENOUS PROCEDURES

- Bio-medical flow sensor --- intravenous procedures  
[NASA-CASE-MSC-18761-1] c 52 N83-27577

## INTRUSION

- Passive intrusion detection system  
[NASA-CASE-NPO-13804-1] c 33 N80-23559

## INVENTIONS

- Active notch filter network with variable notch depth, width and frequency  
[NASA-CASE-FRC-11055-1] c 33 N80-29583  
Ion-exchange hollow fibers  
[NASA-CASE-NPO-13309-1] c 25 N81-19244

## INVERTED CONVERTERS (DC TO AC)

- Inverter ratio failure detector  
[NASA-CASE-NPO-13160-1] c 35 N74-18090  
Variable frequency inverter for ac induction motors with torque, speed and braking control  
[NASA-CASE-MFS-22088-1] c 33 N75-15874  
Solar cell system having alternating current output  
[NASA-CASE-LEW-12806-2] c 44 N81-12542  
Power converter  
[NASA-CASE-FRC-11014-1] c 33 N82-18494

## INVERTERS

- Transient-compensated SCR inverter  
[NASA-CASE-XLA-08507] c 09 N69-39984  
Inverter oscillator with voltage feedback  
[NASA-CASE-NPO-10760] c 09 N72-25254  
Overload protection system for power inverter  
[NASA-CASE-NPO-13872-1] c 33 N78-10377  
Module failure isolation circuit for paralleled inverters --- preventing system failure during power conditioning for spacecraft applications  
[NASA-CASE-NPO-14000-1] c 33 N79-24254  
Base drive for paralleled inverter systems  
[NASA-CASE-NPO-14163-1] c 33 N81-14220  
Adaptive reference voltage generator for firing angle control of line-commutated inverters  
[NASA-CASE-MFS-25215-1] c 33 N83-31953  
Adaptive control system for line-commutated inverters  
[NASA-CASE-MFS-25209-1] c 33 N83-35227

## INVESTIGATION

- Method for investigating the formation of crystals in a transparent material  
[NASA-CASE-MFS-26008-1-CU] c 76 N88-14835

## IODINE

- Method of using photovoltaic cell using poly-N-vinylcarbazole complex Patent  
[NASA-CASE-NPO-10373] c 03 N71-18698  
Simple method of making photovoltaic junctions Patent  
[NASA-CASE-XNP-01960] c 09 N71-23027  
Iodine generator for reclaimed water purification  
[NASA-CASE-MSC-14632-1] c 54 N78-14784

## IODINE COMPOUNDS

- Perfluoroalkyl polytriazines containing pendent iodoiodofluoromethyl groups  
[NASA-CASE-ARC-11241-1] c 25 N81-14016

## IODINE ISOTOPES

- Production of high purity I-123  
[NASA-CASE-LEW-10518-1] c 24 N72-33681  
Method of producing I-123 --- by bombardment of cesium causing spallation  
[NASA-CASE-LEW-11390-2] c 25 N76-27383  
Production of I-123  
[NASA-CASE-LEW-11390-3] c 25 N76-29379

## ION ACCELERATORS

- Process for glass coating an ion accelerator grid Patent  
[NASA-CASE-LEW-10278-1] c 15 N71-28582  
Ion beam accelerator system  
[NASA-CASE-NPO-15547-1] c 72 N84-16959

## ION BEAMS

- Ion beam deflector Patent  
[NASA-CASE-LEW-10689-1] c 28 N71-26173  
Dispensing targets for ion beam particle generators  
[NASA-CASE-NPO-13112-1] c 73 N74-26767  
Sputtering holes with ion beamlets  
[NASA-CASE-LEW-11646-1] c 20 N74-31269  
Method of constructing dish ion thruster grids to provide hole array spacing compensation  
[NASA-CASE-LEW-11876-1] c 20 N76-21276  
Ion beam thruster shield  
[NASA-CASE-LEW-12082-1] c 20 N77-10148  
Targets for producing high purity I-123  
[NASA-CASE-LEW-10518-3] c 25 N78-27226  
Method of cold welding using ion beam technology  
[NASA-CASE-LEW-12982-1] c 37 N81-19455  
Ion beam accelerator system  
[NASA-CASE-NPO-15547-1] c 72 N84-16959  
Method of making an ion beam sputter-etched ventricular catheter for hydrocephalus shunt  
[NASA-CASE-LEW-13107-2] c 52 N84-23095  
Ion sputter textured graphite electrode plates  
[NASA-CASE-LEW-12919-2] c 70 N84-28565  
Deposition of diamondlike carbon films  
[NASA-CASE-LEW-14080-1] c 31 N85-20153  
Diamondlike flakes  
[NASA-CASE-LEW-13837-2] c 24 N85-21267  
Heat exchanger for electrothermal devices  
[NASA-CASE-LEW-14037-1] c 20 N87-16875  
Ion beam sputter etching  
[NASA-CASE-LEW-13899-1] c 31 N87-21160  
Generation of intense negative ion beams  
[NASA-CASE-NPO-18061-1-CU] c 72 N87-21660  
Ion-beam nitriding of steels  
[NASA-CASE-LEW-14104-2] c 26 N88-14179  
Trochoidal analysis of scattered electrons in a merged electron-ion beam geometry  
[NASA-CASE-NPO-16789-1-CU] c 72 N89-29169

## ION CHARGE

- Quadrupole mass filter with means to generate a noise spectrum exclusive of the resonant frequency of the desired ions to deflect stable ions  
[NASA-CASE-XNP-04231] c 14 N73-32325

## ION CONCENTRATION

- Deposition of alloy films --- on irregularly shaped metal object  
[NASA-CASE-LEW-11262-1] c 27 N74-13270

## ION CURRENTS

- System for monitoring the presence of neutrals in a stream of ions Patent  
[NASA-CASE-XNP-02592] c 24 N71-20518

## ION CYCLOTRON RADIATION

- Ion and electron detector for use in an ICR spectrometer  
[NASA-CASE-NPO-13479-1] c 35 N77-10492

## ION DENSITY (CONCENTRATION)

- Method and apparatus for measurement of trap density and energy distribution in dielectric films  
[NASA-CASE-NPO-13443-1] c 76 N76-20994

## ION ENGINES

- Ion thruster cathode  
[NASA-CASE-XLE-07087] c 06 N69-39889  
High-vacuum condenser tank for ion rocket tests Patent  
[NASA-CASE-XLE-00168] c 11 N70-33278

- Ion thruster cathode Patent Application  
[NASA-CASE-LEW-10814-1] c 28 N70-35422
- Ion rocket Patent  
[NASA-CASE-XLE-00376] c 28 N70-37245
- Rocket engine Patent  
[NASA-CASE-XLE-00342] c 28 N70-37980
- Thrust dynamometer Patent  
[NASA-CASE-XLE-00702] c 14 N70-40203
- Apparatus for increasing ion engine beam density Patent  
[NASA-CASE-XLE-00519] c 28 N70-41576
- Double optic system for ion engine Patent  
[NASA-CASE-XNP-02839] c 28 N70-41922
- Electrostatic ion engine having a permanent magnetic circuit Patent  
[NASA-CASE-XLE-01124] c 28 N71-14043
- Electrostatic ion rocket engine Patent  
[NASA-CASE-XLE-02066] c 28 N71-15661
- System for monitoring the presence of neutrals in a stream of ions Patent  
[NASA-CASE-XNP-02592] c 24 N71-20518
- Construction and method of arranging a plurality of ion engines to form a cluster Patent  
[NASA-CASE-XNP-02923] c 28 N71-23081
- Electronic cathode having a brush-like structure and a relatively thick oxide emissive coating Patent  
[NASA-CASE-XLE-04501] c 09 N71-23190
- Ion engine casing construction and method of making same Patent  
[NASA-CASE-XNP-06942] c 28 N71-23293
- Ion thruster accelerator system Patent  
[NASA-CASE-LEW-10106-1] c 28 N71-26642
- Propellant feed isolator Patent  
[NASA-CASE-LEW-10210-1] c 28 N71-26781
- High efficiency ionizer assembly Patent  
[NASA-CASE-XNP-01954] c 28 N71-28850
- Feed system for an ion thruster  
[NASA-CASE-NPO-10737] c 28 N72-11709
- Ion thruster with a combination keeper electrode and electron baffle  
[NASA-CASE-NPO-11880] c 28 N73-24783
- Single grid accelerator for an ion thruster  
[NASA-CASE-XLE-10453-2] c 28 N73-27699
- Method of making dish ion thruster grids  
[NASA-CASE-LEW-11694-1] c 20 N75-18310
- Method of constructing dish ion thruster grids to provide hole array spacing compensation  
[NASA-CASE-LEW-11876-1] c 20 N76-21276
- Precision tunable resonant microwave cavity  
[NASA-CASE-LEW-13935-1] c 33 N87-21234
- ION EXCHANGE MEMBRANE ELECTROLYTES**  
Method of making membranes  
[NASA-CASE-XNP-04264] c 03 N69-21337
- Ion-exchange membrane with platinum electrode assembly Patent  
[NASA-CASE-XMS-02063] c 03 N71-29044
- Formulated plastic separators for soluble electrode cells --- rubber-ion transport membranes  
[NASA-CASE-LEW-12358-1] c 44 N79-17313
- Insoluble polyelectrolyte and ion-exchange hollow fiber impregnated therewith  
[NASA-CASE-NPO-13530-1] c 25 N81-17187
- Method of making formulated plastic separators for soluble electrode cells  
[NASA-CASE-LEW-12358-2] c 25 N82-21268
- Method and apparatus for rebalancing a REDOX flow cell system  
[NASA-CASE-LEW-14127-1] c 33 N86-20680
- ION EXCHANGE RESINS**  
Inorganic-organic separators for alkaline batteries  
[NASA-CASE-LEW-12649-1] c 44 N78-25530
- Dialysis system --- using ion exchange resin membranes permeable to urea molecules  
[NASA-CASE-NPO-14101-1] c 52 N80-14687
- Membrane consisting of polyquaternary amine ion exchange polymer network interpenetrating the chains of thermoplastic matrix polymer  
[NASA-CASE-NPO-14001-1] c 27 N81-14076
- ION EXCHANGING**  
Membrane consisting of polyquaternary amine ion exchange polymer network interpenetrating the chains of thermoplastic matrix polymer  
[NASA-CASE-NPO-14001-1] c 27 N81-14076
- Ion-exchange hollow fibers  
[NASA-CASE-NPO-13309-1] c 25 N81-19244
- ION EXTRACTION**  
Apparatus for extraction and separation of a preferentially photo-dissociated molecular isotope into positive and negative ions by means of an electric field  
[NASA-CASE-LEW-12465-1] c 25 N78-25148
- Ion beam accelerator system  
[NASA-CASE-NPO-15547-1] c 72 N84-16959
- Ion generator and ion application system  
[NASA-CASE-MFS-28122-1] c 72 N88-24253
- ION IMPLANTATION**  
Method of making V-MOS field effect transistors utilizing a two-step anisotropic etching and ion implantation  
[NASA-CASE-GSC-12515-1] c 33 N81-26360
- ION IRRADIATION**  
Modification of the electrical and optical properties of polymers --- ion irradiation to create texture  
[NASA-CASE-LEW-13027-1] c 27 N80-24437
- Ion-beam nitriding of steels  
[NASA-CASE-LEW-14104-2] c 26 N88-14179
- ION MOTION**  
Ion mass spectrometer  
[NASA-CASE-NPO-15423-1] c 35 N84-28016
- ION PLATING**  
Catalyst surfaces for the chromous/chromic redox couple  
[NASA-CASE-LEW-13148-2] c 44 N81-29524
- Diamondlike flake composites  
[NASA-CASE-LEW-13837-1] c 24 N84-22695
- ION PROBES**  
Ion microprobe mass spectrometer for analyzing fluid materials Patent  
[NASA-CASE-ERC-10014] c 14 N71-28863
- ION PROPULSION**  
Variable thrust ion engine utilizing thermally decomposable solid fuel Patent  
[NASA-CASE-XMF-00923] c 28 N70-36802
- Ion rocket Patent  
[NASA-CASE-XLE-00376] c 28 N70-37245
- Rocket engine Patent  
[NASA-CASE-XLE-00342] c 28 N70-37980
- Method of producing porous tungsten ionizers for ion rocket engines Patent  
[NASA-CASE-XLE-00455] c 28 N70-38197
- Double optic system for ion engine Patent  
[NASA-CASE-XNP-02839] c 28 N70-41922
- Electron bombardment ion engine Patent  
[NASA-CASE-XNP-04124] c 28 N71-21822
- Ion beam deflector Patent  
[NASA-CASE-LEW-10689-1] c 28 N71-26173
- Ion thruster accelerator system Patent  
[NASA-CASE-LEW-10106-1] c 28 N71-26642
- Feed system for an ion thruster  
[NASA-CASE-NPO-10737] c 28 N72-11709
- Ion thruster  
[NASA-CASE-LEW-10770-1] c 28 N72-22770
- Ion thruster magnetic field control  
[NASA-CASE-LEW-10835-1] c 28 N72-22771
- Method of making dish ion thruster grids  
[NASA-CASE-LEW-11694-1] c 20 N75-18310
- Apparatus for forming dish ion thruster grids  
[NASA-CASE-LEW-11694-2] c 37 N76-14461
- Anode for ion thruster  
[NASA-CASE-LEW-12048-1] c 20 N77-20162
- Closed Loop solar array-ion thruster system with power control circuitry  
[NASA-CASE-LEW-12780-1] c 20 N79-20179
- A dc to dc converter  
[NASA-CASE-MFS-25430-1] c 33 N84-16453
- Ring-cusp ion thruster with shell anode  
[NASA-CASE-LEW-13881-1] c 20 N85-21256
- ION PUMPS**  
Mass spectrometer with magnetic pole pieces providing the magnetic fields for both the magnetic sector and an ion-type vacuum pump  
[NASA-CASE-NPO-13663-1] c 35 N77-14406
- ION SOURCES**  
Focusing system for an ion source having apertured electrodes Patent  
[NASA-CASE-XNP-03332] c 09 N71-10618
- Multilayer porous ionizer Patent  
[NASA-CASE-XNP-04338] c 17 N71-23046
- Ion thruster accelerator system Patent  
[NASA-CASE-LEW-10106-1] c 28 N71-26642
- High efficiency ionizer assembly Patent  
[NASA-CASE-XNP-01954] c 28 N71-28850
- Apparatus for ionization analysis  
[NASA-CASE-ARC-10017-1] c 14 N72-29464
- Sputtering holes with ion beamlets  
[NASA-CASE-LEW-11646-1] c 20 N74-31269
- Multitarget sequential sputtering apparatus  
[NASA-CASE-NPO-13345-1] c 37 N75-19684
- Miniature cyclotron resonance ion source using small permanent magnet  
[NASA-CASE-NPO-14324-1] c 72 N80-27163
- Hydrogen hollow cathode ion source  
[NASA-CASE-LEW-12940-1] c 72 N80-33186
- ION TRAPS (INSTRUMENTATION)**  
Method and apparatus for measurement of trap density and energy distribution in dielectric films  
[NASA-CASE-NPO-13443-1] c 76 N76-20994
- IONIC MOBILITY**  
Solid electrolyte cell  
[NASA-CASE-NPO-15269-1] c 44 N82-29710
- IONIZATION**  
Ion generator and ion application system  
[NASA-CASE-MFS-28122-1] c 72 N88-24253
- IONIZATION CHAMBERS**  
Baseline stabilization system for ionization detector Patent  
[NASA-CASE-XNP-03128] c 10 N70-41991
- Electron bombardment ion engine Patent  
[NASA-CASE-XNP-04124] c 28 N71-21822
- A multichannel photoionization chamber for absorption analysis Patent  
[NASA-CASE-ERC-10044-1] c 14 N71-27090
- Apparatus for ionization analysis  
[NASA-CASE-ARC-10017-1] c 14 N72-29464
- IONIZATION CROSS SECTIONS**  
Trochoidal analysis of scattered electrons in a merged electron-ion beam geometry  
[NASA-CASE-NPO-16789-1-CU] c 72 N89-29169
- IONIZATION GAGES**  
Ionization vacuum gauge Patent  
[NASA-CASE-XNP-00646] c 14 N70-35666
- Pressure monitoring with a plurality of ionization gauges controlled at a central location Patent  
[NASA-CASE-XLE-00787] c 14 N71-21090
- Apparatus for ionization analysis  
[NASA-CASE-ARC-10017-1] c 14 N72-29464
- Ultrahigh vacuum measuring ionization gauge  
[NASA-CASE-XLE-05087] c 14 N73-30391
- IONIZATION POTENTIALS**  
Field ionization electrodes Patent  
[NASA-CASE-ERC-10013] c 09 N71-26678
- Modulated voltage metastable ionization detector  
[NASA-CASE-ARC-11503-1] c 35 N85-34374
- IONIZED GASES**  
Probes having ring and primary sensor at same potential to prevent collection of stray wall currents in ionized gases  
[NASA-CASE-XLE-00690] c 25 N69-39884
- Transient heat transfer gauge Patent  
[NASA-CASE-XNP-09802] c 33 N71-15641
- Apparatus for extraction and separation of a preferentially photo-dissociated molecular isotope into positive and negative ions by means of an electric field  
[NASA-CASE-LEW-12465-1] c 25 N78-25148
- Hollow cathode apparatus  
[NASA-CASE-NPO-15560-1] c 33 N85-21491
- IONIZERS**  
Water management system and an electrolytic cell therefor Patent  
[NASA-CASE-MSC-10960-1] c 03 N71-24718
- Method of making dish ion thruster grids  
[NASA-CASE-LEW-11694-1] c 20 N75-18310
- Particle analyzing method and apparatus  
[NASA-CASE-NPO-15292-1] c 35 N83-27184
- IONIZING RADIATION**  
High-voltage cable Patent  
[NASA-CASE-XNP-00738] c 09 N70-38201
- Reinforced polyquinoxaline gasket and method of preparing the same --- resistant to ionizing radiation and liquid hydrogen temperatures  
[NASA-CASE-MFS-21364-1] c 37 N74-18126
- Process for crosslinking methylene-containing aromatic polymers with ionizing radiation  
[NASA-CASE-LAR-13448-1] c 27 N86-24840
- IONOSPHERIC DISTURBANCES**  
Method and apparatus for calibrating the ionosphere and application to surveillance of geophysical events  
[NASA-CASE-NPO-15430-1] c 46 N85-21846
- IONOSPHERIC ELECTRON DENSITY**  
Method and apparatus for calibrating the ionosphere and application to surveillance of geophysical events  
[NASA-CASE-NPO-15430-1] c 46 N85-21846
- IONOSPHERIC SOUNDING**  
Method and apparatus for calibrating the ionosphere and application to surveillance of geophysical events  
[NASA-CASE-NPO-15430-1] c 46 N85-21846
- IONS**  
Micrometeoroid analyzer  
[NASA-CASE-ARC-10443-1] c 14 N73-20477
- IRIDIUM**  
Thermocouples of molybdenum and iridium alloys for more stable vacuum-high temperature performance  
[NASA-CASE-LEW-12174-2] c 35 N79-14346
- IRISES (MECHANICAL APERTURES)**  
Active microwave irises and windows  
[NASA-CASE-LAR-10513-1] c 07 N72-25170
- Thin film microwave iris  
[NASA-CASE-LAR-10511-1] c 09 N72-29172
- IRON**  
Negative electrode catalyst for the iron chromium redox energy storage system  
[NASA-CASE-LEW-14028-1] c 44 N86-19721
- IRON ALLOYS**  
Tantalum modified ferritic iron base alloys  
[NASA-CASE-LEW-12095-1] c 26 N78-18182

- Process for making a high toughness-high strength ion alloy  
[NASA-CASE-LEW-12542-2] c 26 N79-22271  
High toughness-high strength iron alloy  
[NASA-CASE-LEW-12542-3] c 26 N80-32484  
Thermal barrier coating system  
[NASA-CASE-LEW-14057-1] c 24 N85-35233

**IRON CHLORIDES**

- Chromium electrodes for REDOX cells  
[NASA-CASE-LEW-13653-1] c 44 N84-28205

**IRON COMPOUNDS**

- Coal desulfurization --- using iron pentacarbonyl  
[NASA-CASE-NPO-14272-1] c 25 N81-33246

**IRRADIATION**

- Solar sensor having coarse and fine sensing with matched preirradiated cells and method of selecting cells  
Patent  
[NASA-CASE-XLA-01584] c 14 N71-23269  
Apparatus for obtaining isotropic irradiation of a specimen  
[NASA-CASE-MFS-20095] c 24 N72-11595  
Production of pure metals  
[NASA-CASE-LEW-10906-1] c 25 N74-30502  
Method for analyzing radiation sensitivity of integrated circuits  
[NASA-CASE-NPO-14350-1] c 33 N80-14332  
Vitra-violet process for producing flame resistant polyamides and products produced thereby --- protective clothing for high oxygen environments  
[NASA-CASE-MSC-16074-1] c 27 N80-26446  
Method of measuring field funneling and range straggling in semiconductor charge-collecting junctions  
[NASA-CASE-NPO-16584-1-CU] c 76 N86-25269

**IRRIGATION**

- Solar-powered pump  
[NASA-CASE-NPO-13567-1] c 44 N76-29701

**ISOLATION**

- High voltage isolation transformer  
[NASA-CASE-GSC-12817-1] c 33 N85-29146

**ISOLATORS**

- Propellant feed isolator Patent  
[NASA-CASE-LEW-10210-1] c 28 N71-26781  
Positive isolation disconnect  
[NASA-CASE-MSC-16043-1] c 37 N79-11402  
Resonant isolator for maser amplifier  
[NASA-CASE-NPO-15201-1] c 36 N83-35350  
Low-loss, high-isolation, fiber-optic isolator  
[NASA-CASE-NPO-17207-1-CU] c 74 N88-25304

**ISOPROPYL ALCOHOL**

- Highly fluorinated polymers  
[NASA-CASE-MFS-11492] c 06 N73-30102

**ISOTHERMAL LAYERS**

- Isothermal cover with thermal reservoirs Patent  
[NASA-CASE-MFS-20355] c 33 N71-25353

**ISOTHERMAL PROCESSES**

- Opto-mechanical subsystem with temperature compensation through isothermal design  
[NASA-CASE-GSC-12059-1] c 35 N77-27366

**ISOTOPE SEPARATION**

- Isotope separation using metallic vapor lasers  
[NASA-CASE-NPO-13550-1] c 36 N77-26477  
Isotope separation using tuned laser and electron beam  
[NASA-CASE-NPO-16907-1-CU] c 25 N88-24732

**J****JET AIRCRAFT**

- Inlet deflector for jet engines Patent  
[NASA-CASE-XLE-00388] c 28 N70-34788  
Multiple pure tone elimination strut assembly --- air breathing engines  
[NASA-CASE-FRC-11062-1] c 71 N82-16800

**JET AIRCRAFT NOISE**

- Jet aircraft configuration Patent  
[NASA-CASE-XLA-00087] c 02 N70-33332  
Noise suppressor --- for turbofan engine by incorporating annular acoustically porous elements in exhaust and inlet ducts  
[NASA-CASE-LAR-11141-1] c 07 N74-32418  
Abating exhaust noises in jet engines  
[NASA-CASE-ARC-10712-1] c 07 N74-33218  
Instrumentation for measurement of aircraft noise and sonic boom  
[NASA-CASE-LAR-11173-1] c 35 N75-19614  
Cascade plug nozzle --- for jet noise reduction  
[NASA-CASE-LAR-11674-1] c 07 N76-18117  
Noise suppressor for turbo fan jet engines  
[NASA-CASE-ARC-10812-1] c 07 N83-33884  
Apparatus and method for jet noise suppression  
[NASA-CASE-LAR-11903-2] c 71 N84-14873

**JET AMPLIFIERS**

- Fluid jet amplifier  
[NASA-CASE-XLE-03512] c 12 N69-21466

- Fluid jet amplifier Patent  
[NASA-CASE-XLE-09341] c 12 N71-28741

**JET BLAST EFFECTS**

- Single action separation mechanism Patent  
[NASA-CASE-XLA-00188] c 15 N71-22874

**JET CONTROL**

- Attitude control for spacecraft Patent  
[NASA-CASE-XNP-00294] c 21 N70-36938

**JET ENGINES**

- Absorptive splitter for closely spaced supersonic engine air inlets Patent  
[NASA-CASE-XLA-02865] c 28 N71-15563  
Thrust dynamometer Patent  
[NASA-CASE-XLE-05260] c 14 N71-20429  
Nacelle afterbody for jet engines Patent  
[NASA-CASE-XLA-10450] c 28 N71-21493  
Welding blades to rotors  
[NASA-CASE-LEW-10533-1] c 15 N73-28515  
Variably positioned guide vanes for aerodynamic choking  
[NASA-CASE-LAR-10642-1] c 07 N74-31270  
Cascade plug nozzle --- for jet noise reduction  
[NASA-CASE-LAR-11674-1] c 07 N76-18117  
The engine air intake system  
[NASA-CASE-ARC-10761-1] c 07 N77-18154  
Stator rotor tools  
[NASA-CASE-MSC-16000-1] c 37 N78-24544  
Electrical servo actuator bracket --- fuel control valves on jet engines  
[NASA-CASE-FRC-11044-1] c 37 N81-33483  
Diffuser/ejector system for a very high vacuum environment  
[NASA-CASE-MFS-25791-1] c 09 N84-27749

**JET EXHAUST**

- Jet exhaust noise suppressor  
[NASA-CASE-LEW-11286-1] c 07 N74-27490  
Gas turbine engine with recirculating bleed  
[NASA-CASE-LEW-12452-1] c 07 N78-25089  
Reduction of nitric oxide emissions from a combustor  
[NASA-CASE-ARC-10814-2] c 07 N80-26298

**JET FLAPS**

- Jet aircraft configuration Patent  
[NASA-CASE-XLE-00087] c 02 N70-33332

**JET FLOW**

- Two phase flow system with discrete impinging two-phase jets  
[NASA-CASE-NPO-11556] c 12 N72-25292

**JET MIXING FLOW**

- Rocket engine injector Patent  
[NASA-CASE-XLE-00111] c 28 N70-38199

**JET NOZZLES**

- Fluid jet amplifier  
[NASA-CASE-XLE-03512] c 12 N69-21466  
Thrust and direction control apparatus Patent  
[NASA-CASE-XLE-03583] c 31 N71-17629  
Heater-mixer for stored fluids  
[NASA-CASE-ARC-10442-1] c 35 N74-15093

**JET PROPULSION**

- Two dimensional wedge/translating shroud nozzle  
[NASA-CASE-LAR-11919-1] c 07 N78-27121

**JET PUMPS**

- Jet pump-drive system for heat removal  
[NASA-CASE-NPO-16494-1-CU] c 34 N85-29182

**JET THRUST**

- Control system for rocket vehicles Patent  
[NASA-CASE-XLA-01163] c 21 N71-15582  
Reactance control system Patent  
[NASA-CASE-XMF-01598] c 21 N71-15583  
Method and apparatus for rapid thrust increases in a turbofan engine  
[NASA-CASE-LEW-12971-1] c 07 N80-18039  
Method and system for monitoring and displaying engine performance parameters  
[NASA-CASE-LAR-14049-1] c 07 N89-23466

**JETTISON SYSTEMS**

- Space capsule ejection assembly Patent  
[NASA-CASE-XMF-03169] c 31 N71-15675  
Method and system for ejecting fairing sections from a rocket vehicle  
[NASA-CASE-GSC-10590-1] c 31 N73-14853  
Explosively activated egress area  
[NASA-CASE-LAR-12624-1] c 01 N83-35992

**JIGS**

- Apparatus for positioning modular components on a vertical or overhead surface  
[NASA-CASE-LAR-11465-1] c 37 N76-21554  
Solar cell module assembly jig  
[NASA-CASE-XGS-00829-1] c 44 N79-19447

**JOINING**

- Integrated gas turbine engine-nacelle  
[NASA-CASE-LEW-12389-3] c 07 N79-14096

**JOINTS (ANATOMY)**

- Space suit pressure stabilizer Patent  
[NASA-CASE-XLA-05332] c 05 N71-11194  
Equipotential space suit Patent  
[NASA-CASE-LAR-10007-1] c 05 N71-11195

- Omnidirectional joint Patent  
[NASA-CASE-XMS-09635] c 05 N71-24623  
Orthotic arm joint --- for use in mechanical arms  
[NASA-CASE-MFS-21611-1] c 54 N75-12616  
Rotational joint assembly for the prosthetic leg  
[NASA-CASE-KSC-11004-1] c 54 N77-30749  
Spacesuit mobility knee joints  
[NASA-CASE-ARC-11058-2] c 54 N79-24651

**JOINTS (JUNCTIONS)**

- Electrode and insulator with shielded dielectric junction  
[NASA-CASE-XLE-03778] c 09 N69-21542  
Elastic universal joint Patent  
[NASA-CASE-XNP-00416] c 15 N70-36947  
Portable alignment tool Patent  
[NASA-CASE-XMF-01452] c 15 N70-41371  
Pressure garment joint Patent  
[NASA-CASE-XMS-09636] c 05 N71-12344  
Technique of elbow bending small jacketed transfer lines  
Patent  
[NASA-CASE-XNP-10475] c 15 N71-24679  
Method and apparatus for precision sizing and joining of large diameter tubes Patent  
[NASA-CASE-XMF-05114-2] c 15 N71-26148  
Frictionless universal joint Patent  
[NASA-CASE-NPO-10646] c 15 N71-28467  
Spherical shield Patent  
[NASA-CASE-XNP-01855] c 15 N71-28937  
Universal restrainer and joint Patent  
[NASA-CASE-XNP-02278] c 15 N71-28951  
Diffusion welding in air --- solid state welding of butt joint by fusion welding, surface cleaning, and heating  
[NASA-CASE-LEW-11387-1] c 37 N74-18128  
Bonded joint and method --- for reducing peak shear stress in adhesive bonds  
[NASA-CASE-LAR-10900-1] c 37 N74-23064  
Flexible joint for pressurizable garment  
[NASA-CASE-MSC-11072] c 54 N74-32546  
Method of making an explosively welded scarf joint  
[NASA-CASE-LAR-11211-1] c 37 N75-12326  
Latching device  
[NASA-CASE-MFS-21606-1] c 37 N75-19685  
Method of determining bond quality of power transistors attached to substrates --- X ray inspection of junction microstructure  
[NASA-CASE-MFS-21931-1] c 37 N75-26372  
Externally supported internally stabilized flexible duct joint  
[NASA-CASE-MFS-19194-1] c 37 N76-14460  
Wrist joint assembly  
[NASA-CASE-MFS-23311-1] c 54 N78-17676  
Spacesuit mobility joints  
[NASA-CASE-ARC-11058-1] c 54 N78-31735  
Thermal barrier pressure seal --- shielding junctions between spacecraft control surfaces and structures  
[NASA-CASE-MSC-18134-1] c 37 N81-15363  
Reusable captive blind fastener  
[NASA-CASE-MSC-18742-1] c 37 N82-26673  
Pressure suit joint analyzer  
[NASA-CASE-ARC-11314-1] c 54 N82-26987  
Mechanical end joint system for structural column elements  
[NASA-CASE-LAR-12482-1] c 37 N82-32732  
Automatic weld torch guidance control system  
[NASA-CASE-MFS-25807] c 37 N83-20154  
Electrical rotary joint apparatus for large space structures  
[NASA-CASE-MFS-23981-1] c 07 N83-20944  
Self-locking mechanical center joint  
[NASA-CASE-LAR-12864-1] c 37 N85-30336  
Joint for deployable structures  
[NASA-CASE-NPO-16038-1] c 37 N86-19605  
Fluid leak indicator  
[NASA-CASE-MSC-20783-1] c 35 N86-20756  
Optimized bolted joint  
[NASA-CASE-LAR-13250-1] c 37 N86-27630  
Elbow and knee joint for hard space suits  
[NASA-CASE-ARC-11610-1] c 54 N86-28619  
Shoulder and hip joint for hard space suits  
[NASA-CASE-ARC-11543-1] c 54 N86-28620  
Shoulder and hip joints for hard space suits and the like  
[NASA-CASE-ARC-11534-1] c 54 N86-29507  
Foldable self-erecting joint  
[NASA-CASE-MSC-20635-1] c 18 N87-14373  
Preloaded space structural coupling joints  
[NASA-CASE-LAR-13489-1] c 18 N87-27713  
Bearing-bypass material system test  
[NASA-CASE-LAR-13458-1] c 35 N88-23967

**JOSEPHSON JUNCTIONS**

- Doped Josephson tunneling junction for use in a sensitive IR detector  
[NASA-CASE-NPO-13348-1] c 33 N75-31332  
Microwave integrated circuit for Josephson voltage standards  
[NASA-CASE-MFS-23845-1] c 33 N81-17348



- Planar thin film SQUID with integral flux concentrator  
[NASA-CASE-MFS-28282-1] c 76 N88-29602
- JOULE-THOMSON EFFECT**  
Refrigeration apparatus  
[NASA-CASE-NPO-10309] c 15 N69-23190  
Cycling Joule Thomson refrigerator  
[NASA-CASE-NPO-12521-1] c 31 N83-31897  
Joule Thomson refrigerator  
[NASA-CASE-NPO-17143-1-CU] c 31 N89-14351
- JOURNAL BEARINGS**  
Slit regulated gas journal bearing Patent  
[NASA-CASE-XNP-00476] c 15 N70-38620  
Air bearing assembly for curved surfaces  
[NASA-CASE-MFS-20423] c 15 N72-11388  
Journal bearings --- for lubricant films  
[NASA-CASE-LEW-11076-1] c 37 N74-21061  
Journal Bearings  
[NASA-CASE-LEW-11076-2] c 37 N74-32921  
Lubricated journal bearing  
[NASA-CASE-LEW-11076-3] c 37 N75-30562  
Fluid journal bearings  
[NASA-CASE-LEW-11076-4] c 37 N76-15461  
Compliant hydrodynamic fluid journal bearing  
[NASA-CASE-LEW-13670-1] c 37 N86-19606
- JUNCTION DIODES**  
Phototransistor  
[NASA-CASE-MFS-20407] c 09 N73-19235  
Diode-quad bridge circuit means  
[NASA-CASE-ARC-10364-2] c 33 N75-25041  
Charge storage diode modulators and demodulators  
[NASA-CASE-NPO-10189-1] c 33 N77-21314  
Integrating IR detector imaging systems  
[NASA-CASE-NPO-15805-1] c 74 N84-28590  
High band gap 2-6 and 3-5 tunneling junctions for silicon multijunction solar cells  
[NASA-CASE-NPO-16526-1CU] c 44 N87-17399
- JUNCTION TRANSISTORS**  
Apparatus for ballasting high frequency transistors  
[NASA-CASE-XGS-05003] c 09 N69-24318  
Semiconductor transducer device  
[NASA-CASE-ERC-10087-2] c 14 N72-31446  
Method of determining bond quality of power transistors attached to substrates --- X ray inspection of junction microstructure  
[NASA-CASE-MFS-21931-1] c 37 N75-26372  
Floating emitter solar cell  
[NASA-CASE-NPO-16467-1CU] c 33 N87-23879
- K**
- KALMAN FILTERS**  
Systolic VLSI array for implementing the Kalman filter algorithm  
[NASA-CASE-NPO-17108-1-CU] c 33 N89-28713
- KETONES**  
Polyenamines from aromatic diacetylenic diketones and diamines  
[NASA-CASE-LAR-13444-1-CU] c 27 N87-22847  
Polyenamines from aromatic diacetylenic diketones and diamines  
[NASA-CASE-LAR-13444-2-CU] c 23 N89-12667  
Low dielectric fluorinated poly(phenylene ether ketone) film and coating  
[NASA-CASE-LAR-13992-1-CU] c 23 N89-13496
- KEYING**  
High-speed multiplexing of keyboard data inputs  
[NASA-CASE-NPO-14554-1] c 60 N81-27814  
Reconfigurable work station for a video display unit and keyboard  
[NASA-CASE-MFS-26009-1-SB] c 54 N88-24163
- KIDNEY DISEASES**  
Aldehyde-containing urea-absorbing polysaccharides  
[NASA-CASE-NPO-13620-1] c 27 N77-30236
- KIDNEYS**  
Apparatus for disintegrating kidney stones  
[NASA-CASE-GSC-12652-1] c 52 N84-34913
- KINETIC ENERGY**  
Non-reusable kinetic energy absorber Patent  
[NASA-CASE-XLE-00810] c 15 N70-34861  
Method and turbine for extracting kinetic energy from a stream of two-phase fluid  
[NASA-CASE-NPO-14130-1] c 34 N79-20335
- KINETIC FRICTION**  
Friction measuring apparatus Patent  
[NASA-CASE-XNP-08680] c 14 N71-22995  
Device and method for frictionally testing materials for ignitability  
[NASA-CASE-MSC-20622-1] c 25 N86-19413
- KINETICS**  
Micrometeoroid analyzer  
[NASA-CASE-ARC-10443-1] c 14 N73-20477
- KNEE (ANATOMY)**  
Elbow and knee joint for hard space suits  
[NASA-CASE-ARC-11610-1] c 54 N86-28619

**KRAFT PROCESS (WOODPULP)**

- Process for purification of waste water produced by a Kraft process pulp and paper mill  
[NASA-CASE-NPO-13847-2] c 85 N79-17747

**KRYPTON**

- Krypton based adsorption type cryogenic refrigerator  
[NASA-CASE-NPO-17334-1-CU] c 31 N88-23917

**L****LABORATORY EQUIPMENT**

- Stirring apparatus for plural test tubes Patent  
[NASA-CASE-XAC-06956] c 15 N71-21177  
Gas purged dry box glove Patent  
[NASA-CASE-XLE-02531] c 05 N71-23080  
Gas liquefaction and dispensing apparatus Patent  
[NASA-CASE-NPO-10070] c 15 N71-27372  
Variable angle tube holder  
[NASA-CASE-LAR-10507-1] c 11 N72-25284  
Method for controlling vapor content of a gas  
[NASA-CASE-NPO-10633] c 03 N72-28025  
Zero gravity liquid mixer  
[NASA-CASE-LAR-10195-1] c 15 N73-19458  
Automatic real-time pair-feeding system for animals  
[NASA-CASE-ARC-10302-1] c 51 N74-15778  
Automated single-slide staining device  
[NASA-CASE-LAR-11649-1] c 51 N77-27677  
Machine for use in monitoring fatigue life for a plurality of elastomeric specimens  
[NASA-CASE-NPO-13731-1] c 39 N78-10493  
The 2 deg/90 deg laboratory scattering photometer --- particulate refractivity in hydrosols  
[NASA-CASE-GSC-12088-1] c 74 N78-13874  
Automatic multiple-sample applicator and electrophoresis apparatus  
[NASA-CASE-ARC-10991-1] c 25 N78-14104  
Microelectrophoretic apparatus and process  
[NASA-CASE-ARC-11121-1] c 25 N79-14169  
Electrophoresis device  
[NASA-CASE-MFS-25426-1] c 25 N83-10126  
Laboratory glassware rack for seismic safety  
[NASA-CASE-ARC-11422-1] c 35 N86-20751  
Multi-path peristaltic pump  
[NASA-CASE-MSC-20907-1] c 37 N87-18818  
Hanging drop crystal growth apparatus and method  
[NASA-CASE-MFS-28206-1-SB] c 76 N88-25356

**LACQUERS**

- Method for applying photographic resists to otherwise incompatible substrates  
[NASA-CASE-MSC-18107-1] c 27 N81-25209  
Oxidation resistant slurry coating for carbon-based materials  
[NASA-CASE-LEW-13923-1] c 26 N85-35267

**LADDERS**

- Dielectric based submillimeter backward wave oscillator circuit  
[NASA-CASE-LEW-13736-1] c 33 N84-27974

**LAMBERT SURFACE**

- A reference standard for bidirectional reflection distribution function and bidirectional transmission distribution function measurement  
[NASA-CASE-MFS-28183-1] c 74 N89-13253

**LAMINAR BOUNDARY LAYER**

- Method for laminar boundary layer transition visualization in flight  
[NASA-CASE-LAR-13554-1] c 02 N89-12551

**LAMINAR FLOW**

- Laminar flow enhancement Patent  
[NASA-CASE-NPO-10122] c 12 N71-17631  
Detection of the transitional layer between laminar and turbulent flow areas on a wing surface --- using an accelerometer to measure pressure levels during wind tunnel tests  
[NASA-CASE-LAR-12261-1] c 02 N80-20224  
Continuous laminar smoke generator  
[NASA-CASE-LAR-13014-1] c 09 N85-21178  
Method and apparatus for detecting laminar flow separation and reattachment  
[NASA-CASE-LAR-13952-1-SB] c 34 N88-24910  
Method of forming a multiple layer dielectric and a hot film sensor therewith  
[NASA-CASE-LAR-13678-1] c 76 N88-25355
- LAMINAR FLOW AIRFOILS**  
Geometries for roughness shapes in laminar flow  
[NASA-CASE-LAR-13255-1] c 02 N87-16793

**LAMINATES**

- Multilayer porous ionizer Patent  
[NASA-CASE-XNP-04338] c 17 N71-23046  
Polyimide resin-fiberglass cloth laminates for printed circuit boards  
[NASA-CASE-MFS-20408] c 18 N73-12604  
Reinforced polyquinoxaline gasket and method of preparing the same --- resistant to ionizing radiation and liquid hydrogen temperatures  
[NASA-CASE-MFS-21364-1] c 37 N74-18126

**Method of laminating structural members**

- [NASA-CASE-XLA-11028-1] c 24 N74-27035  
Bonding method in the manufacture of continuous regression rate sensor devices  
[NASA-CASE-LAR-10337-1] c 24 N75-30260  
Transparent fire resistant polymeric structures  
[NASA-CASE-ARC-10813-1] c 27 N76-16230  
Leading edge protection for composite blades  
[NASA-CASE-LEW-12550-1] c 24 N77-19170  
Hybrid composite laminate structures  
[NASA-CASE-LEW-12118-1] c 24 N77-27188  
Honeycomb-laminate composite structure  
[NASA-CASE-ARC-10913-1] c 24 N78-15180  
Composite lamination method  
[NASA-CASE-LAR-12019-1] c 24 N78-17150  
Lightweight electrically-powered flexible thermal laminate --- made of metal and nonconductive yarns  
[NASA-CASE-MSC-12662-1] c 33 N79-12331  
Method for alleviating thermal stress damage in laminates --- metal matrix composites  
[NASA-CASE-LEW-12493-1] c 24 N81-17170  
Method for alleviating thermal stress damage in laminates  
[NASA-CASE-LEW-12493-2] c 24 N81-26179  
Method of making a partial interlaminar separation composite system  
[NASA-CASE-LAR-12065-2] c 24 N81-33235  
Fuselage structure using advanced technology fiber reinforced composites  
[NASA-CASE-LAR-11688-1] c 24 N82-26384  
Method of tracing contour patterns for use in making gradual contour resin matrix composites  
[NASA-CASE-ARC-11246-1] c 31 N83-34073  
Piezoelectric composite materials  
[NASA-CASE-LEW-12582-1] c 76 N83-34796  
High temperature polyimide film laminates and process for preparation thereof  
[NASA-CASE-LAR-13384-1] c 27 N86-20561  
Laminate comprising fibers embedded in cured amine terminated bis-imide  
[NASA-CASE-ARC-11421-3] c 24 N86-25416  
Fire and heat resistant laminating resins based on maleimide and citraconimide substituted 1-2,4- and -2,6-diaminobenzenes  
[NASA-CASE-ARC-11533-1] c 27 N87-23751  
Method of forming a multiple layer dielectric and a hot film sensor therewith  
[NASA-CASE-LAR-13678-1] c 76 N88-25355  
Method of inseting predesigned disbond areas into composite laminates  
[NASA-CASE-LAR-13225-1] c 24 N89-14258
- LANDFORMS**  
Method for observing the features characterizing the surface of a land mass  
[NASA-CASE-FRC-11013-1] c 43 N81-17499
- LANDING AIDS**  
Altitude sensing device  
[NASA-CASE-XMS-01994-1] c 14 N72-17326  
Magnetic position detection method and apparatus  
[NASA-CASE-ARC-10179-1] c 21 N72-22619  
Full color hybrid display for aircraft simulators --- landing aids  
[NASA-CASE-ARC-10903-1] c 09 N78-18083
- LANDING GEAR**  
Pivotal shock absorbing pad assembly Patent  
[NASA-CASE-XMF-03856] c 31 N70-34159  
Nose gear steering system for vehicle with main skids Patent  
[NASA-CASE-XLA-01804] c 02 N70-34160  
Landing pad assembly for aerospace vehicles Patent  
[NASA-CASE-XMF-02853] c 31 N70-36654  
Aircraft wheel spray drag alleviator Patent  
[NASA-CASE-XLA-01583] c 02 N70-36825  
Space craft soft landing system Patent  
[NASA-CASE-XMF-02108] c 31 N70-36845  
Double-acting shock absorber Patent  
[NASA-CASE-XMF-01045] c 15 N70-40354  
Landing gear Patent  
[NASA-CASE-XMF-01174] c 02 N70-41589  
Tire/wheel concept  
[NASA-CASE-LAR-11695-2] c 37 N81-24443
- LANDING MODULES**  
Double-acting shock absorber Patent  
[NASA-CASE-XMF-01045] c 15 N70-40354
- LANDING SIMULATION**  
Impact simulator Patent  
[NASA-CASE-XLA-00493] c 11 N70-34786
- LANTHANUM COMPOUNDS**  
Stabilized lanthanum sulphur compounds --- thermoelectric materials  
[NASA-CASE-NPO-16135-1] c 25 N83-24572
- LAP JOINTS**  
Device for measuring hole elongation in a bolted joint  
[NASA-CASE-LAR-13453-1] c 37 N88-14361



**LARGE SCALE INTEGRATION**

- Combinational logic for generating gate drive signals for phase control rectifiers  
[NASA-CASE-MFS-25208-1] c 33 N83-10345  
Method of examining microcircuit patterns  
[NASA-CASE-NPO-16299-1] c 33 N87-14594

**LARGE SPACE STRUCTURES**

- Structural members, method and apparatus  
[NASA-CASE-MSC-16217-1] c 31 N81-27323  
Electrical rotary joint apparatus for large space structures  
[NASA-CASE-MFS-23981-1] c 07 N83-20944  
Beam connector apparatus and assembly  
[NASA-CASE-MFS-25134-1] c 31 N83-31895  
Self-locking mechanical center joint  
[NASA-CASE-LAR-12864-1] c 37 N85-30336  
Synchronously deployable truss structure  
[NASA-CASE-LAR-13117-1] c 37 N86-25789  
Latching mechanism for deployable/re-stowable columns useful in satellite construction  
[NASA-CASE-LAR-13169-1] c 37 N86-25791  
Synchronously deployable double fold beam and planar truss structure  
[NASA-CASE-LAR-13490-1] c 18 N87-14413  
Measurement apparatus and procedure for the determination of surface emissivities  
[NASA-CASE-LAR-13455-1] c 32 N87-21206  
Deployable geodesic truss structure  
[NASA-CASE-LAR-13113-1] c 31 N87-25492  
Preloaded space structural coupling joints  
[NASA-CASE-LAR-13489-1] c 18 N87-27713  
Space spider crane  
[NASA-CASE-LAR-13411-1-SB] c 18 N88-23828  
Mobile remote manipulator system for a tetrahedral truss  
[NASA-CASE-MSC-20985-1] c 18 N88-26398  
Clevis joint for deployable space structures  
[NASA-CASE-LAR-13898-1] c 37 N88-30130  
Antenna surface contour control system  
[NASA-CASE-LAR-13798-1] c 32 N89-25363  
A torsional suspension system for testing space structures  
[NASA-CASE-LAR-14149-1-SB] c 14 N89-28547

**LASER ALTIMETERS**

- Sidelooking laser altimeter for a flight simulator  
[NASA-CASE-ARC-11312-1] c 36 N83-34304

**LASER APPLICATIONS**

- High power laser apparatus and system  
[NASA-CASE-XLE-2529-2] c 36 N75-27364  
Fiber distributed feedback laser  
[NASA-CASE-NPO-13531-1] c 36 N76-24553  
Wind measurement system  
[NASA-CASE-MFS-23362-1] c 47 N77-10753  
Pseudo-backscatter laser Doppler velocimeter employing antiparallel-reflector in the forward direction  
[NASA-CASE-ARC-10970-1] c 36 N77-25501  
Compact pulsed laser having improved heat conductance  
[NASA-CASE-NPO-13147-1] c 36 N77-25502  
Laser extensometer  
[NASA-CASE-MFS-19259-1] c 36 N78-14380  
Apparatus for extraction and separation of a preferentially photo-dissociated molecular isotope into positive and negative ions by means of an electric field  
[NASA-CASE-LEW-12465-1] c 25 N78-25148  
Volumetric direct nuclear pumped laser  
[NASA-CASE-LAR-12183-1] c 36 N79-18307  
Rhomboid prism pair for rotating the plane of parallel light beams  
[NASA-CASE-ARC-11311-1] c 74 N83-13978  
Dual laser optical system and method for studying fluid flow  
[NASA-CASE-MFS-25315-1] c 36 N83-29680  
Portable remote laser sensor for methane leak detection  
[NASA-CASE-NPO-15790-1] c 36 N85-21631  
Method of and apparatus for measuring temperature and pressure --- atmospheric sounding  
[NASA-CASE-GSC-12558-1] c 36 N85-21639  
Laser activated MTOs microwave device  
[NASA-CASE-NPO-16112-1] c 33 N86-19516  
Discharge cell for optogalvanic spectroscopy having orthogonal relationship between the probe laser and discharge axis  
[NASA-CASE-NPO-16271-1] c 35 N86-25753  
High-temperature, high-pressure optical cell  
[NASA-CASE-MFS-26000-1] c 74 N87-14971  
Multiplex electric discharge gas laser system  
[NASA-CASE-NPO-16433-1] c 36 N87-23961  
Laser schlieren crystal monitor  
[NASA-CASE-MFS-28060-1] c 76 N87-25862  
Isotope separation using tuned laser and electron beam  
[NASA-CASE-NPO-16907-1-CU] c 25 N88-24732  
Optically controlled welding system  
[NASA-CASE-MFS-29291-1] c 37 N89-12868

**LASER CAVITIES**

- Laser apparatus  
[NASA-CASE-GSC-12237-1] c 36 N80-14384  
Laser Resonator  
[NASA-CASE-GSC-12565-1] c 36 N84-14509  
Long gain length solar pumped box laser  
[NASA-CASE-LAR-13256-1] c 36 N86-29204

**LASER DOPPLER VELOCIMETERS**

- Dual wavelength scanning Doppler velocimeter --- without perturbation of flow fields  
[NASA-CASE-ARC-10637-1] c 35 N75-16783  
Combined dual scatter, local oscillator laser Doppler velocimeter  
[NASA-CASE-ARC-10642-1] c 36 N76-14447  
Focused laser Doppler velocimeter  
[NASA-CASE-MFS-23178-1] c 35 N77-10493  
Pseudo-backscatter laser Doppler velocimeter employing antiparallel-reflector in the forward direction  
[NASA-CASE-ARC-10970-1] c 36 N77-25501  
Optical scanner --- laser doppler velocimeters  
[NASA-CASE-LAR-11711-1] c 74 N78-17866  
Versatile LDV burst simulator  
[NASA-CASE-LAR-11859-1] c 35 N79-14349  
Laser Doppler velocity simulator --- to induce frequency shift  
[NASA-CASE-LAR-12176-1] c 36 N80-16321  
Direction sensitive laser velocimeter --- determining the direction of particles using a helium-neon laser  
[NASA-CASE-LAR-12177-1] c 36 N81-24422  
Scanning afocal laser velocimeter projection lens system  
[NASA-CASE-LAR-12328-1] c 36 N82-32712  
Powder fed sheared dispersal particle generator  
[NASA-CASE-LAR-12785-1] c 37 N84-16561  
Auto covariance computer  
[NASA-CASE-LAR-12968-1] c 60 N86-21154  
Spinning disk calibration method and apparatus for laser Doppler velocimeter  
[NASA-CASE-ARC-11510-1] c 35 N86-32697  
Vibration-free Raman Doppler velocimeter  
[NASA-CASE-LAR-13268-1] c 35 N87-14669  
Projection lens scanning laser velocimeter system  
[NASA-CASE-ARC-11547-1] c 36 N87-17026  
Dual mode laser velocimeter  
[NASA-CASE-ARC-11634-1] c 36 N88-14350  
Laser Doppler velocimeter multiplexer interface for simultaneous measured events  
[NASA-CASE-ARC-11536-1] c 33 N89-14384  
Frequency domain laser velocimeter signal processor  
[NASA-CASE-LAR-13552-1-CU] c 33 N89-14385

**LASER DRILLING**

- In-situ laser retorting of oil shale  
[NASA-CASE-LEW-12217-1] c 43 N78-14452

**LASER FUSION**

- Laser surface fusion of plasma sprayed ceramic turbine seals  
[NASA-CASE-LEW-13269-1] c 18 N83-20996

**LASER GUIDANCE**

- Scanning afocal laser velocimeter projection lens system  
[NASA-CASE-LAR-12328-1] c 36 N82-32712

**LASER GYROSCOPES**

- Optical gyroscope system  
[NASA-CASE-NPO-14258-1] c 35 N81-33448  
Laser pulse detection method and apparatus  
[NASA-CASE-NPO-16030-1] c 36 N84-25037

**LASER HEATING**

- Electric power generation system directory from laser power  
[NASA-CASE-NPO-13308-1] c 36 N75-30524  
Method and apparatus for shaping and enhancing acoustical levitation forces  
[NASA-CASE-MFS-25050-1] c 71 N81-15767

**LASER INTERFEROMETRY**

- Dual-beam skin friction interferometer  
[NASA-CASE-ARC-11354-1] c 74 N83-21949

**LASER MATERIALS**

- Laser head for simultaneous optical pumping of several dye lasers --- with single flash lamp  
[NASA-CASE-LAR-11341-1] c 36 N75-19655  
Solar pumped laser  
[NASA-CASE-LAR-12870-1] c 36 N84-16542

**LASER MODE LOCKING**

- Laser system with an antiresonant optical ring  
[NASA-CASE-HQN-10844-1] c 36 N75-19653  
Dually mode locked Nd:YAG laser  
[NASA-CASE-GSC-11746-1] c 36 N75-19654  
Length controlled stabilized mode-lock Nd:YAG laser  
[NASA-CASE-GSC-11571-1] c 36 N77-25499  
Geodetic distance measuring apparatus  
[NASA-CASE-GSC-12609-2] c 36 N83-29681  
Method and circuit for controlling the evolution time interval of a laser output pulse  
[NASA-CASE-LAR-13772-1] c 36 N89-28816

**LASER MODES**

- Optical pump and driver system for lasers  
[NASA-CASE-ERC-10283] c 16 N72-25485  
Acoustically controlled distributed feedback laser  
[NASA-CASE-NPO-13175-1] c 36 N75-31427

**LASER OUTPUTS**

- Method and apparatus for wavelength tuning of liquid lasers  
[NASA-CASE-ERC-10187] c 16 N69-31343  
Laser Doppler system for measuring three dimensional vector velocity Patent  
[NASA-CASE-MFS-20386] c 21 N71-19212  
Amplitude modulated laser transmitter Patent  
[NASA-CASE-XMS-04269] c 16 N71-22895  
Laser fluid velocity detector Patent  
[NASA-CASE-XAC-10770-1] c 16 N71-24828  
Laser calibrator Patent  
[NASA-CASE-XLA-03410] c 16 N71-25914  
Method and apparatus for optical modulating a light signal Patent  
[NASA-CASE-GSC-10216-1] c 23 N71-26722  
Laser machining apparatus Patent  
[NASA-CASE-HQN-10541-2] c 15 N71-27135  
Optical frequency waveguide and transmission system Patent  
[NASA-CASE-HQN-10541-4] c 16 N71-27183  
Laser communication system for controlling several functions at a location remote to the laser  
[NASA-CASE-LAR-10311-1] c 16 N73-16536  
Power supply for carbon dioxide lasers  
[NASA-CASE-GSC-11222-1] c 16 N73-3239-  
Thermomagnetic recording and magneto-optic playback system having constant intensity laser beam control  
[NASA-CASE-NPO-11317-2] c 36 N74-13205  
Apparatus for scanning the surface of a cylindrical body  
[NASA-CASE-NPO-11861-1] c 36 N74-20009  
Optically detonated explosive device  
[NASA-CASE-NPO-11743-1] c 28 N74-2742E  
Clear air turbulence detector  
[NASA-CASE-MFS-21244-1] c 36 N75-1502E  
Dually mode locked Nd:YAG laser  
[NASA-CASE-GSC-11746-1] c 36 N75-19654  
Laser head for simultaneous optical pumping of several dye lasers --- with single flash lamp  
[NASA-CASE-LAR-11341-1] c 36 N75-19655  
Acoustically controlled distributed feedback laser  
[NASA-CASE-NPO-13175-1] c 36 N75-31427  
Optical noise suppression device and method --- laser light exposing film  
[NASA-CASE-MSC-12640-1] c 74 N76-31998  
Length controlled stabilized mode-lock Nd:YAG laser  
[NASA-CASE-GSC-11571-1] c 36 N77-25499  
Apparatus for photon excited catalysis  
[NASA-CASE-NPO-13566-1] c 25 N77-32255  
Method and apparatus for Doppler frequency modulation of radiation  
[NASA-CASE-NPO-14524-1] c 32 N80-24510  
High power metallic halide laser --- amplifying a copper chloride laser  
[NASA-CASE-NPO-14782-1] c 36 N82-28616  
Collimated beam manifold with the number of output beams variable at a given output angle  
[NASA-CASE-MFS-25312-1] c 74 N83-17305  
Method of and apparatus for double-exposure holographic interferometry  
[NASA-CASE-MFS-25405-1] c 35 N84-22929  
Method and apparatus for coating substrates using a laser  
[NASA-CASE-LEW-13526-1] c 36 N84-22944  
Ranging system which compares an object reflected component of a light beam to a reference component of the light beam  
[NASA-CASE-NPO-15865-1] c 74 N85-34629  
Projection lens scanning laser velocimeter system  
[NASA-CASE-ARC-11547-1] c 36 N87-17026  
Multiplex electric discharge gas laser system  
[NASA-CASE-NPO-16433-1] c 36 N87-23961  
Magnetically switched power supply system for lasers  
[NASA-CASE-NPO-16402-2] c 33 N88-24862  
Method and apparatus for reducing speckle  
[NASA-CASE-LAR-13771-1] c 36 N89-14428  
Method and circuit for controlling the evolution time interval of a laser output pulse  
[NASA-CASE-LAR-13772-1] c 36 N89-28816  
Method and circuit for shaping laser output pulses  
[NASA-CASE-LAR-14203-1] c 36 N89-28817
- LASER PLASMAS**  
Continuous plasma laser --- method and apparatus for producing intense, coherent, monochromatic light from low temperature plasma  
[NASA-CASE-XNP-04167-3] c 36 N77-19416
- LASER POWER BEAMING**  
Long gain length solar pumped box laser  
[NASA-CASE-LAR-13256-1] c 36 N86-29204

**LASER PUMPING**

- Laser apparatus  
[NASA-CASE-GSC-12237-1] c 36 N80-14384  
Large volume multiple-path nuclear pumped laser  
[NASA-CASE-LAR-12592-1] c 36 N82-13415  
Solar pumped laser  
[NASA-CASE-LAR-12870-1] c 36 N84-16542  
Tm,Ho:YLF laser end-pumped by a semiconductor diode laser array  
[NASA-CASE-NPO-17282-1-CU] c 36 N89-12856

**LASER RANGE FINDERS**

- Laser measuring system for incremental assemblies --- measuring wire-wrapped frame assemblies in spark chambers  
[NASA-CASE-GSC-12321-1] c 36 N82-16396  
Range and range rate system  
[NASA-CASE-MSC-20867-1] c 36 N88-24958

**LASER RANGER/TRACKER**

- Method and apparatus for aligning a laser beam projector  
Patent  
[NASA-CASE-NPO-11087] c 23 N71-29125

**LASER SPECTROMETERS**

- Method and apparatus for enhancing laser absorption sensitivity  
[NASA-CASE-NPO-16567-1-CU] c 36 N87-28006

**LASER SPECTROSCOPY**

- Stark effect spectrophone for continuous absorption spectra monitoring --- a technique for gas analysis  
[NASA-CASE-NPO-15102-1] c 25 N81-25159

**LASER WINDOWS**

- Optical scanner --- laser doppler velocimeters  
[NASA-CASE-LAR-11711-1] c 74 N78-17866

**LASERS**

- Laser apparatus for removing material from rotating objects Patent  
[NASA-CASE-MFS-11279] c 16 N71-20400  
Laser grating interferometer Patent  
[NASA-CASE-XLA-04295] c 16 N71-24170  
Optical frequency waveguide Patent  
[NASA-CASE-HQN-10541-1] c 07 N71-26291  
Laser camera and diffusion filter therefore Patent  
[NASA-CASE-NPO-10417] c 16 N71-33410  
Optical probing of supersonic flows with statistical correlation  
[NASA-CASE-MFS-20642] c 14 N72-21407  
A technique for breaking ice in the path of a ship  
[NASA-CASE-LAR-10815-1] c 16 N72-22520  
Alignment apparatus using a laser having a gravitationally sensitive cavity reflector  
[NASA-CASE-ARC-10444-1] c 16 N73-33397  
Tunable cavity resonator with ramp shaped supports  
[NASA-CASE-HQN-10790-1] c 36 N74-11313  
Short range laser obstacle detector --- for surface vehicles using laser diode array  
[NASA-CASE-NPO-11856-1] c 36 N74-15145  
Long range laser traversing system  
[NASA-CASE-GSC-11262-1] c 36 N74-21091  
Deep trap, laser activated image converting system  
[NASA-CASE-NPO-13131-1] c 36 N75-19652  
Laser system with an antiresonant optical ring  
[NASA-CASE-HQN-10844-1] c 36 N75-19653  
Acoustically controlled distributed feedback laser  
[NASA-CASE-NPO-13175-1] c 36 N75-31427  
Method and apparatus for generating coherent radiation in the ultra-violet region and above by use of distributed feedback  
[NASA-CASE-NPO-13346-1] c 36 N76-29575  
Polarization compensator for optical communications  
[NASA-CASE-GSC-11782-1] c 74 N76-30053  
Gregorian all-reflective optical system  
[NASA-CASE-GSC-12058-1] c 74 N77-26942  
Wideband heterodyne receiver for laser communication system  
[NASA-CASE-GSC-12053-1] c 32 N77-28346  
Method and apparatus for splitting a beam of energy --- optical communication  
[NASA-CASE-GSC-12083-1] c 73 N78-32848  
Shock isolator for operating a diode laser on a closed-cycle refrigerator  
[NASA-CASE-GSC-12297-1] c 37 N79-28549  
Method of and apparatus for double-exposure holographic interferometry  
[NASA-CASE-MFS-25405-1] c 35 N84-22929  
Method and apparatus for coating substrates using a laser  
[NASA-CASE-LEW-13526-1] c 36 N84-22944  
Off-axis coherently pumped laser  
[NASA-CASE-GSC-12592-1] c 36 N84-28065  
Means for phase locking the outputs of a surface emitting laser diode array  
[NASA-CASE-NPO-16542-1-CU] c 36 N87-23960  
Magnetically switched power supply system for lasers  
[NASA-CASE-NPO-16402-2] c 33 N88-24862

**LASING**

- Long gain length solar pumped box laser  
[NASA-CASE-LAR-13256-1] c 36 N86-29204

- Isotope separation using tuned laser and electron beam  
[NASA-CASE-NPO-16907-1-CU] c 25 N88-24732

**LATCHES**

- Despin weight release Patent  
[NASA-CASE-XLA-00679] c 15 N70-38601  
Helmet assembly and latch means therefor Patent  
[NASA-CASE-XMS-04935] c 05 N71-11190  
Quick disconnect latch and handle combination Patent  
[NASA-CASE-MFS-11132] c 15 N71-17649  
Latching mechanism Patent  
[NASA-CASE-XMS-03745] c 15 N71-21076  
Latch/ejector unit Patent  
[NASA-CASE-XLA-03538] c 15 N71-24897  
Latching mechanism Patent  
[NASA-CASE-MSC-15474-1] c 15 N71-26162  
Latch mechanism  
[NASA-CASE-MSC-12549-1] c 37 N74-27903  
Latching device  
[NASA-CASE-MFS-21606-1] c 37 N75-19685  
Load regulating latch  
[NASA-CASE-MSC-19535-1] c 37 N77-32499  
Helmet latching and attaching ring  
[NASA-CASE-XMS-04670] c 54 N78-17678  
Low temperature latching solenoid  
[NASA-CASE-MSC-18106-1] c 33 N82-11357  
CAM controlled retractable door latch  
[NASA-CASE-MSC-20304-1] c 37 N82-31690  
Mechanical end joint system for structural column elements  
[NASA-CASE-LAR-12482-1] c 37 N82-32732  
Hemispherical latching apparatus  
[NASA-CASE-MFS-25837-1] c 18 N85-29991  
Latching mechanism for deployable/re-stowable columns useful in satellite construction  
[NASA-CASE-LAR-13169-1] c 37 N86-25791  
Self indexing latch system  
[NASA-CASE-MFS-25956-1] c 37 N87-21333  
Preloadable vector sensitive latch  
[NASA-CASE-MSC-20910-1] c 37 N87-25582  
Toggle release  
[NASA-CASE-MSC-21354-1] c 37 N88-24969

**LATERAL CONTROL**

- Three-axis controller Patent  
[NASA-CASE-XAC-01404] c 05 N70-41581  
Roll attitude star sensor system Patent  
[NASA-CASE-XNP-01307] c 21 N70-41856  
High speed flight vehicle control Patent  
[NASA-CASE-XLA-08967] c 02 N71-27088  
Vortex-lift roll-control device  
[NASA-CASE-LAR-11868-2] c 08 N79-14108  
Leading edge flap system for aircraft control augmentation  
[NASA-CASE-LAR-12787-2] c 08 N85-19985  
Swashplate control system  
[NASA-CASE-ARC-11633-1] c 08 N87-23631

**LATERAL STABILITY**

- Annular wing  
[NASA-CASE-FRC-11007-2] c 05 N82-26277

**LATEX**

- Molten salt pyrolysis of latex --- synthetic hydrocarbon fuel production using the Guayule shrub  
[NASA-CASE-NPO-14315-1] c 27 N81-17261  
Process for preparation of large-particle-size monodisperse latexes  
[NASA-CASE-MFS-25000-1] c 25 N81-19242

**LATHES**

- Apparatus for machining geometric cones Patent  
[NASA-CASE-XMS-04292] c 15 N71-22722  
Lathe tool bit and holder for machining fiberglass materials  
[NASA-CASE-XLA-10470] c 15 N72-21489  
Universal precision sine bar attachment  
[NASA-CASE-MFS-28253-1] c 37 N89-28831

**LAUNCH ESCAPE SYSTEMS**

- Emergency escape system Patent  
[NASA-CASE-XKS-02342] c 05 N71-11199  
Device for separating occupant from an ejection seat Patent  
[NASA-CASE-XMS-04625] c 05 N71-20718

**LAUNCH VEHICLE CONFIGURATIONS**

- Rotating launch device for a remotely piloted aircraft  
[NASA-CASE-ARC-10979-1] c 09 N77-19076

**LAUNCH VEHICLES**

- A support technique for vertically oriented launch vehicles  
[NASA-CASE-XLA-02704] c 11 N69-21540  
Method and apparatus for detection and location of microleaks Patent  
[NASA-CASE-XMF-02307] c 14 N71-10779  
Three stage rocket vehicle with parallel staging  
[NASA-CASE-MFS-25878-1] c 18 N84-27787  
Earth-to-orbit vehicle providing a reusable orbital stage and method of utilizing same  
[NASA-CASE-LAR-13486-1] c 16 N87-29582

**LAUNCHERS**

- Space probe/satellite ejection apparatus for spacecraft  
[NASA-CASE-MFS-15429-1] c 18 N84-22609  
Space probe/satellite ejection apparatus for spacecraft  
[NASA-CASE-MFS-25429-1] c 18 N86-20469

**LAUNCHING PADS**

- Missile launch release system Patent  
[NASA-CASE-XMF-03198] c 30 N70-40353  
Remote controlled tubular disconnect Patent  
[NASA-CASE-XLA-01396] c 03 N71-12259  
Validation device for spacecraft checkout equipment Patent  
[NASA-CASE-XKS-10543] c 07 N71-26292

**LAY-UP**

- Method of making a partial interlaminar separation composite system  
[NASA-CASE-LAR-12065-2] c 24 N81-33235

**LAYERS**

- Atomic hydrogen storage method and apparatus  
[NASA-CASE-LEW-12081-1] c 28 N78-24365

**LEACHING**

- Process for the leaching of AP from propellant  
[NASA-CASE-NPO-14109-1] c 28 N80-23471  
Infusion extractor  
[NASA-CASE-MSC-20761-1] c 37 N87-15465

**LEAD (METAL)**

- Lead-oxygen dc power supply system having a closed loop oxygen and water system  
[NASA-CASE-MFS-23059-1] c 44 N76-27664  
Catalyst surfaces for the chromous/chromic redox couple  
[NASA-CASE-LEW-13148-2] c 44 N81-29524  
Joining lead wires to thin platinum alloy films  
[NASA-CASE-LEW-13934-1] c 35 N83-35338

**LEAD SULFIDES**

- Integrated photo-responsive metal oxide semiconductor circuit  
[NASA-CASE-GSC-12782-1] c 33 N88-14271

**LEAD TELLURIDES**

- Bonding thermoelectric elements to nonmagnetic refractory metal electrodes  
[NASA-CASE-XGS-04554] c 15 N69-39786  
Segmenting lead telluride-silicon germanium thermoelements Patent  
[NASA-CASE-XGS-05718] c 26 N71-16037

**LEADING EDGE FLAPS**

- Leading edge flap system for aircraft control augmentation  
[NASA-CASE-LAR-12787-2] c 08 N85-19985

**LEADING EDGES**

- Reentry vehicle leading edge Patent  
[NASA-CASE-XLA-00165] c 31 N70-33242  
Leading edge curvature based on convective heating Patent  
[NASA-CASE-XLA-01486] c 01 N71-23497  
Leading edge protection for composite blades  
[NASA-CASE-LEW-12550-1] c 24 N77-19170  
Geometries for roughness shapes in laminar flow  
[NASA-CASE-LAR-13255-1] c 02 N87-16793

**LEAKAGE**

- Rocket chamber leak test fixture  
[NASA-CASE-XFR-09479] c 14 N69-27503  
Method and apparatus for detection and location of microleaks Patent  
[NASA-CASE-XMF-02307] c 14 N71-10779  
Leak detector Patent  
[NASA-CASE-LAR-10323-1] c 12 N71-17573  
Hard space suit Patent  
[NASA-CASE-XAC-07043] c 05 N71-23161  
Method for leakage testing of tanks Patent  
[NASA-CASE-XMF-02392] c 32 N71-24285  
Leak detector wherein a probe is monitored with ultraviolet radiation Patent  
[NASA-CASE-ERC-10034] c 15 N71-24896  
Method for detecting leaks in hermetically sealed containers Patent  
[NASA-CASE-ERC-10045] c 15 N71-24910  
Method and apparatus for detecting gross leaks Patent  
[NASA-CASE-ERC-10033] c 14 N71-26672  
Orifice gross leak tester Patent  
[NASA-CASE-ERC-10150] c 14 N71-28992  
Leak detector  
[NASA-CASE-MFS-21761-1] c 35 N75-15931  
Vacuum leak detector  
[NASA-CASE-LAR-11237-1] c 35 N75-19612  
Low heat leak connector for cryogenic system  
[NASA-CASE-XLE-02367-1] c 31 N79-21225  
Carbon granule probe microphone for leak detection --- recovery boilers  
[NASA-CASE-NPO-16027-1] c 35 N85-21597  
Portable remote laser sensor for methane leak detection  
[NASA-CASE-NPO-15790-1] c 36 N85-21631

## LEG (ANATOMY)

- Fluid leak indicator  
[NASA-CASE-MSC-20783-1] c 35 N86-20756  
Method of repairing hidden leaks in tubes  
[NASA-CASE-MFS-19796-1] c 37 N86-32736  
Self-compensating solenoid valve  
[NASA-CASE-ARC-11620-1] c 37 N87-25573  
High temperature flexible seal  
[NASA-CASE-LEW-14695-1] c 37 N89-28830

## LEG (ANATOMY)

- Actuator device for artificial leg  
[NASA-CASE-MFS-23225-1] c 52 N77-14735  
Rotational joint assembly for the prosthetic leg  
[NASA-CASE-KSC-11004-1] c 54 N77-30749  
Mechanical energy storage device for hip disarticulation  
[NASA-CASE-ARC-10916-1] c 52 N78-10686  
Drop foot corrective device  
[NASA-CASE-LAR-12259-2] c 54 N86-22112

## LENSES

- High temperature lens construction Patent  
[NASA-CASE-XNP-04111] c 14 N71-15622  
Image magnification adapter for cameras Patent  
[NASA-CASE-XMF-03844-1] c 14 N71-26474  
Petzval type objective including field shaping lens Patent  
[NASA-CASE-GSC-10700] c 23 N71-30027  
Method and apparatus for eliminating coherent noise in a coherent energy imaging system without destroying spatial coherence  
[NASA-CASE-GSC-11133-1] c 23 N72-11568  
Plural beam antenna  
[NASA-CASE-GSC-11013-1] c 09 N73-19234  
Spatial filter for Q-switched lasers  
[NASA-CASE-LEW-12164-1] c 36 N77-32478  
Process for producing a well-adhered durable optical coating on an optical plastic substrate --- abrasion resistant polymethyl methacrylate lenses  
[NASA-CASE-ARC-11039-1] c 74 N78-32854  
Chromatically corrected virtual image visual display --- reducing eye strain in flight simulators  
[NASA-CASE-LAR-12251-1] c 74 N80-27185  
Constant magnification optical tracking system  
[NASA-CASE-NPO-14813-1] c 74 N82-24072  
Scanning afocal laser velocimeter projection lens system  
[NASA-CASE-LAR-12328-1] c 36 N82-32712  
Interferometric angle monitor  
[NASA-CASE-GSC-12614-1] c 74 N83-32577  
Projection lens scanning laser velocimeter system  
[NASA-CASE-ARC-11547-1] c 36 N87-17026  
Dual mode laser velocimeter  
[NASA-CASE-ARC-11634-1] c 36 N88-14350

## LENTICULAR BODIES

- Space and atmospheric reentry vehicle Patent  
[NASA-CASE-XGS-00260] c 31 N70-37924

## LEVEL (HORIZONTAL)

- Hot wire liquid level detector for cryogenic fluids Patent  
[NASA-CASE-XLE-00454] c 23 N71-17802  
Rotary leveling base platform  
[NASA-CASE-ARC-10981-1] c 37 N78-27425

## LEVEL (QUANTITY)

- Spherical tank gauge Patent  
[NASA-CASE-XMS-06236] c 14 N71-21007  
Positive dc to positive dc converter Patent  
[NASA-CASE-XMF-14301] c 09 N71-23188

## LEVELING

- Adjustable attitude guide device Patent  
[NASA-CASE-XLA-07911] c 15 N71-15571  
Electrical switching device Patent  
[NASA-CASE-NPO-10037] c 09 N71-19610  
Adjustable support  
[NASA-CASE-NPO-10721] c 15 N72-27484  
Automatically operable self-leveling load table  
[NASA-CASE-MFS-22039-1] c 09 N75-12968

## LEVITATION

- Gas levitator having fixed levitation node for containerless processing  
[NASA-CASE-MFS-25509-1] c 35 N83-24828  
Closed loop electrostatic levitation system  
[NASA-CASE-NPO-15553-1] c 33 N85-29142

## LEVITATION MELTING

- High temperature acoustic levitator  
[NASA-CASE-NPO-16022-1] c 71 N85-22105  
Sample levitation and melt in microgravity  
[NASA-CASE-NPO-17022-1-CU] c 29 N87-25489

## LIFE (DURABILITY)

- Hollow rolling element bearings  
[NASA-CASE-LEW-11087-3] c 37 N74-21064  
Method of increasing minority carrier lifetime in silicon web or the like  
[NASA-CASE-NPO-15530-1] c 76 N83-35888  
Apparatus for disintegrating kidney stones  
[NASA-CASE-GSC-12652-1] c 52 N84-34913

Method and apparatus for measuring minority carrier lifetime in a direct band-gap semiconductor  
[NASA-CASE-NPO-16337-1-CU] c 33 N87-22894

- Arc-textured high emittance radiator surfaces  
[NASA-CASE-LEW-14679-1] c 27 N89-28651

## LIFE DETECTORS

- Use of the enzyme hexokinase for the reduction of inherent light levels  
[NASA-CASE-XGS-05533] c 04 N69-27487  
Lyophilized reaction mixtures Patent  
[NASA-CASE-XGS-05532] c 06 N71-17705

## LIFE RAFTS

- Life raft Patent  
[NASA-CASE-XMS-00863] c 05 N70-34857  
Life raft stabilizer  
[NASA-CASE-MSC-12393-1] c 02 N73-26006  
Modification of one man life raft  
[NASA-CASE-LAR-10241-1] c 54 N74-14845

## LIFE SUPPORT SYSTEMS

- Shock absorbing support and restraint means Patent  
[NASA-CASE-XMS-01240] c 05 N70-35152  
Portable environmental control system Patent  
[NASA-CASE-XMS-09632-1] c 05 N71-11203  
Extravehicular tunnel suit system Patent  
[NASA-CASE-MSC-12243-1] c 05 N71-24728  
Foreshortened convolute section for a pressurized suit Patent  
[NASA-CASE-XMS-09637-1] c 05 N71-24730  
Orbital escape device Patent  
[NASA-CASE-XMS-06162] c 31 N71-28851  
Specialized halogen generator for purification of water Patent  
[NASA-CASE-XLA-08913] c 14 N71-28933  
Life support system  
[NASA-CASE-MSC-12411-1] c 05 N72-20096  
Air removal device  
[NASA-CASE-XLA-08914] c 15 N73-12492  
Space suit  
[NASA-CASE-MSC-12609-1] c 05 N73-32012  
Catalyst cartridge for carbon dioxide reduction unit  
[NASA-CASE-LAR-10551-1] c 25 N74-12813  
Helmet feedport  
[NASA-CASE-XMS-09653] c 54 N78-17680  
Cooling system for removing metabolic heat from an hermetically sealed spacesuit  
[NASA-CASE-ARC-11059-1] c 54 N78-32721  
Air removal device --- life support systems  
[NASA-CASE-XLA-08914-2] c 25 N82-21269

## LIFT DEVICES

- Device for handling heavy loads  
[NASA-CASE-XNP-04969] c 11 N69-27466  
Recoverable rocket vehicle Patent  
[NASA-CASE-XMF-00389] c 31 N70-34176  
Direct lift control system Patent  
[NASA-CASE-LAR-10249-1] c 02 N71-26110  
Ferry system  
[NASA-CASE-LAR-10574-1] c 11 N73-13257  
High lift aircraft --- with improved stability, control, performance, and noise characteristics  
[NASA-CASE-LAR-11252-1] c 05 N75-25914  
Device for installing rocket engines  
[NASA-CASE-MFS-19220-1] c 20 N76-22296  
Vortex-lift roll-control device  
[NASA-CASE-LAR-11868-2] c 08 N79-14108

## LIFT DRAG RATIO

- Ring wing tension vehicle Patent  
[NASA-CASE-XLA-04901] c 31 N71-24315  
Annular wing  
[NASA-CASE-FRC-11007-2] c 05 N82-26277  
Slotted variable camber flap  
[NASA-CASE-LAR-12541-1] c 05 N84-22551  
Over-the-wing propeller  
[NASA-CASE-LAR-13134-2] c 07 N87-16828

## LIFTING BODIES

- Recoverable rocket vehicle Patent  
[NASA-CASE-XMF-00389] c 31 N70-34176  
Lifting body Patent Application  
[NASA-CASE-FRC-10063] c 01 N71-12217  
Lift balancing device  
[NASA-CASE-LAR-10348-1] c 11 N73-12264

## LIFTING REENTRY VEHICLES

- Space and atmospheric reentry vehicle Patent  
[NASA-CASE-XGS-00260] c 31 N70-37924  
Variable geometry manned orbital vehicle Patent  
[NASA-CASE-XLA-03691] c 31 N71-15674  
Flight craft Patent  
[NASA-CASE-XAC-02058] c 02 N71-16087

## LIFTING ROTORS

- High lift, low pitching moment airfoils  
[NASA-CASE-LAR-13215-1] c 02 N89-14224

## LIGANDS

- Carboranyl-methylene-substituted phosphazenes and polymers thereof  
[NASA-CASE-ARC-11370-1] c 27 N84-22750

## LIGHT (VISIBLE RADIATION)

- Anti-glare improvement for optical imaging systems Patent  
[NASA-CASE-NPO-10337] c 14 N71-15604  
Maksutov spectrograph Patent  
[NASA-CASE-XLA-10402] c 14 N71-29041  
Combustion detector  
[NASA-CASE-LAR-10739-1] c 14 N73-16484  
Optical fiber tactile sensor  
[NASA-CASE-NPO-15375-1] c 74 N84-11921  
Light transmitting window assembly  
[NASA-CASE-MSC-18417-1] c 74 N85-29750

## LIGHT AIRCRAFT

- Direct lift control system Patent  
[NASA-CASE-LAR-10249-1] c 02 N71-26110

## LIGHT BEAMS

- Spectroscope equipment using a slender cylindrical reflector as a substitute for a slit Patent  
[NASA-CASE-XGS-08269] c 23 N71-26206  
Multiple hologram recording and readout system Patent  
[NASA-CASE-ERC-10151] c 16 N71-29131  
Rhomboid prism pair for rotating the plane of parallel light beams  
[NASA-CASE-ARC-11311-1] c 74 N83-13978  
Collimated beam manifold with the number of output beams variable at a given output angle  
[NASA-CASE-MFS-25312-1] c 74 N83-17305  
Ranging system which compares an object reflected component of a light beam to a reference component of the light beam  
[NASA-CASE-NPO-15865-1] c 74 N85-34629  
Double window viewing chamber assembly  
[NASA-CASE-MFS-28057-1] c 09 N87-14355  
Laser schlieren crystal monitor  
[NASA-CASE-MFS-28060-1] c 76 N87-25862

## LIGHT EMISSION

- Method and apparatus for determining optical absorption and emission characteristics of a crystal or non-crystalline fiber  
[NASA-CASE-LAR-13963-1] c 76 N89-14119

## LIGHT EMITTING DIODES

- Photoelectric detection system --- manufacturing automation  
[NASA-CASE-MFS-23776-1] c 33 N82-28545  
Heads up display  
[NASA-CASE-LAR-12630-1] c 06 N84-27733  
Focal plane array optical proximity sensor  
[NASA-CASE-NPO-15155-1] c 74 N85-22139  
Means for phase locking the outputs of a surface emitting laser diode array  
[NASA-CASE-NPO-16542-1-CU] c 36 N87-23960  
Field induced gap infrared detector  
[NASA-CASE-NPO-17526-1-CU] c 35 N89-28796

## LIGHT GAS GUNS

- Hypervelocity gun Patent  
[NASA-CASE-XAC-05902] c 11 N71-18578

## LIGHT MODULATION

- Retrodiffractive modulator Patent  
[NASA-CASE-GSC-10062] c 14 N71-15605  
Light intensity modulator controller Patent  
[NASA-CASE-XMS-04300] c 09 N71-19479  
Method and apparatus for optical modulating a light signal Patent  
[NASA-CASE-GSC-10216-1] c 23 N71-26722  
Lamp modulator  
[NASA-CASE-KSC-10565] c 09 N72-25250  
Polarization compensator for optical communications  
[NASA-CASE-GSC-11782-1] c 74 N76-30053  
Method and apparatus for Doppler frequency modulation of radiation  
[NASA-CASE-NPO-14524-1] c 32 N80-24510  
Fluorescent radiation converter  
[NASA-CASE-GSC-12528-1] c 74 N81-24900

## LIGHT SCATTERING

- The 2 deg/90 deg laboratory scattering photometer --- particulate refractivity in hydrosols  
[NASA-CASE-GSC-12088-1] c 74 N78-13874  
A reference standard for bidirectional reflection distribution function and bidirectional transmission distribution function measurement  
[NASA-CASE-MFS-28183-1] c 74 N89-13253

## LIGHT SCATTERING METERS

- System for the measurement of ultra-low stray light levels --- determining the adequacy of large space telescope systems  
[NASA-CASE-MFS-23513-1] c 74 N79-11865

## LIGHT SOURCES

- Light radiation direction indicator with a baffle of two parallel grids  
[NASA-CASE-XNP-03930] c 14 N69-24331  
High intensity heat and light unit Patent  
[NASA-CASE-XLA-00141] c 09 N70-33312  
Photosensitive device to detect bearing deviation Patent  
[NASA-CASE-XNP-00438] c 21 N70-35089

- Light position locating system Patent  
[NASA-CASE-XNP-01059] c 23 N71-21821
- Optical systems having spatially invariant outputs  
[NASA-CASE-ERC-10248] c 14 N72-17323
- Ultrastable calibrated light source  
[NASA-CASE-MS-C-12293-1] c 14 N72-27411
- Temperature compensated light source using a light emitting diode  
[NASA-CASE-ARC-10467-1] c 09 N73-14214
- Interferometric rotation sensor  
[NASA-CASE-ARC-10278-1] c 14 N73-25463
- Attitude sensor  
[NASA-CASE-LAR-10586-1] c 19 N74-15089
- Very high intensity light source using a cathode ray tube --- electron beams  
[NASA-CASE-XNP-01296] c 33 N75-27250
- Electric arc light source having undercut recessed anode  
[NASA-CASE-ARC-10266-1] c 33 N75-29318
- Uniform variable light source  
[NASA-CASE-NPO-11429-1] c 74 N77-21941
- LIGHT TRANSMISSION**
- Hybrid holographic system using reflected and transmitted object beams simultaneously Patent  
[NASA-CASE-MFS-20074] c 16 N71-15565
- Optical characteristics measuring apparatus Patent  
[NASA-CASE-XNP-08840] c 23 N71-16365
- Optical monitor panel Patent  
[NASA-CASE-XKS-03509] c 14 N71-23175
- Solar cell panels with light transmitting plate  
[NASA-CASE-NPO-10747] c 03 N72-22042
- Optical frequency waveguide and transmission system  
[NASA-CASE-HQN-10541-3] c 23 N72-23695
- Light regulator  
[NASA-CASE-LAR-10836-1] c 26 N72-27784
- Transmitting and reflecting diffuser --- for ultraviolet light  
[NASA-CASE-LAR-10385-2] c 70 N74-13436
- Optical instrument employing reticle having preselected visual response pattern formed thereon  
[NASA-CASE-ARC-10976-1] c 74 N77-22950
- Transmitting and reflecting diffuser --- using ultraviolet grade fused silica coatings  
[NASA-CASE-LAR-10385-3] c 74 N78-15879
- Constant magnification optical tracking system  
[NASA-CASE-NPO-14813-1] c 74 N82-24072
- Light transmitting window assembly  
[NASA-CASE-MS-C-18417-1] c 74 N85-29750
- Low-loss, high-isolation, fiber-optic isolator  
[NASA-CASE-NPO-17207-1-CU] c 74 N88-25304
- Fiber optic frequency transfer link  
[NASA-CASE-NPO-17703-1-CU] c 74 N89-29191
- LIGHT VALVES**
- Liquid crystal light valve structures  
[NASA-CASE-MS-C-20036-1] c 76 N85-33826
- Wind dynamic range video camera  
[NASA-CASE-MFS-25750-1] c 32 N86-20647
- LIGHTING EQUIPMENT**
- Internal work light Patent  
[NASA-CASE-XKS-05932] c 09 N71-26787
- Pressurized lighting system  
[NASA-CASE-KSC-10644] c 09 N72-27227
- Remote lighting monitor system  
[NASA-CASE-KSC-11031-1] c 33 N79-11315
- LIGHTNING**
- Determining distance to lightning strokes from a single station  
[NASA-CASE-KSC-10698] c 07 N73-20175
- Lightning tracking system  
[NASA-CASE-KSC-10729-1] c 09 N73-32110
- Automatic lightning detection and photographic system  
[NASA-CASE-KSC-10728-1] c 14 N73-32319
- Lightning current measuring systems  
[NASA-CASE-KSC-10807-1] c 33 N75-26246
- Lightning current waveform measuring system  
[NASA-CASE-KSC-11018-1] c 33 N79-10337
- Lightning current detector  
[NASA-CASE-KSC-11057-1] c 33 N79-14305
- Lightning discharge identification system  
[NASA-CASE-KSC-11099-1] c 47 N82-24779
- Lightning discharge protection rod  
[NASA-CASE-LAR-13470-1] c 03 N88-14083
- LIMBS (ANATOMY)**
- Prosthesis coupling  
[NASA-CASE-KSC-11069-1] c 52 N79-26772
- Apparatus for determining changes in limb volume  
[NASA-CASE-MS-C-18759-1] c 52 N83-27578
- LIMITER CIRCUITS**
- Variable duration pulse integrator Patent  
[NASA-CASE-XLA-01219] c 10 N71-23084
- Noise limiter Patent  
[NASA-CASE-NPO-10169] c 10 N71-24844
- Velocity limiting safety system Patent  
[NASA-CASE-XLA-07473] c 15 N71-24895
- Low level signal limiter  
[NASA-CASE-XLE-04791] c 32 N74-22096
- Inrush current limiter  
[NASA-CASE-GSC-11789-1] c 33 N77-14333
- LINE SPECTRA**
- Stark cell optoacoustic detection of constituent gases in sample  
[NASA-CASE-NPO-14143-1] c 25 N81-14015
- Optical scanner  
[NASA-CASE-GSC-12897-1] c 74 N87-21679
- LINEAR ACCELERATORS**
- Linear accelerator frequency control system Patent  
[NASA-CASE-XGS-05441] c 10 N71-22962
- LINEAR ARRAYS**
- Multispectral imaging and analysis system --- using charge coupled devices and linear arrays  
[NASA-CASE-NPO-13691-1] c 43 N79-17288
- Means for phase locking the outputs of a surface emitting laser diode array  
[NASA-CASE-NPO-16542-1-CU] c 36 N87-23960
- LINEAR CIRCUITS**
- Programmable electronic synthesized capacitance  
[NASA-CASE-GSC-12961-1] c 33 N87-22895
- LINEAR INTEGRATED CIRCUITS**
- Integrating IR detector imaging systems  
[NASA-CASE-NPO-15805-1] c 74 N84-28590
- LINEAR POLARIZATION**
- Wind dynamic range video camera  
[NASA-CASE-MFS-25750-1] c 32 N86-20647
- LINEAR PROGRAMMING**
- Programmable electronic synthesized capacitance  
[NASA-CASE-GSC-12961-1] c 33 N87-22895
- LINEAR RECEIVERS**
- Antenna array at focal plane of reflector with coupling network for beam switching Patent  
[NASA-CASE-GSC-10220-1] c 07 N71-27233
- LINEAR SYSTEMS**
- Linear three-tap feedback shift register Patent  
[NASA-CASE-NPO-10351] c 08 N71-12503
- A many linear feedback shift register with binary logic  
[NASA-CASE-NPO-11868] c 10 N73-20254
- Linear magnetic bearings  
[NASA-CASE-GSC-12582-2] c 37 N85-20337
- LINEARITY**
- Semi-linear ball bearing Patent  
[NASA-CASE-XLA-02809] c 15 N71-22982
- Mechanical actuator Patent  
[NASA-CASE-XGS-04548] c 15 N71-24045
- Linear magnetic bearing  
[NASA-CASE-GSC-12517-1] c 37 N83-32067
- Linear motion valve  
[NASA-CASE-MS-C-20148-1] c 37 N85-29284
- Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NASA-1.71:NPO-15494-2] c 35 N85-34373
- Linearized traveling wave amplifier with hard limiter characteristics  
[NASA-CASE-LEW-13981-2] c 33 N86-21742
- Reciprocating linear motor  
[NASA-CASE-GSC-12773-2] c 33 N87-23904
- Semi-2-interpenetrating networks of high temperature systems  
[NASA-CASE-LAR-13450-1] c 27 N87-28657
- LININGS**
- Fully plasma-sprayed compliant backed ceramic turbine seal  
[NASA-CASE-LEW-13268-1] c 27 N82-29453
- Combustor liner construction  
[NASA-CASE-LEW-14035-1] c 07 N84-24577
- Multi-path peristaltic pump  
[NASA-CASE-MS-C-20907-1] c 37 N87-18818
- Tapered, tubular polyester fabric  
[NASA-CASE-MS-C-21082-1] c 27 N87-29672
- Internal wire guide for GTAW welding  
[NASA-CASE-MFS-29489-1] c 31 N89-23739
- LINKAGES**
- Collapsible nozzle extension for rocket engines Patent  
[NASA-CASE-MFS-11497] c 28 N71-16224
- Adjustable force probe  
[NASA-CASE-MFS-20760] c 14 N72-33377
- Locking redundant link  
[NASA-CASE-LAR-11900-1] c 37 N79-14382
- Compensating linkage for main rotor control  
[NASA-CASE-LAR-11797-1] c 05 N81-19087
- Preloadable vector sensitive latch  
[NASA-CASE-MS-C-20910-1] c 37 N87-25582
- Payload deployment method and system  
[NASA-CASE-MS-C-21330-1] c 16 N88-24660
- Skin friction balance  
[NASA-CASE-LAR-13710-1] c 35 N88-29145
- LIQUEFACTION**
- Ophthalmic liquefaction pump  
[NASA-CASE-LEW-12051-1] c 52 N75-33640
- LIQUID ATOMIZATION**
- Constant-output atomizer --- Inhalation therapy and aerosol research  
[NASA-CASE-MFS-25631-1] c 34 N84-12406
- LIQUID BEARINGS**
- High speed hybrid bearing comprising a fluid bearing and a rolling bearing convected in series  
[NASA-CASE-LEW-11152-1] c 15 N73-32359
- Turbomachinery rotor support with damping  
[NASA-CASE-MFS-28345-1] c 37 N89-28841
- LIQUID CHROMATOGRAPHY**
- Spillage detector for liquid chromatography systems  
[NASA-CASE-MS-C-20206-1] c 25 N86-27431
- LIQUID COOLING**
- Water cooled contactor for anode in carbon arc mechanism  
[NASA-CASE-XMS-03700] c 15 N69-24266
- External liquid-spray cooling of turbine blades Patent  
[NASA-CASE-XLE-00037] c 28 N70-33372
- Solenoid construction Patent  
[NASA-CASE-XNP-01951] c 09 N70-41929
- Laminar flow enhancement Patent  
[NASA-CASE-NPO-10122] c 12 N71-17631
- Space suit heat exchanger Patent  
[NASA-CASE-XMS-09571] c 05 N71-19439
- Power system with heat pipe liquid coolant lines Patent  
[NASA-CASE-MFS-14114-2] c 09 N71-24807
- Power system with heat pipe liquid coolant lines Patent  
[NASA-CASE-MFS-14114] c 33 N71-27862
- Liquid spray cooling method Patent  
[NASA-CASE-XLE-00027] c 33 N71-29152
- Automatic control of liquid cooling garment by cutaneous and external auditory meatus temperatures  
[NASA-CASE-MS-C-13917-1] c 05 N72-15098
- Temperature controller for a fluid cooled garment  
[NASA-CASE-ARC-10599-1] c 05 N73-26071
- Heat exchanger system and method  
[NASA-CASE-LAR-10799-2] c 34 N76-17317
- Liquid cooled brassiere and method of diagnosing malignant tumors therewith  
[NASA-CASE-ARC-11007-1] c 52 N77-14736
- Closed loop spray cooling apparatus --- for particle accelerator targets  
[NASA-CASE-LEW-11981-1] c 31 N78-17237
- Low gravity exothermic heating/cooling apparatus  
[NASA-CASE-MS-C-25707-1] c 35 N85-29214
- LIQUID CRYSTALS**
- Angular velocity and acceleration measuring apparatus  
[NASA-CASE-ERC-10292] c 14 N72-25410
- Electricity measurement devices employing liquid crystalline materials  
[NASA-CASE-ERC-10275] c 26 N72-25680
- Liquid crystal light valve structures  
[NASA-CASE-MS-C-20036-1] c 76 N85-33826
- Method for laminar boundary layer transition visualization in flight  
[NASA-CASE-LAR-13554-1] c 02 N89-12551
- LIQUID FILLED SHELLS**
- Liquid rocket system Patent  
[NASA-CASE-XNP-00610] c 28 N70-36910
- Fluid sample collector Patent  
[NASA-CASE-XMS-06767-1] c 14 N71-20435
- Fluid containers and resealable septum therefor Patent  
[NASA-CASE-NPO-10123] c 15 N71-24835
- Omnidirectional acceleration device Patent  
[NASA-CASE-HQN-10780] c 14 N71-30265
- LIQUID FLOW**
- Reduced gravity liquid configuration simulator  
[NASA-CASE-XLE-02624] c 12 N69-39988
- Liquid junction and method of fabricating the same Patent Application  
[NASA-CASE-NPO-10682] c 15 N70-34699
- Valve actuator Patent  
[NASA-CASE-XHQ-01208] c 15 N70-35409
- Fluid coupling Patent  
[NASA-CASE-XLE-00397] c 15 N70-36492
- Positive displacement flowmeter Patent  
[NASA-CASE-XMF-02822] c 14 N70-41994
- Liquid flow sight assembly Patent  
[NASA-CASE-XLE-02998] c 14 N70-42074
- Ablative system  
[NASA-CASE-LEW-10359-2] c 33 N73-25952
- Zero gravity liquid transfer screen  
[NASA-CASE-KSC-10626] c 14 N73-27378
- System for measuring Reynolds in a turbulently flowing fluid --- signal processing  
[NASA-CASE-ARC-10755-2] c 34 N76-27517
- Degassifying and mixing apparatus for liquids --- potable water for spacecraft  
[NASA-CASE-MS-C-18936-1] c 35 N83-29652
- Multicolor printing plate joining  
[NASA-CASE-LEW-13598-1] c 35 N84-22930

## LIQUID HELIUM

- Heat operated cryogenic electrical generator  
[NASA-CASE-NPO-13303-1] c 20 N75-24837
- Helium refrigerator  
[NASA-CASE-NPO-13435-1] c 31 N76-14284
- Cryostat system for temperatures on the order of 2 deg K or less  
[NASA-CASE-NPO-13459-1] c 31 N77-10229
- Multistation refrigeration system  
[NASA-CASE-NPO-13839-1] c 31 N78-25256
- Stabilization of He<sub>2</sub>(a 3 Sigma u+ molecules in liquid helium by optical pumping for vacuum UV laser 6  
[NASA-CASE-NPO-13993-1] c 72 N79-13826
- Low cost cryostat  
[NASA-CASE-NPO-14513-1] c 35 N81-14287

## LIQUID HYDROGEN

- Cryogenic thermal insulation Patent  
[NASA-CASE-XMF-05046] c 33 N71-28892
- Reinforced polyquinoxaline gasket and method of preparing the same --- resistant to ionizing radiation and liquid hydrogen temperatures  
[NASA-CASE-MFS-21364-1] c 37 N74-18126
- Liquid hydrogen polygeneration system and process  
[NASA-CASE-KSC-11304-2] c 28 N86-23744
- Ten degree Kelvin hydride refrigerator  
[NASA-CASE-NPO-16393-1-CU] c 31 N87-21159
- Rotor self-lubricating axial stop  
[NASA-CASE-MFS-28273-1] c 37 N88-23974

## LIQUID INJECTION

- Thrust vector control apparatus Patent  
[NASA-CASE-XLE-00208] c 28 N70-34294
- Control system for rocket vehicles Patent  
[NASA-CASE-XLA-01163] c 21 N71-15582
- Injector assembly for liquid fueled rocket engines Patent  
[NASA-CASE-XMF-00968] c 28 N71-15660
- Sodium storage and injection system  
[NASA-CASE-NPO-14384-1] c 37 N80-10494
- Method of producing silicon --- gas phase reactor multiple injector liquid feed system  
[NASA-CASE-NPO-14382-1] c 31 N80-18231
- Vortex generating flow passage design for increased film cooling effectiveness  
[NASA-CASE-LEW-14039-1] c 34 N85-33433

## LIQUID LASERS

- Method and apparatus for wavelength tuning of liquid lasers  
[NASA-CASE-ERC-10187] c 16 N69-31343

## LIQUID LEVELS

- Inductive liquid level detection system Patent  
[NASA-CASE-XLE-01609] c 14 N71-10500

## LIQUID METALS

- Slug flow magnetohydrodynamic generator  
[NASA-CASE-XLE-02083] c 03 N69-39983
- Two-fluid magnetohydrodynamic system and method for thermal-electric power conversion Patent  
[NASA-CASE-XNP-00644] c 03 N70-36803
- Analytical test apparatus and method for determining oxide content of alkali metal Patent  
[NASA-CASE-XLE-01997] c 06 N71-23527
- Power system with heat pipe liquid coolant lines Patent  
[NASA-CASE-MFS-14114] c 33 N71-27862
- Fluid impervious barrier including liquid metal alloy and method of making same Patent  
[NASA-CASE-XNP-08881] c 17 N71-28747
- Shell side liquid metal boiler  
[NASA-CASE-NPO-10831] c 33 N72-20915
- Method for distillation of liquids  
[NASA-CASE-XNP-08124-2] c 06 N73-13129
- Electromagnetic flow rate meter --- for liquid metals  
[NASA-CASE-LEW-10981-1] c 35 N74-21018
- Process for preparing liquid metal electrical contact device  
[NASA-CASE-LEW-11978-1] c 33 N77-26385
- Solar driven liquid metal MHD power generator  
[NASA-CASE-LAR-12495-1] c 44 N83-28573
- Arc spray fabrication of metal matrix composite monotape  
[NASA-CASE-LEW-13828-1] c 24 N85-30027

## LIQUID NITROGEN

- Cryogenic feedthrough  
[NASA-CASE-LAR-10031] c 15 N72-22484

## LIQUID OXYGEN

- Dye penetrant for surfaces subsequently contacted by liquid oxygen Patent  
[NASA-CASE-XMF-02221] c 18 N71-27170
- Low loss injector for liquid propellant rocket engines  
[NASA-CASE-MFS-25989-1] c 20 N87-14420
- Oxygen chemisorption cryogenic refrigerator  
[NASA-CASE-NPO-16734-1-CU] c 31 N88-14223
- Rotor self-lubricating axial stop  
[NASA-CASE-MFS-28273-1] c 37 N88-23974

## LIQUID PHASES

- Fluid dispensing apparatus and method Patent  
[NASA-CASE-XLE-01182] c 27 N71-15635

- Hydraulic casting of liquid polymers Patent  
[NASA-CASE-XNP-07659] c 06 N71-22975
- Fluid phase analyzer Patent  
[NASA-CASE-NPO-10691] c 14 N71-26199
- Cryogenic liquid sensor  
[NASA-CASE-NPO-10619-1] c 35 N77-21393
- Pumped two-phase heat transfer loop  
[NASA-CASE-MSC-20841-1] c 34 N87-22950

## LIQUID PROPELLANT ROCKET ENGINES

- Annular rocket motor and nozzle configuration Patent  
[NASA-CASE-XLE-00078] c 28 N70-33284
- Attitude and propellant flow control system and method Patent  
[NASA-CASE-XMF-00185] c 21 N70-34539
- Injector for bipropellant rocket engines Patent  
[NASA-CASE-XMF-00148] c 28 N70-38710
- Zero gravity starting means for liquid propellant motors Patent  
[NASA-CASE-XNP-01390] c 28 N70-41275
- Supersonic combustion rocket  
[NASA-CASE-LEW-11058-1] c 20 N74-13502
- Space vehicle  
[NASA-CASE-MFS-22734-1] c 18 N75-19329
- Fluid thrust control system --- for liquid propellant rocket engines  
[NASA-CASE-XMF-05964-1] c 20 N79-21124
- Rocket injector head  
[NASA-CASE-XMF-04592-1] c 20 N79-21125
- Low thrust monopropellant engine  
[NASA-CASE-GSC-12194-2] c 20 N82-18314

## LIQUID ROCKET PROPELLANTS

- Rocket propellant injector Patent  
[NASA-CASE-XLE-00103] c 28 N70-33241
- Liquid rocket system Patent  
[NASA-CASE-NXP-00610] c 28 N70-36910
- Rocket motor system Patent  
[NASA-CASE-XLE-00323] c 28 N70-38505
- High temperature spark plug Patent  
[NASA-CASE-XLE-00660] c 28 N70-39925
- High pressure filter Patent  
[NASA-CASE-XNP-00732] c 28 N70-41447
- Liquid storage tank venting device for zero gravity environment Patent  
[NASA-CASE-XLE-01449] c 15 N70-41646
- Tank construction for space vehicles Patent  
[NASA-CASE-XMF-01899] c 31 N70-41948
- Fluid dispensing apparatus and method Patent  
[NASA-CASE-XLE-01182] c 27 N71-15635
- Control valve and co-axial variable injector Patent  
[NASA-CASE-XNP-09702] c 15 N71-17654
- Slosh alleviator Patent  
[NASA-CASE-XLA-05749] c 15 N71-19569
- Filler valve Patent  
[NASA-CASE-XNP-01747] c 15 N71-23024
- Propellant mass distribution metering apparatus Patent  
[NASA-CASE-NPO-10185] c 10 N71-26339
- Fluid impervious barrier including liquid metal alloy and method of making same Patent  
[NASA-CASE-XNP-08881] c 17 N71-28747
- Response analyzers for sensors Patent  
[NASA-CASE-MFS-11204] c 14 N71-29134
- Passive propellant system  
[NASA-CASE-MFS-23642-1] c 20 N80-10278
- Supercharged topping rocket propellant feed system  
[NASA-CASE-XLE-02062-1] c 20 N80-14188
- Low loss injector for liquid propellant rocket engines  
[NASA-CASE-MFS-25989-1] c 20 N87-14420

## LIQUID SLOSHING

- Slosh suppressing device and method Patent  
[NASA-CASE-XMF-00658] c 12 N70-38997
- Flexible ring slosh damping baffle Patent  
[NASA-CASE-LAR-10317-1] c 32 N71-16103
- Buoyant anti-slosh system Patent  
[NASA-CASE-XLA-04605] c 32 N71-16106
- Hot wire liquid level detector for cryogenic fluids Patent  
[NASA-CASE-XLE-00454] c 23 N71-17802
- Slosh alleviator Patent  
[NASA-CASE-XLA-05749] c 15 N71-19569
- Instrument for measuring the dynamic behavior of liquids Patent  
[NASA-CASE-XLA-05541] c 12 N71-26387

## LIQUID SODIUM

- Sodium storage and injection system  
[NASA-CASE-NPO-14384-1] c 37 N80-10494

## LIQUID-GAS MIXTURES

- Liquid-gas separation system Patent  
[NASA-CASE-XMS-01624] c 15 N70-40062
- Liquid-gas separator for zero gravity environment Patent  
[NASA-CASE-XMS-01492] c 05 N70-41297
- Liquid storage tank venting device for zero gravity environment Patent  
[NASA-CASE-XLE-01449] c 15 N70-41646

- Separator Patent  
[NASA-CASE-XLA-00415] c 15 N71-16079
- Vapor liquid separator Patent  
[NASA-CASE-XMF-04042] c 15 N71-23023
- Air removal device --- life support systems  
[NASA-CASE-XLA-08914-2] c 25 N82-21269

## LIQUID-SOLID INTERFACES

- Apparatus and procedure to detect a liquid-solid interface during crystal growth in a bridgman furnace  
[NASA-CASE-LAR-13597-1-CU] c 25 N87-23713

## LIQUID-VAPOR INTERFACES

- Zero gravity separator Patent  
[NASA-CASE-XLE-00586] c 15 N71-15968
- Rotating shaft seal Patent  
[NASA-CASE-XNP-02862-1] c 15 N71-26294
- Response analyzers for sensors Patent  
[NASA-CASE-MFS-11204] c 14 N71-29134
- Acoustic bubble removal method  
[NASA-CASE-NPO-15334-1] c 71 N83-35781

## LIQUIDS

- Liquid-gas separation system Patent  
[NASA-CASE-XMS-01624] c 15 N70-40062
- Electrical switching device Patent  
[NASA-CASE-NPO-10037] c 09 N71-19610
- Method and apparatus for distillation of liquids Patent  
[NASA-CASE-XNP-08124] c 15 N71-27184
- Apparatus for detecting the amount of material in a resonant cavity container Patent  
[NASA-CASE-XNP-02500] c 18 N71-27397
- Resonant infrasonic gauging apparatus  
[NASA-CASE-MSC-11847-1] c 14 N72-11363
- Abiative system  
[NASA-CASE-LEW-10359] c 33 N72-25911
- Liquid waste feed system  
[NASA-CASE-LAR-10365-1] c 05 N72-27102
- Zero gravity liquid mixer  
[NASA-CASE-LAR-10195-1] c 15 N73-1945E
- Bimetallic fluid displacement apparatus --- for stirring and heating stored gases and liquids  
[NASA-CASE-ARC-10441-1] c 35 N74-15126
- Method and device for detection of surface discontinuities or defects  
[NASA-CASE-MSC-14187-1] c 35 N74-32879
- Automatic liquid inventory collecting and dispensing unit  
[NASA-CASE-LAR-11071-1] c 35 N75-19611
- Thermal energy storage system --- operating or superheating of liquids  
[NASA-CASE-MFS-23167-1] c 44 N76-31667
- Low gravity phase separator  
[NASA-CASE-MSC-14773-1] c 35 N78-1239C
- Automatic fluid dispenser  
[NASA-CASE-ARC-10820-1] c 35 N78-19466
- Liquid-immersible electrostatic ultrasonic transducer  
[NASA-CASE-LAR-12465-1] c 33 N82-26572
- System for monitoring physical characteristics of fluids  
[NASA-CASE-NPO-15400-1] c 34 N83-31993
- Liquid thickness gauge  
[NASA-CASE-LAR-13826-1] c 35 N88-29150
- Tank gauging apparatus and method  
[NASA-CASE-MSC-21059-1] c 35 N89-12843

## LITHIUM

- Lithium counterdoped silicon solar cell  
[NASA-CASE-LEW-14177-1] c 44 N86-32875
- Tm,Ho:YLF laser end-pumped by a semiconductor diode laser array  
[NASA-CASE-NPO-17282-1-CU] c 36 N89-12856

## LITHIUM ALLOYS

- Elevated temperature aluminum alloys  
[NASA-CASE-LAR-13632-1] c 26 N87-29650
- Aluminum alloy  
[NASA-CASE-LAR-13924-1-CU] c 26 N89-28621

## LITHIUM COMPOUNDS

- Novel polymers and method of preparing same  
[NASA-CASE-NPO-10998-1] c 06 N73-32029

## LOAD DISTRIBUTION (FORCES)

- Force measuring instrument Patent  
[NASA-CASE-XMF-00456] c 14 N70-34705
- Multiple Belleville spring assembly Patent  
[NASA-CASE-XNP-00840] c 15 N70-38225
- Device for use in loading tension members --- characterized by elongated elastic body  
[NASA-CASE-MFS-21488-1] c 14 N75-24794
- Pneumatic load compensating or controlling system  
[NASA-CASE-ARC-10907-1] c 37 N75-32465
- Load positioning system with gravity compensation  
[NASA-CASE-ARC-11525-1] c 37 N86-27629

## LOAD TESTING MACHINES

- Load cell protection device Patent  
[NASA-CASE-XMS-06782] c 32 N71-15974
- Load relieving device Patent  
[NASA-CASE-XMS-06329-1] c 15 N71-20441
- Method and apparatus for tensile testing of metal foil  
[NASA-CASE-LAR-10208-1] c 35 N76-18400
- Fatigue failure load indicator  
[NASA-CASE-LAR-12027-1] c 39 N79-22537

- Portable 90 degree proof loading device  
[NASA-CASE-MSC-20250-1] c 35 N86-19581
- Cryogenic insulation strength and bond tester  
[NASA-CASE-MFS-25910-1] c 39 N86-20841
- Device for measuring hole elongation in a bolted joint  
[NASA-CASE-LAR-13453-1] c 37 N88-14361
- Bearing-bypass material system test  
[NASA-CASE-LAR-13458-1] c 35 N88-23967
- Delamination test apparatus and method  
[NASA-CASE-LAR-13985-1] c 24 N89-28586
- LOAD TESTS**
- Differential pressure cell Patent  
[NASA-CASE-XAC-00042] c 14 N70-34816
- Fatigue testing a plurality of test specimens and method  
[NASA-CASE-MFS-28118-1] c 39 N87-25601
- LOADING OPERATIONS**
- Air bearing Patent  
[NASA-CASE-XMF-01887] c 15 N71-10617
- Shuttle car loading system  
[NASA-CASE-NPO-15949-1] c 85 N85-34722
- LOADS (FORCES)**
- Device for handling heavy loads  
[NASA-CASE-XNP-04969] c 11 N69-27466
- Two-plane balance Patent  
[NASA-CASE-XAC-00073] c 14 N70-34813
- Method of improving the reliability of a rolling element system Patent  
[NASA-CASE-XLE-02999] c 15 N71-16052
- Load relieving device Patent  
[NASA-CASE-XMS-06329-1] c 15 N71-20441
- Dual latching solenoid valve Patent  
[NASA-CASE-XMS-05890] c 09 N71-23191
- Transverse piezoresistance and pinch effect electromechanical transducers Patent  
[NASA-CASE-ERC-10088] c 26 N71-25490
- Turn on transient limiter Patent  
[NASA-CASE-GSC-10413] c 10 N71-26531
- Synchronous dc direct drive system Patent  
[NASA-CASE-GSC-10065-1] c 10 N71-27136
- Force-balanced, throttle valve Patent  
[NASA-CASE-NPO-10808] c 15 N71-27432
- Energy absorption device Patent  
[NASA-CASE-XNP-01848] c 15 N71-28959
- Air bearing  
[NASA-CASE-WLP-10002] c 15 N72-17451
- Device for measuring bearing preload  
[NASA-CASE-MFS-20434] c 11 N72-25288
- Variable direction force coupler  
[NASA-CASE-MFS-20317] c 15 N73-13463
- Ergometer  
[NASA-CASE-MFS-21109-1] c 05 N73-27941
- Three-axis adjustable loading structure  
[NASA-CASE-FRC-10051-1] c 35 N74-13129
- Spring operated accelerator and constant force spring mechanism therefor  
[NASA-CASE-ARC-10898-1] c 35 N77-18417
- Penetrometer --- for determining load bearing characteristics of inclined surfaces  
[NASA-CASE-NPO-11103-1] c 35 N77-27367
- Load regulating latch  
[NASA-CASE-MSC-19535-1] c 37 N77-32499
- Adjustable indicating device for load position  
[NASA-CASE-MFS-28008-1] c 35 N85-20300
- Aircraft rotor blade with passive tuned tab  
[NASA-CASE-ARC-11444-1] c 05 N85-29947
- Tensile testing apparatus  
[NASA-CASE-LAR-13243-1] c 35 N85-34375
- Dual motion valve with single motion input  
[NASA-CASE-MFS-28058-1] c 37 N87-21332
- Fatigue testing apparatus  
[NASA-CASE-LEW-14124-1] c 35 N89-28806
- LOCAL AREA NETWORKS**
- Local area network with fault-checking, priorities and redundant backup  
[NASA-CASE-NPO-16949-1-CU] c 62 N87-19021
- LOCATES SYSTEM**
- Lightning tracking system  
[NASA-CASE-KSC-10729-1] c 09 N73-32110
- Position determination systems --- using orbital antenna scan of celestial bodies  
[NASA-CASE-MSC-12593-1] c 17 N76-21250
- LOCKING**
- Coupling device  
[NASA-CASE-XMS-07846-1] c 09 N69-21927
- Self-locking mechanical center joint  
[NASA-CASE-LAR-12864-1] c 37 N85-30336
- Variable length strut with longitudinal compliance and locking capability  
[NASA-CASE-MFS-25907-1] c 37 N85-34401
- Self-locking telescoping manipulator arm  
[NASA-CASE-MFS-25906-1] c 37 N86-20789
- Elbow and knee joint for hard space suits  
[NASA-CASE-ARC-11610-1] c 54 N86-28619
- Locking hinge  
[NASA-CASE-MSC-21056-1] c 18 N88-23827
- Rotary control lock  
[NASA-CASE-NPO-17453-1-CU] c 37 N89-13787
- LOCKS (FASTENERS)**
- Locking device with rolling detents Patent  
[NASA-CASE-XMF-01371] c 15 N70-41829
- Bearing and gimbal lock mechanism and spiral flex lead module Patent  
[NASA-CASE-GSC-10556-1] c 31 N71-26537
- Locking device for turbine rotor blades Patent  
[NASA-CASE-XNP-00816] c 28 N71-28928
- Film feed camera having a detent means Patent  
[NASA-CASE-LAR-10686] c 14 N71-28935
- Safety-type locking pin  
[NASA-CASE-MFS-18495] c 15 N72-11385
- Locking mechanism for orthopedic braces  
[NASA-CASE-GSC-12082-1] c 54 N76-22914
- Portable appliance security apparatus  
[NASA-CASE-GSC-12399-1] c 33 N81-25299
- Locking mechanism for orthopedic braces  
[NASA-CASE-GSC-12082-2] c 52 N81-25661
- High temperature penetrator assembly with bayonet plug and ramp-activated lock  
[NASA-CASE-MSC-18526-1] c 37 N82-24494
- Aircraft canopy lock  
[NASA-CASE-FRC-11065-1] c 05 N83-19737
- Collet lock joint for space station truss  
[NASA-CASE-MSC-21207-1] c 37 N88-29180
- Rotary control lock  
[NASA-CASE-NPO-17453-1-CU] c 37 N89-13787
- LOGARITHM**
- Jet shoes  
[NASA-CASE-XLA-08491] c 05 N69-21380
- Training vehicle for controlling attitude Patent  
[NASA-CASE-XMS-02977] c 11 N71-10746
- Restraint torso for a pressurized suit  
[NASA-CASE-MSC-12397-1] c 05 N72-25119
- Kinesimetric method and apparatus  
[NASA-CASE-MSC-18929-1] c 39 N83-20280
- LOGARITHMIC RECEIVERS**
- Logarithmic circuit with wide dynamic range  
[NASA-CASE-GSC-12145-1] c 33 N78-32339
- LOGARITHMS**
- Logarithmic function generator utilizing an exponentially varying signal in an inverse manner  
[NASA-CASE-ERC-10267] c 09 N72-23173
- LOGIC CIRCUITS**
- A method for selective gold diffusion of monolithic silicon devices and/or circuits Patent application  
[NASA-CASE-ERC-10072] c 09 N70-11148
- Relay binary circuit Patent  
[NASA-CASE-XMF-00421] c 09 N70-34502
- Binary to binary-coded-decimal converter Patent  
[NASA-CASE-XNP-00432] c 08 N70-35423
- Analog-to-digital conversion system Patent  
[NASA-CASE-XAC-00404] c 08 N70-40125
- Data processor having multiple sections activated at different times by selective power coupling to the sections Patent  
[NASA-CASE-XGS-04767] c 08 N71-12494
- Binary sequence detector Patent  
[NASA-CASE-XNP-05415] c 08 N71-12505
- AC logic flip-flop circuits Patent  
[NASA-CASE-XGS-00823] c 10 N71-15910
- Logic AND gate for fluid circuits Patent  
[NASA-CASE-XLA-07391] c 12 N71-17579
- Ripple add and ripple subtract binary counters Patent  
[NASA-CASE-XGS-04766] c 08 N71-18602
- Exclusive-Or digital logic module Patent  
[NASA-CASE-XLA-07732] c 08 N71-18751
- Stepping motor control circuit Patent  
[NASA-CASE-GSC-10366-1] c 10 N71-18772
- Serial digital decoder Patent  
[NASA-CASE-NPO-10150] c 08 N71-24650
- BCD to decimal decoder Patent  
[NASA-CASE-XKS-06167] c 08 N71-24890
- Current steering switch Patent  
[NASA-CASE-XNP-08567] c 09 N71-26000
- Parallel generation of the check bits of a PN sequence Patent  
[NASA-CASE-XNP-04623] c 10 N71-26103
- Adaptive system and method for signal generation Patent  
[NASA-CASE-GSC-11367] c 10 N71-26374
- Fast response low power drain logic circuits  
[NASA-CASE-GSC-10878-1] c 10 N72-22236
- Logical function generator  
[NASA-CASE-XLA-05099] c 09 N73-13209
- A synchronous binary array divider  
[NASA-CASE-ERC-10180-1] c 60 N74-20836
- Four phase logic systems --- including integrated microcircuits  
[NASA-CASE-MSC-14240-1] c 33 N75-14957
- Interleaving device  
[NASA-CASE-GSC-12111-2] c 33 N81-29342
- Logic-controlled occlusive cuff system  
[NASA-CASE-MSC-14836-1] c 52 N82-11770
- Combinational logic for generating gate drive signals for phase control rectifiers  
[NASA-CASE-MFS-25208-1] c 33 N83-10345
- Adaptive reference voltage generator for firing angle control of line-commutated inverters  
[NASA-CASE-MFS-25215-1] c 33 N83-31953
- Adaptive control system for line-commutated inverters  
[NASA-CASE-MFS-25209-1] c 33 N83-35227
- Video processor for air traffic control beacon system  
[NASA-CASE-KSC-11155-1] c 04 N86-19304
- Braille reading system  
[NASA-CASE-LAR-13306-1] c 82 N87-29372
- Nanosequencer digital logic controller  
[NASA-CASE-NPO-16116-2] c 60 N88-29310
- Dynamic resource allocation scheme for distributed heterogeneous computer systems  
[NASA-CASE-NPO-17197-1-CU] c 62 N89-29976
- LONGERONS**
- Latching mechanism for deployable/re-stowable columns useful in satellite construction  
[NASA-CASE-LAR-13169-1] c 37 N86-25791
- Magnetic spin reduction system for free spinning objects  
[NASA-CASE-MFS-25966-1] c 16 N86-26352
- Deployable geodesic truss structure  
[NASA-CASE-LAR-13113-1] c 31 N87-25492
- LONGITUDINAL CONTROL**
- Three-axis controller Patent  
[NASA-CASE-XAC-01404] c 05 N70-41581
- Pitch attitude stabilization system utilizing engine pressure ratio feedback signals  
[NASA-CASE-LAR-12562-1] c 08 N81-26152
- Remote pivot decoupler pylon: Wing/store flutter suppressor  
[NASA-CASE-LAR-13173-1] c 05 N87-14314
- Swashplate control system  
[NASA-CASE-ARC-11633-1] c 08 N87-23631
- LONGITUDINAL STABILITY**
- Annular wing  
[NASA-CASE-FRC-11007-2] c 05 N82-26277
- LOOK ANGLES (ELECTRONICS)**
- Method and apparatus for contour mapping using synthetic aperture radar  
[NASA-CASE-NPO-15939-1] c 43 N86-19711
- LOOP ANTENNAS**
- Collapsible loop antenna for space vehicle Patent  
[NASA-CASE-XMF-00437] c 07 N70-40202
- Automatic carrier acquisition system  
[NASA-CASE-NPO-11628-1] c 07 N73-30113
- LOOPS**
- Endless tape cartridge Patent  
[NASA-CASE-XGS-00769] c 14 N70-41647
- Endless tape transport mechanism Patent  
[NASA-CASE-XGS-01223] c 07 N71-10609
- Filter for third order phase locked loops  
[NASA-CASE-NPO-11941-1] c 10 N73-27171
- High speed shutter --- electrically actuated ribbon loop for shuttering optical or fluid passageways  
[NASA-CASE-ARC-10516-1] c 70 N74-21300
- Means for accommodating large overstrain in lead wires --- by storing extra length of wire in stretchable loop  
[NASA-CASE-LAR-10168-1] c 33 N74-22865
- Closed loop spray cooling apparatus  
[NASA-CASE-LEW-11981-2] c 34 N79-20336
- Pseudonoise code tracking loop  
[NASA-CASE-MSC-18035-1] c 32 N81-15179
- Pulsed phase locked loop strain monitor --- voltage controlled oscillators  
[NASA-CASE-LAR-12772-1] c 33 N83-16626
- Pumped two-phase heat transfer loop  
[NASA-CASE-MSC-20841-1] c 34 N87-22950
- Phase length optical phase-locked-loop sensor  
[NASA-CASE-LAR-13387-1] c 74 N88-25302
- Polymeric heat pipe wick  
[NASA-CASE-GSC-13019-1] c 34 N88-29133
- LOUVERS**
- Solar concentrator protective system  
[NASA-CASE-NPO-15662-1] c 44 N84-28204
- LOW ASPECT RATIO**
- Landing arrangement for aerial vehicles Patent  
[NASA-CASE-XLA-00142] c 02 N70-33286
- Landing arrangement for aerial vehicle Patent  
[NASA-CASE-XLA-00806] c 02 N70-34858
- LOW COST**
- Fabrication of polycrystalline solar cells on low-cost substrates  
[NASA-CASE-GSC-12022-1] c 44 N76-28635
- Process for utilizing low-cost graphite substrates for polycrystalline solar cells  
[NASA-CASE-GSC-12022-2] c 44 N78-24609
- Large TV display system  
[NASA-CASE-NPO-16932-1-CU] c 33 N87-15413
- LOW CURRENTS**
- Low current linearization of magnetic amplifier for dc transducer  
[NASA-CASE-NPO-14617-1] c 33 N81-24338



LOW DENSITY MATERIALS

- Method and device for detecting voids in low density material Patent  
[NASA-CASE-MFS-20044] c 14 N71-28993  
Intumescent composition, foamed product prepared therewith and process for making same  
[NASA-CASE-ARC-10304-2] c 27 N74-27037  
Mixing insert for foam dispensing apparatus  
[NASA-CASE-MFS-20607-1] c 37 N76-19436  
Low density bismaleimide-carbon microballoon composites --- aircraft and submarine compartment safety  
[NASA-CASE-ARC-11040-2] c 24 N78-27184  
Low density bismaleimide-carbon microballoon composites  
[NASA-CASE-ARC-11040-1] c 24 N79-16915  
Catalysts for polyimide foams from aromatic isocyanates and aromatic dianhydrides --- flame retardant foams  
[NASA-CASE-ARC-11107-1] c 25 N80-16116  
Elevated temperature aluminum alloys  
[NASA-CASE-LAR-13632-1] c 26 N87-29650

LOW FREQUENCIES

- Seismic displacement transducer Patent  
[NASA-CASE-XMF-00479] c 14 N70-34794  
Low-frequency radio navigation system  
[NASA-CASE-NPO-15264-1] c 04 N84-27713

LOW GRAVITY MANUFACTURING

- Method for manufacturing mirrors in zero gravity environment  
[NASA-CASE-MSC-12611-1] c 12 N76-15189  
Gas levitator having fixed levitation node for containerless processing  
[NASA-CASE-MFS-25509-1] c 35 N83-24828  
Method and apparatus for supercooling and solidifying substances  
[NASA-CASE-MFS-25242-1] c 35 N83-29650  
Apparatus and method for quiescent containerless processing of high temperature metals and alloys in low gravity  
[NASA-CASE-MFS-28087-1] c 35 N87-23944  
Sample levitation and melt in microgravity  
[NASA-CASE-NPO-17022-1-CU] c 29 N87-25489

LOW MOLECULAR WEIGHTS

- Process for preparation of high-molecular-weight polyaryloxysilanes Patent  
[NASA-CASE-XMF-08674] c 06 N71-28807

LOW NOISE

- Low phase noise digital frequency divider  
[NASA-CASE-NPO-11569] c 10 N73-26229  
Reflected-wave maser --- low noise amplifier  
[NASA-CASE-NPO-13490-1] c 36 N76-31512  
Low noise tuned amplifier  
[NASA-CASE-GSC-12567-1] c 33 N84-22887  
Low noise cryogenic dielectric resonator oscillator  
[NASA-CASE-NPO-17157-1-CU] c 33 N88-26596

LOW PASS FILTERS

- Filtering technique based on high-frequency plant modeling for high-gain control  
[NASA-CASE-LAR-12215-1] c 08 N79-23097  
Smoothing filter for digital to analog conversion  
[NASA-CASE-FRC-11025-1] c 33 N82-24417  
Discriminator aided phase lock acquisition for suppressed carrier signals  
[NASA-CASE-NPO-14311-1] c 33 N82-29539  
Digital carrier demodulator employing components working beyond normal limits  
[NASA-CASE-NPO-17628-1-CU] c 32 N89-28684

LOW PRESSURE

- Gas low pressure low flow rate metering system Patent  
[NASA-CASE-FRC-10022] c 12 N71-26546  
Bakeable McLeod gauge  
[NASA-CASE-XGS-01293-1] c 35 N79-33450

LOW SPEED

- Variable geometry manned orbital vehicle Patent  
[NASA-CASE-XLA-03691] c 31 N71-15674  
RC rate generator for slow speed measurement Patent  
[NASA-CASE-XMF-02966] c 10 N71-24863

LOW TEMPERATURE

- Atomic hydrogen storage method and apparatus  
[NASA-CASE-LEW-12081-3] c 28 N81-14103  
Cellular thermosetting fluoropolymers and process for making them  
[NASA-CASE-GSC-13008-1] c 27 N88-23894

LOW TEMPERATURE ENVIRONMENTS

- Frangible electrochemical cell  
[NASA-CASE-XGS-10010] c 03 N72-15986

LOW TEMPERATURE TESTS

- Low temperature flexure fatigue cryostat Patent  
[NASA-CASE-XMF-02964] c 14 N71-17659  
Horizontal cryostat for fatigue testing Patent  
[NASA-CASE-XMF-10968] c 14 N71-24234  
Heating and cooling system --- for fatigue test specimens  
[NASA-CASE-LAR-12393-1] c 34 N83-34221

LOW THRUST

- Low thrust monopropellant engine  
[NASA-CASE-GSC-12194-2] c 20 N82-18314

LOW VACUUM

- Vibration damping system Patent  
[NASA-CASE-XMS-01620] c 23 N71-15673

LOW VOLTAGE

- High speed low level electrical stepping switch Patent  
[NASA-CASE-XAC-00060] c 09 N70-39915  
Flexible blade antenna Patent  
[NASA-CASE-MSC-12101] c 09 N71-18720  
Failure sensing and protection circuit for converter networks Patent  
[NASA-CASE-GSC-10114-1] c 10 N71-27366

LOWER BODY NEGATIVE PRESSURE

- Method and apparatus for simulating gravitational forces on a living organism  
[NASA-CASE-MSC-20202-1] c 54 N84-16803

LUBRICANTS

- Metallic film diffusion for boundary lubrication Patent  
[NASA-CASE-XLE-01765] c 18 N71-10772  
Metallic film diffusion for boundary lubrication Patent  
[NASA-CASE-XLE-10337] c 15 N71-24046  
Fluorinated esters of polycarboxylic acids  
[NASA-CASE-MFS-21040-1] c 06 N73-30098  
Thiophenyl ether disiloxanes and trisiloxanes useful as lubricant fluids  
[NASA-CASE-MFS-22411-1] c 37 N74-21058  
Journal bearings --- for lubricant films  
[NASA-CASE-LEW-11076-1] c 37 N74-21061  
Method for milling and drilling glass  
[NASA-CASE-GSC-12636-1] c 31 N83-27058

LUBRICATING OILS

- Foil seal Patent  
[NASA-CASE-XLE-05130-2] c 15 N71-19570

LUBRICATION

- Production of hollow components for rolling element bearings by diffusion welding  
[NASA-CASE-LEW-11026-1] c 15 N73-33383  
Variable resistance constant tension and lubrication device --- using oil-saturated leather wiper  
[NASA-CASE-KSC-10723-1] c 37 N75-13265  
Fluid journal bearings  
[NASA-CASE-LEW-11076-4] c 37 N76-15461

LUBRICATION SYSTEMS

- Hybrid lubrication system and bearing Patent  
[NASA-CASE-XNP-01641] c 15 N71-22997  
Fluid lubricant system Patent  
[NASA-CASE-XNP-03972] c 15 N71-23048  
Journal Bearings  
[NASA-CASE-LEW-11076-2] c 37 N74-32921  
Oil cooling system for a gas turbine engine  
[NASA-CASE-LEW-12321-1] c 37 N78-10467

LUGS

- Don/doff support stand for use with rear entry space suits  
[NASA-CASE-MSC-21364-1] c 54 N89-13889

LUMINAIRES

- Visual target for retrofire attitude control  
[NASA-CASE-XMS-12158-1] c 31 N69-27499  
Ultraviolet resonance lamp Patent  
[NASA-CASE-ARC-10030] c 09 N71-12521  
Lamp modulator  
[NASA-CASE-KSC-10565] c 09 N72-25250  
Driving lamps by induction  
[NASA-CASE-MFS-21214-1] c 09 N73-30181  
Uniform variable light source  
[NASA-CASE-NPO-11429-1] c 74 N77-21941  
Direct current ballast circuit for metal halide lamp  
[NASA-CASE-MSC-18407-1] c 33 N82-24427

LUMINANCE

- Television camera video level control system  
[NASA-CASE-MSC-18578-1] c 32 N85-21427

LUMINOSITY

- Measurement of time differences between luminous events Patent  
[NASA-CASE-XLA-01987] c 23 N71-23976

LUMINOUS INTENSITY

- Motion picture camera for optical pyrometry Patent  
[NASA-CASE-XLA-00062] c 14 N70-33254  
Radiant energy intensity measurement system Patent  
[NASA-CASE-XNP-06510] c 14 N71-23797  
Continuous plasma laser --- method and apparatus for producing intense, coherent, monochromatic light from low temperature plasma  
[NASA-CASE-XNP-04167-3] c 36 N77-19416  
Solar cell assembly --- for use under high intensity illumination  
[NASA-CASE-LEW-11549-1] c 44 N77-19571  
Compact, high intensity arc lamp with internal magnetic field producing means  
[NASA-CASE-NPO-11510-1] c 33 N77-21315  
System for the measurement of ultra-low stray light levels --- determining the adequacy of large space telescope systems  
[NASA-CASE-MFS-23513-1] c 74 N79-11865

- Wind dynamic range video camera  
[NASA-CASE-MFS-25750-1] c 32 N86-20647

LUMPING

- Acoustic agglomeration methods and apparatus  
[NASA-CASE-NPO-15466-1] c 71 N85-22104

LUNAR BASES

- Self-adjusting multisegment, deployable, natural circulation radiator Patent  
[NASA-CASE-XHQ-03673] c 33 N71-29046

LUNAR COMMUNICATION

- Television signal scan rate conversion system Patent  
[NASA-CASE-MSC-07168] c 07 N71-11300  
Emergency lunar communications system  
[NASA-CASE-MFS-21042] c 07 N72-25171

LUNAR COMPOSITION

- Lunar penetrometer Patent  
[NASA-CASE-XLA-00934] c 14 N71-22765

LUNAR EXPLORATION

- Backpack carrier Patent  
[NASA-CASE-LAR-10056] c 05 N71-12351  
Lunar penetrometer Patent  
[NASA-CASE-XLA-00934] c 14 N71-22765  
Personal propulsion unit Patent  
[NASA-CASE-MFS-20130] c 28 N71-27585  
Emergency lunar communications system  
[NASA-CASE-MFS-21042] c 07 N72-25171

LUNAR GRAVITATION

- Subgravity simulator Patent  
[NASA-CASE-XMS-04798] c 11 N71-21474

LUNAR GRAVITY SIMULATOR

- Impact simulator Patent  
[NASA-CASE-XLA-00493] c 11 N70-34786

LUNAR LANDING

- Lunar landing flight research vehicle Patent  
[NASA-CASE-XFR-00929] c 31 N70-34966

LUNAR LOGISTICS

- Personal propulsion unit Patent  
[NASA-CASE-MFS-20130] c 28 N71-27585

LUNAR ROCKS

- Sample collecting impact bit Patent  
[NASA-CASE-XNP-01412] c 15 N70-42034

LUNAR SOIL

- Soil particles separator, collector and viewer Patent  
[NASA-CASE-XNP-09770] c 15 N71-20440  
Material handling device Patent  
[NASA-CASE-XNP-09770-3] c 11 N71-27036  
Self-recording portable soil penetrometer  
[NASA-CASE-MFS-20774] c 14 N73-19420  
Method for obtaining oxygen from lunar or similar soil  
[NASA-CASE-MSC-12408-1] c 46 N74-13011

LUNAR SURFACE VEHICLES

- Deformable vehicle wheel Patent  
[NASA-CASE-MFS-20400] c 31 N71-18611  
Resilient wheel Patent  
[NASA-CASE-MFS-13929] c 15 N71-27091

LUNGS

- Instrument for use in performing a controlled Valsalva maneuver Patent  
[NASA-CASE-XMS-01615] c 05 N70-41329

M

MACH NUMBER

- Wind tunnel supplementary Mach number minimum section insert  
[NASA-CASE-LAR-12532-1] c 09 N82-11088

MACHINE TOOLS

- Rock drill for recovering samples  
[NASA-CASE-XNP-07478] c 14 N69-21923  
Protective device for machine and metalworking tools Patent  
[NASA-CASE-XLE-01092] c 15 N71-22797  
Aligning and positioning device Patent  
[NASA-CASE-XMS-04178] c 15 N71-22798  
Extrusion die for refractory metals Patent  
[NASA-CASE-XLE-06773] c 15 N71-23817  
Layout tool Patent  
[NASA-CASE-FRC-10005] c 15 N71-26145  
Optical machine tool alignment indicator Patent  
[NASA-CASE-XAC-09489-1] c 15 N71-26673  
Caterpillar micro positioner  
[NASA-CASE-GSC-10780-1] c 14 N72-16283  
Geneva mechanism --- including star wheel and driver  
[NASA-CASE-NPO-13281-1] c 37 N75-13266  
Zero torque gear head wrench  
[NASA-CASE-NPO-13059-1] c 37 N76-20480  
Precision alignment apparatus for cutting a workpiece  
[NASA-CASE-LAR-11658-1] c 37 N77-14478  
Toggle mechanism for pinching metal tubes  
[NASA-CASE-GSC-12274-1] c 37 N79-28550  
Method and tool for machining a transverse slot about a bore  
[NASA-CASE-LAR-11855-1] c 37 N81-14319  
Crystal cleaving machine  
[NASA-CASE-GSC-12584-1] c 37 N82-32730



- Holding fixture for a hot stamping press  
[NASA-CASE-GSC-12619-1] c 37 N84-12491
- Alignment and assembly tool for very large diameter cylinders  
[NASA-CASE-MFS-28001-2] c 37 N88-14360
- MACHINERY**
- Stirring apparatus for plural test tubes Patent  
[NASA-CASE-XAC-06956] c 15 N71-21177
- Precipitation detector Patent  
[NASA-CASE-XLA-02619] c 10 N71-26334
- Apparatus for forming drive belts  
[NASA-CASE-NPO-13205-1] c 31 N74-32917
- MACHINING**
- Laser machining apparatus Patent  
[NASA-CASE-HQN-10541-2] c 15 N71-27135
- Lathe tool bit and holder for machining fiberglass materials  
[NASA-CASE-XLA-10470] c 15 N72-21489
- Drilled ball bearing with a one piece anti-tipping cage assembly  
[NASA-CASE-LEW-11925-1] c 37 N75-31446
- MAGNESIUM**
- Nondestructive spot test method for magnesium and magnesium alloys  
[NASA-CASE-LAR-10953-1] c 17 N73-27446
- MAGNESIUM ALLOYS**
- Method and apparatus for bonding a plastics sleeve onto a metallic body Patent  
[NASA-CASE-XLA-01262] c 15 N71-21404
- Nondestructive spot test method for magnesium and magnesium alloys  
[NASA-CASE-LAR-10953-1] c 17 N73-27446
- MAGNESIUM OXIDES**
- Method for determining presence of OH in magnesium oxide  
[NASA-CASE-NPO-10774] c 06 N72-17095
- MAGNET COILS**
- Superconducting alternator  
[NASA-CASE-XLE-02824] c 03 N69-39890
- Circuit breaker utilizing magnetic latching relays Patent  
[NASA-CASE-MS-C-11277] c 09 N71-29008
- MAGNETIC AMPLIFIERS**
- Low current linearization of magnetic amplifier for dc transducer  
[NASA-CASE-NPO-14617-1] c 33 N81-24338
- MAGNETIC BEARINGS**
- Linear magnetic bearing  
[NASA-CASE-GSC-12517-1] c 37 N83-32067
- Linear magnetic bearings  
[NASA-CASE-GSC-12582-2] c 37 N85-20337
- Radial and torsionally controlled magnetic bearing  
[NASA-CASE-GSC-12957-1] c 37 N87-17038
- MAGNETIC CHARGE DENSITY**
- Electrostatic ion engine having a permanent magnetic circuit Patent  
[NASA-CASE-XLE-01124] c 28 N71-14043
- MAGNETIC CIRCUITS**
- Electrostatic ion engine having a permanent magnetic circuit Patent  
[NASA-CASE-XLE-01124] c 28 N71-14043
- MAGNETIC COILS**
- Time-division multiplexer Patent  
[NASA-CASE-XNP-00431] c 09 N70-38998
- Linear magnetic brake with two windings Patent  
[NASA-CASE-XLE-05079] c 15 N71-17652
- Safe-arm initiator Patent  
[NASA-CASE-LAR-10372] c 09 N71-18599
- Magnifying image intensifier  
[NASA-CASE-GSC-12010-1] c 74 N78-18905
- Radial and torsionally controlled magnetic bearing  
[NASA-CASE-GSC-12957-1] c 37 N87-17038
- MAGNETIC CONTROL**
- Fast opening diaphragm Patent  
[NASA-CASE-XLA-03660] c 15 N71-21060
- Magnetically controlled plasma accelerator Patent  
[NASA-CASE-XLA-00327] c 25 N71-29184
- Axially and radially controllable magnetic bearing  
[NASA-CASE-GSC-11551-1] c 37 N76-18459
- Magnetic bearing system  
[NASA-CASE-GSC-11978-1] c 37 N77-17464
- Low temperature latching solenoid  
[NASA-CASE-MSC-18106-1] c 33 N82-11357
- MAGNETIC CORES**
- Variable frequency magnetic multivibrator Patent  
[NASA-CASE-XGS-00458] c 09 N70-38604
- Variable frequency magnetic multivibrator Patent  
[NASA-CASE-XGS-00131] c 09 N70-38995
- Magnetic counter Patent  
[NASA-CASE-XNP-08836] c 09 N71-12515
- Pulse-type magnetic core memory element circuit with blocking oscillator feedback Patent  
[NASA-CASE-XGS-03303] c 08 N71-18595
- Magnetic core current steering commutator Patent  
[NASA-CASE-NPO-10201] c 08 N71-18694
- Drive circuit utilizing two cores Patent  
[NASA-CASE-XNP-01318] c 10 N71-23033
- Saturation current protection apparatus for saturable core transformers Patent  
[NASA-CASE-ERC-10075] c 09 N71-24800
- Magnetic power switch Patent  
[NASA-CASE-NPO-10242] c 09 N71-24803
- Unsaturating saturable core transformer Patent  
[NASA-CASE-ERC-10125] c 09 N71-24893
- Thermally cycled magnetometer Patent  
[NASA-CASE-XAC-03740] c 14 N71-26135
- Digital memory sense amplifying means Patent  
[NASA-CASE-XNP-01012] c 08 N71-28925
- Method of detecting impending saturation of magnetic cores  
[NASA-CASE-ERC-10089] c 23 N72-17747
- Current steering commutator  
[NASA-CASE-NPO-10743] c 08 N72-21199
- Banded transformer cores  
[NASA-CASE-NPO-11966-1] c 33 N74-17928
- MAGNETIC DIPOLES**
- Balance torquemeter Patent  
[NASA-CASE-XGS-01013] c 14 N71-23725
- MAGNETIC DISKS**
- Disk pack cleaning table Patent Application  
[NASA-CASE-LAR-10590-1] c 15 N70-26819
- MAGNETIC FIELD CONFIGURATIONS**
- Mass spectrometer with magnetic pole pieces providing the magnetic fields for both the magnetic sector and an ion-type vacuum pump  
[NASA-CASE-NPO-13663-1] c 35 N77-14406
- Magnifying image intensifier  
[NASA-CASE-GSC-12010-1] c 74 N78-18905
- MAGNETIC FIELDS**
- Electric-arc heater Patent  
[NASA-CASE-XLA-00330] c 33 N70-34540
- Means for communicating through a layer of ionized gases Patent  
[NASA-CASE-XLA-01127] c 07 N70-41372
- Liquid storage tank venting device for zero gravity environment Patent  
[NASA-CASE-XLE-01449] c 15 N70-41646
- Electrostatic ion engine having a permanent magnetic circuit Patent  
[NASA-CASE-XLE-01124] c 28 N71-14043
- Wide range linear fluxgate magnetometer Patent  
[NASA-CASE-XGS-01587] c 14 N71-15962
- Position sensing device employing misaligned magnetic field generating and detecting apparatus Patent  
[NASA-CASE-XGS-07514] c 23 N71-16099
- Nonmagnetic, explosive actuated indexing device Patent  
[NASA-CASE-XGS-02422] c 15 N71-21529
- Solar cell and circuit array and process for nullifying magnetic fields Patent  
[NASA-CASE-XGS-03390] c 03 N71-23187
- Balance torquemeter Patent  
[NASA-CASE-XGS-01013] c 14 N71-23725
- Two axis fluxgate magnetometer Patent  
[NASA-CASE-GSC-10441-1] c 14 N71-27325
- Segmented superconducting magnet for a broadband traveling wave maser Patent  
[NASA-CASE-XGS-10518] c 16 N71-28554
- Magnetic position detection method and apparatus  
[NASA-CASE-ARC-10179-1] c 21 N72-22619
- Ion thruster  
[NASA-CASE-LEW-10770-1] c 28 N72-22770
- Ion thruster magnetic field control  
[NASA-CASE-LEW-10835-1] c 28 N72-22771
- Determining distance to lightning strokes from a single station  
[NASA-CASE-KSC-10698] c 07 N73-20175
- Superconductive magnetic-field-trapping device  
[NASA-CASE-XNP-01185] c 26 N73-28710
- Electron beam controller --- using magnetic field to refocus spent electron beam in microwave oscillator tube  
[NASA-CASE-LEW-11617-1] c 33 N74-10195
- Magnetometer using superconducting rotating body  
[NASA-CASE-NPO-13388-1] c 35 N76-16390
- Compact, high intensity arc lamp with internal magnetic field producing means  
[NASA-CASE-NPO-11510-1] c 33 N77-21315
- Magnetic heat pumping  
[NASA-CASE-LEW-12508-1] c 34 N78-17335
- Atomic hydrogen storage --- cryotrapping and magnetic field strength  
[NASA-CASE-LEW-12081-2] c 28 N80-20402
- Atomic hydrogen storage method and apparatus  
[NASA-CASE-LEW-12081-3] c 28 N81-14103
- Magnetic field control --- electromechanical torquing device  
[NASA-CASE-MFS-23828-1] c 33 N82-26569
- Magnetic heading reference  
[NASA-CASE-LAR-12638-1] c 04 N84-14132
- Magetically actuated compressor  
[NASA-CASE-GSC-12799-1] c 31 N85-21404
- Reciprocating magnetic refrigerator employing tandem porous matrices within a reciprocating displacer  
[NASA-CASE-NPO-16257-1] c 31 N85-29082
- Maser cavity servo-tuning system  
[NASA-CASE-NPO-15890-1-CU] c 33 N85-29143
- Magnetic drive coupling  
[NASA-CASE-MS-C-21171-1] c 37 N88-23973
- Magnetic attachment mechanism  
[NASA-CASE-MS-C-21095-1] c 37 N89-12866
- MAGNETIC FILMS**
- Manganese bismuth films with narrow transfer characteristics for Curie-point switching  
[NASA-CASE-NPO-11336-1] c 76 N79-16678
- MAGNETIC FLUX**
- Excitation and detection circuitry for a flux responsive magnetic head  
[NASA-CASE-XNP-04183] c 09 N69-24329
- Cryogenic apparatus for measuring the intensity of magnetic fields  
[NASA-CASE-XAC-02407] c 14 N69-27423
- Flux sensing device using a tubular core with toroidal gating coil and solenoidal output coil wound thereon Patent  
[NASA-CASE-XGS-01881] c 09 N70-40123
- Hybrid lubrication system and bearing Patent  
[NASA-CASE-XNP-01641] c 15 N71-22997
- Saturation current protection apparatus for saturable core transformers Patent  
[NASA-CASE-ERC-10075] c 09 N71-24800
- Continuous magnetic flux pump  
[NASA-CASE-XNP-01187] c 15 N73-28516
- Magnetic-flux pump  
[NASA-CASE-XNP-01188] c 15 N73-32361
- Magnetic bearing --- for supplying magnetic fluxes  
[NASA-CASE-GSC-11079-1] c 37 N75-18574
- Linear magnetic motor/generator --- to generate electric energy using magnetic flux for spacecraft power supply  
[NASA-CASE-GSC-12518-1] c 33 N82-24421
- Linear magnetic bearing  
[NASA-CASE-GSC-12517-1] c 37 N83-32067
- Induction heating gun  
[NASA-CASE-LAR-13181-1] c 31 N85-29083
- Radial and torsionally controlled magnetic bearing  
[NASA-CASE-GSC-12957-1] c 37 N87-17038
- MAGNETIC FORMING**
- Magnetomotive metal working device Patent  
[NASA-CASE-XMF-03793] c 15 N71-24833
- Method and apparatus for precision sizing and joining of large diameter tubes Patent  
[NASA-CASE-XMF-05114-3] c 15 N71-24865
- MAGNETIC INDUCTION**
- Continuously operating induction plasma accelerator Patent  
[NASA-CASE-XLA-01354] c 25 N70-36946
- Drive circuit for minimizing power consumption in inductive load Patent  
[NASA-CASE-NPO-10716] c 09 N71-24892
- Constant frequency output two stage induction machine systems Patent  
[NASA-CASE-ERC-10065] c 09 N71-27364
- Magnetically actuated tuning method for Gunn oscillators  
[NASA-CASE-NPO-12106] c 09 N73-15235
- High speed shutter --- electrically actuated ribbon loop for shuttering optical or fluid passageways  
[NASA-CASE-ARC-10516-1] c 70 N74-21300
- Magnetic drive coupling  
[NASA-CASE-MS-C-21171-1] c 37 N88-23973
- MAGNETIC LENSES**
- Quadrupole mass filter with means to generate a noise spectrum exclusive of the resonant frequency of the desired ions to deflect stable ions  
[NASA-CASE-XNP-04231] c 14 N73-32325
- MAGNETIC MATERIALS**
- Low viscosity magnetic fluid obtained by the colloidal suspension of magnetic particles Patent  
[NASA-CASE-XLE-01512] c 12 N70-40124
- Preparation of dilute magnetic semiconductor films by metalorganic chemical vapor deposition  
[NASA-CASE-NPO-17399-1-CU] c 76 N89-14120
- MAGNETIC MEASUREMENT**
- Cryogenic apparatus for measuring the intensity of magnetic fields  
[NASA-CASE-XAC-02407] c 14 N69-27423
- Wide range linear fluxgate magnetometer Patent  
[NASA-CASE-XGS-01587] c 14 N71-15962
- RC networks and amplifiers employing the same  
[NASA-CASE-XAC-05462-2] c 10 N72-17171
- Magnetometer using superconducting rotating body  
[NASA-CASE-NPO-13388-1] c 35 N76-16390
- MAGNETIC PERMEABILITY**
- Linear motion valve  
[NASA-CASE-MS-C-20148-1] c 37 N85-29284

## MAGNETIC POLES

- Magnetohydrodynamic induction machine  
[NASA-CASE-XNP-07481] c 25 N69-21929
- Mass spectrometer with magnetic pole pieces providing the magnetic fields for both the magnetic sector and an ion-type vacuum pump  
[NASA-CASE-NPO-13663-1] c 35 N77-14406
- MAGNETIC PUMPING**
- Continuous magnetic flux pump  
[NASA-CASE-XNP-01187] c 15 N73-28516
- Magnetic-flux pump  
[NASA-CASE-XNP-01188] c 15 N73-32361
- Magnetocaloric pump --- for cryogenic fluids  
[NASA-CASE-LEW-11672-1] c 37 N74-27904
- Magnetic heat pumping  
[NASA-CASE-LEW-12508-3] c 34 N83-29625
- MAGNETIC RECORDING**
- Incremental tape recorder and data rate converter Patent  
[NASA-CASE-XNP-02778] c 08 N71-22710
- Magnetic recording head and method of making same Patent  
[NASA-CASE-GSC-10097-1] c 08 N71-27210
- Thermomagnetic recording and magnetic-optic playback system  
[NASA-CASE-NPO-10872-1] c 35 N79-16246
- Manganese bismuth films with narrow transfer characteristics for Curie-point switching  
[NASA-CASE-NPO-11336-1] c 76 N79-16678
- MAGNETIC SIGNALS**
- Plural recorder system  
[NASA-CASE-XMS-06949] c 09 N69-21467
- MAGNETIC STORAGE**
- Binary magnetic memory device Patent  
[NASA-CASE-XGS-00174] c 08 N70-34743
- Magnetic matrix memory system Patent  
[NASA-CASE-XMF-05835] c 08 N71-12504
- Control apparatus for applying pulses of selectively predetermined duration to a sequence of loads Patent  
[NASA-CASE-XGS-04224] c 10 N71-26418
- Redundant memory organization Patent  
[NASA-CASE-GSC-10564] c 10 N71-29135
- Dual purpose momentum wheels for spacecraft with magnetic recording  
[NASA-CASE-NPO-11481] c 21 N73-13644
- Atomic hydrogen storage method and apparatus  
[NASA-CASE-LEW-12081-1] c 28 N78-24365
- MAGNETIC SUSPENSION**
- Magnetic suspension and pointing system  
[NASA-CASE-LAR-11889-2] c 37 N78-27424
- Magnetic suspension and pointing system --- on a carrier vehicle  
[NASA-CASE-LAR-11889-1] c 35 N79-26372
- Magnetic bearing and motor  
[NASA-CASE-GSC-12726-1] c 37 N83-34323
- MAGNETIC SWITCHING**
- Magnetic power switch Patent  
[NASA-CASE-NPO-10242] c 09 N71-24803
- Current steering switch Patent  
[NASA-CASE-XNP-08567] c 09 N71-26000
- Magnetically switched power supply system for lasers  
[NASA-CASE-NPO-16402-2] c 33 N88-24862
- MAGNETIC TAPE TRANSPORTS**
- Reel safety brake  
[NASA-CASE-GSC-11960-1] c 37 N77-14479
- MAGNETIC TAPES**
- Endless tape cartridge Patent  
[NASA-CASE-XGS-00769] c 14 N70-41647
- Endless tape transport mechanism Patent  
[NASA-CASE-XGS-01223] c 07 N71-10609
- Low friction magnetic recording tape Patent  
[NASA-CASE-XGS-00373] c 23 N71-15978
- System for recording and reproducing pulse code modulated data Patent  
[NASA-CASE-XGS-01021] c 08 N71-21042
- Friction measuring apparatus Patent  
[NASA-CASE-XNP-08680] c 14 N71-22995
- Technique for recovery of voice data from heat damaged magnetic tape  
[NASA-CASE-MS-C-14219-1] c 32 N74-27612
- Automatic character skew and spacing checking network --- of digital tape drive systems  
[NASA-CASE-GSC-11925-1] c 33 N76-18353
- Braille reading system  
[NASA-CASE-LAR-13306-1] c 82 N87-29372
- MAGNETIC TRANSDUCERS**
- Magnetometer with a miniature transducer and automatic scanning  
[NASA-CASE-LAR-11617-2] c 35 N78-32397
- MAGNETIZATION**
- Ion engine casing construction and method of making same Patent  
[NASA-CASE-XNP-06942] c 28 N71-23293

## MAGNETO-OPTICS

- Thermomagnetic recording and magneto-optic playback system having constant intensity laser beam control  
[NASA-CASE-NPO-11317-2] c 36 N74-13205
- MAGNETOACOUSTIC WAVES**
- Method and apparatus for non-destructive testing of temper embrittlement in steels  
[NASA-CASE-LAR-13817-1] c 26 N88-29012
- MAGNETOHYDRODYNAMIC FLOW**
- Magneto-plasma-dynamic arc thruster  
[NASA-CASE-LEW-11180-1] c 25 N73-25760
- Hybrid plume plasma rocket  
[NASA-CASE-MS-C-20476-2] c 20 N89-25279
- MAGNETOHYDRODYNAMIC GENERATORS**
- Magnetohydrodynamic induction machine  
[NASA-CASE-XNP-07481] c 25 N69-21929
- Slug flow magnetohydrodynamic generator  
[NASA-CASE-XLE-02083] c 03 N69-39983
- Two-fluid magnetohydrodynamic system and method for thermal-electric power conversion Patent  
[NASA-CASE-XNP-00644] c 03 N70-36803
- Crossed-field MHD plasma generator/ accelerator Patent  
[NASA-CASE-XLA-03374] c 25 N71-15562
- Solar driven liquid metal MHD power generator  
[NASA-CASE-LAR-12495-1] c 44 N83-28573
- MAGNETOMETERS**
- Nonmagnetic thermal motor for a magnetometer  
[NASA-CASE-XAR-03786] c 09 N69-21313
- Cryogenic apparatus for measuring the intensity of magnetic fields  
[NASA-CASE-XAC-02407] c 14 N69-27423
- Flux sensing device using a tubular core with toroidal gating coil and solenoidal output coil wound thereon Patent  
[NASA-CASE-XGS-01881] c 09 N70-40123
- Wide range linear fluxgate magnetometer Patent  
[NASA-CASE-XGS-01587] c 14 N71-15962
- Optically pumped resonance magnetometer for determining vectorial components in a spatial coordinate system Patent  
[NASA-CASE-XGS-04879] c 14 N71-20428
- Thermally cycled magnetometer Patent  
[NASA-CASE-XAC-03740] c 14 N71-26135
- Two axis fluxgate magnetometer Patent  
[NASA-CASE-GSC-10441-1] c 14 N71-27325
- Hall effect magnetometer  
[NASA-CASE-LEW-11632-2] c 35 N75-13213
- Magnetometer using superconducting rotating body  
[NASA-CASE-NPO-13388-1] c 35 N76-16390
- Magnetic heading reference  
[NASA-CASE-LAR-11387-1] c 04 N76-20114
- Magnetic heading reference  
[NASA-CASE-LAR-11387-2] c 04 N77-19056
- Magnetometer with a miniature transducer and automatic scanning  
[NASA-CASE-LAR-11617-2] c 35 N78-32397
- Low energy electron magnetometer using a monoenergetic electron beam  
[NASA-CASE-LAR-12706-1] c 35 N84-12444
- MAGNETRON SPUTTERING**
- Method of producing high T(subc) superconducting NBN films  
[NASA-CASE-NPO-16681-1-CU] c 76 N88-24543
- MAGNETRONS**
- Tuning arrangement for an electron discharge device or the like Patent  
[NASA-CASE-XNP-09771] c 09 N71-24841
- MAGNETS**
- Magnetic electrical connectors for biomedical percutaneous implants  
[NASA-CASE-KSC-11030-1] c 52 N77-25772
- Miniature cyclotron resonance ion source using small permanent magnet  
[NASA-CASE-NPO-14324-1] c 72 N80-27163
- Linear magnetic bearing  
[NASA-CASE-GSC-12517-1] c 37 N83-32067
- Shaft transducer having dc output proportional to angular velocity  
[NASA-CASE-NPO-15706-1] c 35 N84-28017
- Linear motion valve  
[NASA-CASE-MS-C-20148-1] c 37 N85-29284
- MAGNIFICATION**
- Image magnification adapter for cameras Patent  
[NASA-CASE-XMF-03844-1] c 14 N71-26474
- Magnifying scratch gage force transducer  
[NASA-CASE-LAR-10496-1] c 14 N72-22437
- Magnifying image intensifier  
[NASA-CASE-GSC-12010-1] c 74 N78-18905
- Constant magnification optical tracking system  
[NASA-CASE-NPO-14813-1] c 74 N82-24072
- Spectral slicing X-ray telescope with variable magnification  
[NASA-CASE-MFS-25942-1] c 74 N86-20124

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- Balance torquemeter Patent  
[NASA-CASE-XGS-01013] c 14 N71-23725
- MAINTENANCE**
- Self-testing and repairing computer Patent  
[NASA-CASE-NPO-10567] c 08 N71-24633
- Bonding or repairing process  
[NASA-CASE-MS-C-12357] c 15 N73-12489
- Method of repairing discontinuity in fiberglass structures  
[NASA-CASE-LAR-10416-1] c 24 N74-30001
- System and method for refurbishing and processing parachutes --- monorial conveyor system  
[NASA-CASE-KSC-11042-2] c 02 N81-26073
- Computer circuit card puller  
[NASA-CASE-FRC-11042-1] c 60 N82-24839
- Method for refurbishing and processing parachutes  
[NASA-CASE-KSC-11042-1] c 09 N82-29330
- Method for repair of thin glass coatings --- on space shuttle orbiter tiles  
[NASA-CASE-KSC-11097-1] c 27 N82-33520
- Method of repairing surface damage to porous refractory substrates --- space shuttle orbiter tiles  
[NASA-CASE-MS-C-18736-1] c 24 N83-13172
- Method of repairing hidden leaks in tubes  
[NASA-CASE-MFS-19796-1] c 37 N86-32736
- MALEATES**
- Stabilized unsaturated polyesters  
[NASA-CASE-NPO-16103-1] c 27 N85-29043
- Maleimido substituted aromatic cyclotriphosphazenes  
[NASA-CASE-ARC-11428-1] c 23 N86-19376
- Fire and heat resistant laminating resins based on maleimido substituted aromatic cyclotriphosphazene polymer  
[NASA-CASE-ARC-11428-2] c 27 N87-16909
- MALFUNCTIONS**
- Airplane take-off performance indicator Patent  
[NASA-CASE-XLA-00100] c 14 N70-36807
- MAMMALS**
- Spiral vane bioreactor  
[NASA-CASE-MS-C-21361-1] c 51 N89-25557
- MANDRELS**
- Mandrel for shaping solid propellant rocket fuel into a motor casing Patent  
[NASA-CASE-XLA-00304] c 27 N70-34783
- Rotating mandrel for assembly of inflatable devices Patent  
[NASA-CASE-XLA-04143] c 15 N71-17687
- Method of making a solid propellant rocket motor Patent  
[NASA-CASE-XLA-04126] c 28 N71-26779
- MANEUVERABILITY**
- Sequentially deployable maneuverable tetrahedral beam  
[NASA-CASE-LAR-13098-1] c 31 N86-19479
- MANGANESE**
- Manganese bismuth films with narrow transfer characteristics for Curie-point switching  
[NASA-CASE-NPO-11336-1] c 76 N79-16678
- MANIFOLDS**
- Injector for bipropellant rocket engines Patent  
[NASA-CASE-XMF-00148] c 28 N70-38710
- Active clearance control system for a turbomachine  
[NASA-CASE-LEW-12938-1] c 07 N82-32366
- Collimated beam manifold with the number of output beams variable at a given output angle  
[NASA-CASE-MFS-25312-1] c 74 N83-17305
- MANIPULATORS**
- Remote control manipulator for zero gravity environment  
[NASA-CASE-MFS-14405] c 15 N72-28495
- Orthotic arm joint --- for use in mechanical arms  
[NASA-CASE-NPO-21611-1] c 54 N75-12616
- Variable ratio mixed-mode bilateral master-slave control system for shuttle remote manipulator system  
[NASA-CASE-MS-C-14245-1] c 18 N75-27041
- Cooperative multi-axis sensor for teleoperation of article manipulating apparatus  
[NASA-CASE-NPO-13386-1] c 54 N75-27758
- Remotely operable articulated manipulator  
[NASA-CASE-MFS-22707-1] c 37 N76-15457
- Remote manipulator system  
[NASA-CASE-MFS-22022-1] c 37 N76-15460
- Anthropomorphic master/slave manipulator system  
[NASA-CASE-ARC-10756-1] c 54 N77-32721
- Wrist joint assembly  
[NASA-CASE-MFS-23311-1] c 54 N78-17676
- Compact artificial hand  
[NASA-CASE-NPO-13906-1] c 54 N79-24652
- Controller arm for a remotely related slave arm  
[NASA-CASE-ARC-11052-1] c 37 N79-28551
- Device for coupling a first vehicle to a second vehicle  
[NASA-CASE-GSC-12429-1] c 37 N81-14320
- Pneumatic inflatable end effector  
[NASA-CASE-MFS-23696-1] c 54 N81-26718

Terminal guidance sensor system --- space shuttle coupling to orbiting satellites  
[NASA-CASE-NPO-14521-1] c 37 N81-27519

Apparatus for sequentially transporting containers  
[NASA-CASE-MFS-23846-1] c 37 N82-32731

Precision manipulator heating and cooling apparatus for use in UHV systems with sample transfer capability  
[NASA-CASE-LAR-13040-1] c 37 N85-29286

Sequentially deployable maneuverable tetrahedral beam  
[NASA-CASE-LAR-13098-1] c 31 N86-19479

Apparatus for adapting an end effector device remotely controlled manipulator arm  
[NASA-CASE-MFS-25949-1] c 37 N86-19603

Self-locking telescoping manipulator arm  
[NASA-CASE-MFS-25906-1] c 37 N86-20789

Magnetic spin reduction system for free spinning objects  
[NASA-CASE-MFS-25966-1] c 16 N86-26352

Orbital maneuvering end effectors  
[NASA-CASE-MFS-28161-1] c 37 N87-18817

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[NASA-CASE-LAR-13411-1-SB] c 18 N88-23828

Mobile remote manipulator system for a tetrahedral truss  
[NASA-CASE-MSC-20985-1] c 18 N88-26398

Space station erectable manipulator placement system  
[NASA-CASE-MSC-21096-1] c 18 N89-12621

Improved docking alignment system  
[NASA-CASE-MSC-21372-1] c 35 N89-12842

Gripping device  
[NASA-CASE-MSC-21365-1] c 37 N89-12865

Magnetic attachment mechanism  
[NASA-CASE-MSC-21095-1] c 37 N89-12866

Robust high-performance control for robotic manipulators  
[NASA-CASE-NPO-17785-1-CU] c 37 N89-28846

Distributed proximity sensor system  
[NASA-CASE-NPO-17275-1-CU] c 37 N89-29750

**MANNED ORBITAL LABORATORIES**

Erectable modular space station Patent  
[NASA-CASE-XLA-00678] c 31 N70-34296

Radial module space station Patent  
[NASA-CASE-XMS-01906] c 31 N70-41373

Rotating space station simulator Patent  
[NASA-CASE-XLA-03127] c 11 N71-10776

**MANNED SPACE FLIGHT**

Transfer valve Patent  
[NASA-CASE-XAC-01158] c 15 N71-23051

Air removal device  
[NASA-CASE-XLA-08914] c 15 N73-12492

**MANNED SPACECRAFT**

Space capsule Patent  
[NASA-CASE-XLA-00149] c 31 N70-37938

Variable-geometry winged reentry vehicle Patent  
[NASA-CASE-XLA-00241] c 31 N70-37986

Vehicle parachute and equipment jettison system Patent  
[NASA-CASE-XLA-00195] c 02 N70-38009

Space capsule Patent  
[NASA-CASE-XLA-01332] c 31 N71-15664

Artificial gravity spin deployment system Patent  
[NASA-CASE-XNP-02595] c 31 N71-21881

Specialized halogen generator for purification of water Patent  
[NASA-CASE-XLA-08913] c 14 N71-28933

Collapsible Apollo couch  
[NASA-CASE-MSC-13140] c 05 N72-11085

Space vehicle with artificial gravity and earth-like environment  
[NASA-CASE-LEW-11101-1] c 31 N73-32750

Hatch cover  
[NASA-CASE-MSC-21356-1] c 18 N88-24671

**MANOMETERS**

Magnetically centered liquid column float Patent  
[NASA-CASE-XAC-00030] c 14 N70-34820

Apparatus for absolute pressure measurement  
[NASA-CASE-LAR-10000] c 14 N73-30394

**MANUAL CONTROL**

Multiple circuit switch apparatus with improved pivot actuator structure Patent  
[NASA-CASE-XAC-03777] c 10 N71-15909

Null device for hand controller Patent  
[NASA-CASE-XLA-01808] c 15 N71-20740

Manually actuated heat pump  
[NASA-CASE-NPO-10677] c 05 N72-11084

Numerical computer peripheral interactive device with manual controls  
[NASA-CASE-NPO-11497] c 08 N73-25206

Solid state controller three axes controller  
[NASA-CASE-MSC-12394-1] c 08 N74-10942

G-load measuring and indicator apparatus  
[NASA-CASE-ARC-10806-1] c 35 N75-29381

Hydraulic actuator mechanism to control aircraft spoiler movements through dual input commands  
[NASA-CASE-LAR-12412-1] c 08 N82-24205

**MANUFACTURING**

A method for selective gold diffusion of monolithic silicon devices and/or circuits Patent application  
[NASA-CASE-ERC-10072] c 09 N70-11148

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[NASA-CASE-XMS-02532] c 15 N70-41808

Method of making screen by casting Patent  
[NASA-CASE-XLE-00953] c 15 N71-15966

Space manufacturing machine Patent  
[NASA-CASE-MFS-20410] c 15 N71-19214

Fluid containers and resealable septum therefor Patent  
[NASA-CASE-NPO-10123] c 15 N71-24835

Method of making a solid propellant rocket motor Patent  
[NASA-CASE-XLA-04126] c 28 N71-26779

Method of making shielded flat cable Patent  
[NASA-CASE-MFS-13687] c 09 N71-28691

Fabrication of controlled-porosity metals Patent  
[NASA-CASE-XNP-04339] c 17 N71-29137

Method of making porous conductive supports for electrodes --- by electroforming and stacking nickel foils  
[NASA-CASE-GSC-11367-1] c 44 N74-19692

Apparatus for forming drive belts  
[NASA-CASE-NPO-13205-1] c 31 N74-32917

Bonding method in the manufacture of continuous regression rate sensor devices  
[NASA-CASE-LAR-10337-1] c 24 N75-30260

Process for fabricating SiC semiconductor devices  
[NASA-CASE-LEW-12094-1] c 76 N76-25049

Solar hydrogen generator  
[NASA-CASE-LAR-11361-1] c 44 N77-22607

Method of forming shrink-fit compression seal  
[NASA-CASE-LAR-11563-1] c 37 N77-23482

Method of making a hot wire anemometer and product thereof  
[NASA-CASE-ARC-10900-1] c 35 N77-24454

Aluminum or copper substrate panel for selective absorption of solar energy  
[NASA-CASE-MFS-23518-3] c 44 N80-16452

Polymeric compositions and their method of manufacture --- forming filled polymer systems using cryogenics  
[NASA-CASE-NPO-10424-1] c 27 N81-24258

Inorganic spark chamber frame and method of making the same  
[NASA-CASE-GSC-12354-1] c 35 N82-24471

Photoelectric detection system --- manufacturing automation  
[NASA-CASE-MFS-23776-1] c 33 N82-28545

Glass heating panels and method for preparing the same from architectural reflective glass  
[NASA-CASE-NPO-15753-1] c 27 N84-33589

The 1-(diorganoxy phosphonyl) methyl-2,4- and -2,6-diamino benzenes and their derivatives  
[NASA-CASE-ARC-11425-2] c 23 N87-28605

**MAPPING**

Random function tracer Patent  
[NASA-CASE-XLA-01401] c 15 N71-21179

Method and apparatus for mapping planets  
[NASA-CASE-NPO-11001] c 07 N72-21118

Seismic vibration source  
[NASA-CASE-NPO-14112-1] c 46 N79-22679

Dual aperture multispectral Schmidt objective  
[NASA-CASE-GSC-12756-1] c 74 N84-23248

Method and apparatus for contour mapping using synthetic aperture radar  
[NASA-CASE-NPO-15939-1] c 43 N86-19711

**MAPS**

Orbital and entry tracking accessory for globes --- to provide range requirements for reentry vehicles to any landing site  
[NASA-CASE-LAR-10626-1] c 19 N74-21015

Optical process for producing classification maps from multispectral data  
[NASA-CASE-MSC-14472-1] c 43 N77-10584

**MASERS**

Segmented superconducting magnet for a broadband traveling wave maser Patent  
[NASA-CASE-XGS-10518] c 16 N71-28554

Maser for frequencies in the 7-20 GHz range  
[NASA-CASE-NPO-11437] c 16 N72-28521

Reflected-wave maser --- low noise amplifier  
[NASA-CASE-NPO-13490-1] c 36 N76-31512

Multistation refrigeration system  
[NASA-CASE-NPO-13839-1] c 31 N78-25256

External bulb variable volume maser  
[NASA-CASE-GSC-12334-1] c 36 N79-14362

Dielectric-loaded waveguide circulator for cryogenically cooled and cascaded maser waveguide structures  
[NASA-CASE-NPO-14254-1] c 36 N80-18372

Precise RF timing signal distribution to remote stations --- fiber optics  
[NASA-CASE-NPO-14749-1] c 32 N81-14186

Resonant isolator for maser amplifier  
[NASA-CASE-NPO-15201-1] c 36 N83-35350

Maser cavity servo-tuning system  
[NASA-CASE-NPO-15890-1-CU] c 33 N85-29143

**MASKING**

Masking device Patent  
[NASA-CASE-XNP-02092] c 15 N70-42033

High resolution developing of photosensitive resists Patent  
[NASA-CASE-XGS-04993] c 14 N71-17574

Low defect, high purity crystalline layers grown by selective deposition  
[NASA-CASE-NPO-15813-1] c 76 N85-30922

**MASKS**

Ion beam sputter etching  
[NASA-CASE-LEW-13899-1] c 31 N87-21160

**MASS**

Mass measuring system Patent  
[NASA-CASE-XMS-03371] c 05 N70-42000

Dynamic vibration absorber Patent  
[NASA-CASE-LAR-10083-1] c 15 N71-27006

Fluid mass sensor for a zero gravity environment  
[NASA-CASE-MSC-14653-1] c 35 N77-19385

**MASS BALANCE**

Two-plane balance Patent  
[NASA-CASE-XAC-00073] c 14 N70-34813

Apparatus for testing a pressure responsive instrument Patent  
[NASA-CASE-XMF-04134] c 14 N71-23755

**MASS DISTRIBUTION**

Propellant mass distribution metering apparatus Patent  
[NASA-CASE-NPO-10185] c 10 N71-26339

**MASS FLOW**

Rocket engine injector Patent  
[NASA-CASE-XLE-03157] c 28 N71-24736

Nuclear mass flowmeter  
[NASA-CASE-MFS-20485] c 14 N72-11365

Apparatus and method for generating large mass flow of high temperature air at hypersonic speeds  
[NASA-CASE-LAR-10578-1] c 12 N73-25262

**MASS SPECTROMETERS**

Analytical photoionization mass spectrometer with an argon gas filter between the light source and monochromator Patent  
[NASA-CASE-LAR-10180-1] c 06 N71-13461

Time of flight mass spectrometer with feedback means from the detector to the low source and a specific counter Patent  
[NASA-CASE-XNP-01056] c 14 N71-23041

Ion microprobe mass spectrometer for analyzing fluid materials Patent  
[NASA-CASE-ERC-10014] c 14 N71-28863

Orifice gross leak tester Patent  
[NASA-CASE-ERC-10150] c 14 N71-28992

Method and apparatus for determining the contents of contained gas samples  
[NASA-CASE-GSC-10903-1] c 14 N73-12444

Quadrupole mass filter with means to generate a noise spectrum exclusive of the resonant frequency of the desired ions to deflect stable ions  
[NASA-CASE-XNP-04231] c 14 N73-32325

Fast scan control for deflection type mass spectrometers  
[NASA-CASE-LAR-11428-1] c 35 N74-34857

Mass spectrometer with magnetic pole pieces providing the magnetic fields for both the magnetic sector and an ion-type vacuum pump  
[NASA-CASE-NPO-13663-1] c 35 N77-14406

Method for fabricating a mass spectrometer inlet leak  
[NASA-CASE-GSC-12077-1] c 35 N77-24455

Dual acting slit control mechanism  
[NASA-CASE-LAR-11370-1] c 35 N80-28686

Ion mass spectrometer  
[NASA-CASE-NPO-15423-1] c 35 N84-28016

Apparatus and method for characterizing the transmission efficiency of a mass spectrometer  
[NASA-CASE-NPO-16989-1-CU] c 35 N89-28794

**MASS SPECTROSCOPY**

Moving particle composition analyzer  
[NASA-CASE-GSC-11889-1] c 35 N76-16393

Fluid sampling device  
[NASA-CASE-GSC-12143-1] c 35 N77-32456

Particle analyzing method and apparatus  
[NASA-CASE-NPO-15292-1] c 35 N83-27184

**MASSIVELY PARALLEL PROCESSORS**

Massively parallel processor computer  
[NASA-CASE-GSC-12223-1] c 60 N83-25378

**MATERIAL ABSORPTION**

Sorption vacuum trap Patent  
[NASA-CASE-XER-09519] c 14 N71-18483

## MATERIALS

Low gravity exothermic heating/cooling apparatus  
[NASA-CASE-MSC-25707-1] c 35 N85-29214

## MATERIALS HANDLING

Fluid coupling Patent  
[NASA-CASE-XLE-00397] c 15 N70-36492  
Catalyst bed removing tool Patent  
[NASA-CASE-XFR-00811] c 15 N70-36901  
Air bearing Patent  
[NASA-CASE-XMF-01887] c 15 N71-10617  
Quick attach and release fluid coupling assembly Patent  
[NASA-CASE-XKS-01985] c 15 N71-10782  
Method and apparatus for cryogenic wire stripping Patent  
[NASA-CASE-MFS-10340] c 15 N71-17628  
Apparatus for purging systems handling toxic, corrosive, noxious and other fluids Patent  
[NASA-CASE-XMS-01905] c 12 N71-21089  
Method of making foamed materials in zero gravity  
[NASA-CASE-XMF-09902] c 15 N72-11387  
Mechanically extendible telescoping boom  
[NASA-CASE-NPO-11118] c 03 N72-25021  
Apparatus for recovering matter adhered to a host surface  
[NASA-CASE-NPO-11213] c 15 N73-20514  
Apparatus and method for skin packaging articles  
[NASA-CASE-MFS-20855] c 15 N73-27405  
Apparatus for inserting and removing specimens from high temperature vacuum furnaces  
[NASA-CASE-LAR-10841-1] c 31 N74-27900  
Deployable flexible tunnel  
[NASA-CASE-MFS-22636-1] c 37 N76-22540  
Liquid immersion apparatus for minute articles  
[NASA-CASE-MFS-25363-1] c 37 N82-12441  
Acoustic system for material transport  
[NASA-CASE-NPO-15453-1] c 71 N83-32515  
Space ultra-vacuum facility and method of operation  
[NASA-CASE-MFS-28139-1] c 29 N87-18679

## MATERIALS RECOVERY

Automated system for identifying traces of organic chemical compounds in aqueous solutions  
[NASA-CASE-NPO-13063-1] c 25 N76-18245  
Process for the leaching of AP from propellant  
[NASA-CASE-NPO-14109-1] c 28 N80-23471  
Recovery of aluminum from composite propellants  
[NASA-CASE-NPO-14110-1] c 28 N81-15119

## MATERIALS SCIENCE

Flammability test chamber Patent  
[NASA-CASE-KSC-10126] c 11 N71-24985  
Apparatus and method for measuring the Seebeck coefficient and resistivity of materials  
[NASA-CASE-NPO-11749] c 14 N73-28486

## MATERIALS TESTS

Thermal shock apparatus Patent  
[NASA-CASE-XLE-02024] c 14 N71-22964  
Multiple environment materials test chamber having a multiple port X-ray tube for irradiating a plurality of samples Patent  
[NASA-CASE-XMS-02930] c 11 N71-23042  
Resilience testing device Patent  
[NASA-CASE-XLA-08254] c 14 N71-26161  
Tube sealing device Patent  
[NASA-CASE-NPO-10431] c 15 N71-29132  
Burn rate testing apparatus  
[NASA-CASE-XMS-09690] c 33 N72-25913  
Multi axes vibration fixtures  
[NASA-CASE-MFS-20242] c 14 N73-19421  
Material fatigue testing system  
[NASA-CASE-MFS-20673] c 14 N73-20476

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Logical function generator  
[NASA-CASE-XLA-05099] c 09 N73-13209

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[NASA-CASE-XNP-05821] c 03 N71-11056  
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[NASA-CASE-XMF-05835] c 08 N71-12504  
Solar cell matrix Patent  
[NASA-CASE-NPO-10821] c 03 N71-19545  
Drive circuit utilizing two cores Patent  
[NASA-CASE-XNP-01318] c 10 N71-23033  
Serial digital decoder Patent  
[NASA-CASE-NPO-10150] c 08 N71-24650  
Solid state matrices  
[NASA-CASE-NPO-10591] c 03 N72-22041

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[NASA-CASE-LEW-13770-3] c 27 N85-21350  
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[NASA-CASE-LEW-13770-4] c 27 N85-21351  
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[NASA-CASE-LEW-13770-6] c 25 N85-30039

Polyarylene ethers with improved properties

[NASA-CASE-LAR-13555-1] c 23 N86-32526

## MCLEOD GAGES

Automatic recording McLeod gauge Patent  
[NASA-CASE-XLE-03280] c 14 N71-23093  
Bakeable McLeod gauge  
[NASA-CASE-XGS-01293-1] c 35 N79-33450

## MEASURING INSTRUMENTS

Device for determining the accuracy of the flare on a flared tube  
[NASA-CASE-XKS-03495] c 14 N69-39785  
Angular measurement system Patent  
[NASA-CASE-XMF-00447] c 14 N70-33179  
Two-plane balance Patent  
[NASA-CASE-XAC-00073] c 14 N70-34813  
Parallel motion suspension device Patent  
[NASA-CASE-XNP-01567] c 15 N70-41310  
Vibrating structure displacement measuring instrument Patent  
[NASA-CASE-XLA-03135] c 32 N71-16428  
Inspection gage for boss Patent  
[NASA-CASE-XMF-04966] c 14 N71-17658  
Vapor pressure measuring system and method Patent  
[NASA-CASE-XMS-01618] c 14 N71-20741  
Spherical tank gauge Patent  
[NASA-CASE-XMS-06236] c 14 N71-21007  
Energy absorbing device Patent  
[NASA-CASE-XMF-10040] c 15 N71-22877  
Ablation sensor Patent  
[NASA-CASE-XLA-01791] c 14 N71-22991  
Moment of inertia test fixture Patent  
[NASA-CASE-XGS-01023] c 14 N71-22992  
Electron beam instrument for measuring electric fields Patent  
[NASA-CASE-XMF-10289] c 14 N71-23699  
Floating two force component measuring device Patent  
[NASA-CASE-XAC-04885] c 14 N71-23790  
Internal flare angle gauge Patent  
[NASA-CASE-XMF-04415] c 14 N71-24693  
RC rate generator for slow speed measurement Patent  
[NASA-CASE-XMF-02966] c 10 N71-24863  
Transverse piezoresistance and pinch effect electromechanical transducers Patent  
[NASA-CASE-ERC-10088] c 26 N71-25490  
Layout tool Patent  
[NASA-CASE-FRC-10005] c 15 N71-26145  
Method and apparatus for detecting gross leaks Patent  
[NASA-CASE-ERC-10033] c 14 N71-26672  
Arbitrarily shaped model survey system Patent  
[NASA-CASE-LAR-10098] c 32 N71-26681  
Thickness measuring and injection device Patent  
[NASA-CASE-MFS-20261] c 14 N71-27005  
Resonant infrasonic gauging apparatus  
[NASA-CASE-MSC-11847-1] c 14 N72-11363  
Roll alignment detector  
[NASA-CASE-GSC-10514-1] c 14 N72-20379  
Cosmic dust sensor  
[NASA-CASE-GSC-10503-1] c 14 N72-20381  
Firefly pump-metering system  
[NASA-CASE-GSC-10218-1] c 15 N72-21465  
Capacitive tank gaging apparatus being independent of liquid distribution  
[NASA-CASE-MFS-21629] c 14 N72-22442  
Spherical measurement device  
[NASA-CASE-XLA-06683] c 14 N72-28436  
Altitude measuring system  
[NASA-CASE-ERC-10412-1] c 09 N73-12211  
Flow velocity and directional instrument  
[NASA-CASE-LAR-10855-1] c 14 N73-13415  
Multi axes vibration fixtures  
[NASA-CASE-MFS-20242] c 14 N73-19421  
Material fatigue testing system  
[NASA-CASE-MFS-20673] c 14 N73-20476  
Droplet monitoring probe  
[NASA-CASE-NPO-10985] c 14 N73-20478  
Apparatus and method for measuring the Seebeck coefficient and resistivity of materials  
[NASA-CASE-NPO-11749] c 14 N73-28486  
RF-source resistance meters  
[NASA-CASE-NPO-11291-1] c 14 N73-30388  
Apparatus for absolute pressure measurement  
[NASA-CASE-LAR-10000] c 14 N73-30394  
Holographic thin film analyzer  
[NASA-CASE-MFS-20823-1] c 16 N73-30476  
Three-axis adjustable loading structure  
[NASA-CASE-FRC-10051-1] c 35 N74-13129  
Thin film gauge --- for measuring convective heat transfer rates along test surfaces in wind tunnels  
[NASA-CASE-NPO-10617-1] c 35 N74-22095  
Apparatus and method for processing Korotkov sounds --- for blood pressure measurement  
[NASA-CASE-MSC-13999-1] c 52 N74-26626

Electric field measuring and display system --- for cloud formations  
[NASA-CASE-KSC-10731-1] c 33 N74-27862  
Device for measuring tensile forces  
[NASA-CASE-MFS-21728-1] c 35 N74-27865  
Measuring probe position recorder  
[NASA-CASE-LAR-10806-1] c 35 N74-32877  
Meter for use in detecting tension in straps having predetermined elastic characteristics  
[NASA-CASE-MFS-22189-1] c 35 N75-19615  
Thrust measurement  
[NASA-CASE-XMS-05731] c 35 N75-29382  
Method and apparatus for measuring web material wound on a reel  
[NASA-CASE-GSC-11902-1] c 38 N77-17495  
Optical instrument employing reticle having preselected visual response pattern formed thereon  
[NASA-CASE-ARC-10976-1] c 74 N77-22950  
Direct reading inductance meter  
[NASA-CASE-NPO-13792-1] c 35 N77-32455  
Ruler for making navigational computations  
[NASA-CASE-XNP-01458] c 04 N78-17031  
Apparatus for handling micron size range particulate material  
[NASA-CASE-NPO-10151] c 37 N78-17386  
Apparatus for measuring a sorbate dispersed in a fluid stream  
[NASA-CASE-ARC-10896-1] c 35 N78-19465  
Condition sensor system and method  
[NASA-CASE-MSC-14805-1] c 54 N78-32720  
Lightning current waveform measuring system  
[NASA-CASE-KSC-11018-1] c 33 N79-10337  
Time domain phase measuring apparatus  
[NASA-CASE-GSC-12228-1] c 33 N79-10338  
Fluid velocity measuring device  
[NASA-CASE-LAR-11729-1] c 34 N79-12359  
Method and apparatus for measuring minority carrier lifetimes and bulk diffusion length in P-N junction solar cells  
[NASA-CASE-NPO-14100-1] c 44 N79-12541  
Lightning current detector  
[NASA-CASE-KSC-11057-1] c 33 N79-14305  
Contour measurement system  
[NASA-CASE-MFS-23726-1] c 43 N79-26439  
Borehole geological assessment  
[NASA-CASE-NPO-14231-1] c 46 N80-10709  
Displacement probes with self-contained exciting medium  
[NASA-CASE-LAR-11690-1] c 35 N80-14371  
Viscosity measuring instrument  
[NASA-CASE-NPO-14501-1] c 35 N80-18357  
Geological assessment probe  
[NASA-CASE-NPO-14558-1] c 46 N80-24906  
Method and automated apparatus for detecting coliform organisms  
[NASA-CASE-MSC-16777-1] c 51 N80-27067  
Skin friction measuring device for aircraft  
[NASA-CASE-FRC-11029-1] c 06 N81-17057  
Faraday rotation measurement method and apparatus  
[NASA-CASE-NPO-14839-1] c 35 N82-15381  
Lightning discharge identification system  
[NASA-CASE-KSC-11099-1] c 47 N82-24779  
Flow resistivity instrument  
[NASA-CASE-LAR-13053-1] c 43 N83-29783  
Non-invasive method and apparatus for measuring pressure within a pliable vessel  
[NASA-CASE-ARC-11264-2] c 52 N83-29991  
Visual accommodation trainer-tester  
[NASA-CASE-ARC-11426-1] c 09 N84-12193  
Electronic scanning pressure measuring system and transducer package  
[NASA-CASE-ARC-11361-1] c 35 N84-22934  
Apparatus for measuring charged particle beam  
[NASA-CASE-MFS-25641-1] c 72 N84-28575  
Self-charging metering and dispensing device for fluids  
[NASA-CASE-MSC-20275-1] c 35 N85-21595  
Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NAS 1.71:NPO-15494-2] c 35 N85-34373  
Temperature averaging thermal probe  
[NASA-CASE-GSC-12795-1] c 35 N86-19580  
Cylindrical surface profile and diameter measuring tool and method  
[NASA-CASE-MFS-28287-1] c 35 N88-23959  
Electrostatic discharge test apparatus  
[NASA-CASE-MSC-21094-1] c 35 N88-24941  
Skin friction balance  
[NASA-CASE-LAR-13710-1] c 35 N88-29145  
Ice detector  
[NASA-CASE-LAR-13776-1] c 35 N88-29149  
Liquid thickness gauge  
[NASA-CASE-LAR-13826-1] c 35 N88-29150  
Tank gauging apparatus and method  
[NASA-CASE-MSC-21059-1] c 35 N89-12843

Universal precision sine bar attachment  
[NASA-CASE-MFS-28253-1] c 37 N89-28831

**MECHANICAL DEVICES**

Mechanical coordinate converter Patent  
[NASA-CASE-XNP-00614] c 14 N70-36907

Load cell protection device Patent  
[NASA-CASE-XMS-06782] c 32 N71-15974

Satellite despin device Patent  
[NASA-CASE-XMF-08523] c 31 N71-20396

Two force component measuring device Patent  
[NASA-CASE-XAC-04886-1] c 14 N71-20439

Latching mechanism Patent  
[NASA-CASE-XMS-03745] c 15 N71-21076

Stirring apparatus for plural test tubes Patent  
[NASA-CASE-XAC-06956] c 15 N71-21177

Random function tracer Patent  
[NASA-CASE-XLA-01401] c 15 N71-21179

Canister closing device Patent  
[NASA-CASE-XLA-01446] c 15 N71-21528

Nonmagnetic, explosive actuated indexing device Patent  
[NASA-CASE-XGS-02422] c 15 N71-21529

Central spar and module joint Patent  
[NASA-CASE-XNP-02341] c 15 N71-21531

Controllers Patent  
[NASA-CASE-XMS-07487] c 15 N71-23255

Alloys for bearings Patent  
[NASA-CASE-XLE-05033] c 15 N71-23810

Mechanical actuator Patent  
[NASA-CASE-XGS-04548] c 15 N71-24045

Winch having cable position and load indicators Patent  
[NASA-CASE-MSC-12052-1] c 15 N71-24599

Redundant actuating mechanism Patent  
[NASA-CASE-XGS-08718] c 15 N71-24600

Shock tube powder dispersing apparatus Patent  
[NASA-CASE-XLE-04946] c 17 N71-24911

Self-lubricating gears and other mechanical parts Patent  
[NASA-CASE-MFS-14971] c 15 N71-24984

Layout tool Patent  
[NASA-CASE-FRC-10005] c 15 N71-26145

Thermostatic actuator  
[NASA-CASE-NPO-10637] c 15 N72-12409

Ball screw linear actuator  
[NASA-CASE-NPO-11222] c 15 N72-25456

Spherical measurement device  
[NASA-CASE-XLA-06683] c 14 N72-28436

Thermal compensating structural member  
[NASA-CASE-MFS-20433] c 15 N72-28496

Spiral groove seal  
[NASA-CASE-XLE-10326-2] c 15 N72-29488

Solar energy powered heliotrope  
[NASA-CASE-GSC-10945-1] c 21 N72-31637

Adjustable force probe  
[NASA-CASE-MFS-20760] c 14 N72-33377

Rotary actuator  
[NASA-CASE-NPO-10680] c 31 N73-14855

Collapsible structure for an antenna reflector  
[NASA-CASE-NPO-11751] c 07 N73-24176

Foot pedal operated fluid type exercising device  
[NASA-CASE-MSC-11561-1] c 05 N73-32014

Exposure interlock for oscilloscope cameras  
[NASA-CASE-LAR-10319-1] c 14 N73-32322

Reefing system  
[NASA-CASE-LAR-10129-2] c 37 N74-20063

Sprag solenoid brake --- development and operations of electrically controlled brake  
[NASA-CASE-MFS-21846-1] c 37 N74-26976

Solid medium thermal engine  
[NASA-CASE-ARC-10461-1] c 44 N74-33379

Automatic inoculating apparatus --- includes movable carriage, drive motor, and swabbing motor  
[NASA-CASE-LAR-11074-1] c 51 N75-13502

Clock setter  
[NASA-CASE-LAR-11458-1] c 35 N76-16392

Apparatus for positioning modular components on a vertical or overhead surface  
[NASA-CASE-LAR-11465-1] c 37 N76-21554

Reel safety brake  
[NASA-CASE-GSC-11960-1] c 37 N77-14479

Mechanical sequencer  
[NASA-CASE-MSC-19536-1] c 37 N77-22482

Combined docking and grasping device  
[NASA-CASE-MFS-23088-1] c 37 N77-23483

Wrist joint assembly  
[NASA-CASE-MFS-23311-1] c 54 N78-17676

Tetherline system for orbiting satellites  
[NASA-CASE-MFS-23564-1] c 15 N78-25119

Actuator mechanism  
[NASA-CASE-GSC-11883-2] c 37 N78-31426

Quartz ball valve  
[NASA-CASE-NPO-14473-1] c 37 N80-23654

Method and apparatus for holding two separate metal pieces together for welding  
[NASA-CASE-GSC-12318-1] c 37 N80-23655

Heat treat fixture and method of heat treating  
[NASA-CASE-LAR-11821-1] c 26 N80-28492

Fire extinguishing apparatus having a slidable mass for a penetrator nozzle --- for penetrating aircraft and shuttle orbiter skin  
[NASA-CASE-KSC-11064-1] c 31 N81-14137

Device for coupling a first vehicle to a second vehicle  
[NASA-CASE-GSC-12429-1] c 37 N81-14320

Locking mechanism for orthopedic braces  
[NASA-CASE-GSC-12082-2] c 52 N81-25661

Reusable captive blind fastener  
[NASA-CASE-MSC-18742-1] c 37 N82-26673

Mechanical end joint system for structural column elements  
[NASA-CASE-LAR-12482-1] c 37 N82-32732

Compression test apparatus  
[NASA-CASE-MSC-18723-1] c 35 N83-21312

Apparatus for accurately preloading auger attachment means for frangible protective material  
[NASA-CASE-MSC-18791-1] c 37 N83-36482

Clamp-mount device  
[NASA-CASE-MFS-25510-1] c 37 N84-16560

Method and apparatus for gripping uniaxial fibrous composite materials  
[NASA-CASE-LEW-13758-1] c 24 N84-27829

Extended moment arm anti-spin device  
[NASA-CASE-LAR-12979-1] c 05 N85-21147

Connection system --- insuring against loss of a tool component without using multiple tethers  
[NASA-CASE-MSC-20319-1] c 37 N85-21649

Self indexing latch system  
[NASA-CASE-MFS-25956-1] c 37 N87-21333

Apparatus for mounting a field emission cathode  
[NASA-CASE-LEW-14108-1] c 33 N87-28832

**MECHANICAL DRIVES**

Hydraulic drive mechanism Patent  
[NASA-CASE-XMS-03252] c 15 N71-10658

Anti-backlash circuit for hydraulic drive system Patent  
[NASA-CASE-XNP-01020] c 03 N71-12260

Precision stepping drive Patent  
[NASA-CASE-MFS-14772] c 15 N71-17692

Incremental motion drive system Patent  
[NASA-CASE-XNP-08897] c 15 N71-17694

Ratchet mechanism Patent  
[NASA-CASE-MFS-12805] c 15 N71-17805

Welding skate with computerized control Patent  
[NASA-CASE-XMF-07069] c 15 N71-23815

Reversible motion drive system Patent  
[NASA-CASE-NPO-10173] c 15 N71-24696

Synchronous dc direct drive system Patent  
[NASA-CASE-GSC-10065-1] c 10 N71-27136

Energy absorption device Patent  
[NASA-CASE-XNP-01848] c 15 N71-28959

Boring bar drive mechanism Patent  
[NASA-CASE-XLA-03661] c 15 N71-33518

Rotary actuator  
[NASA-CASE-NPO-10244] c 15 N72-26371

Rotary actuator  
[NASA-CASE-NPO-10680] c 31 N73-14855

Optically actuated two position mechanical mover  
[NASA-CASE-NPO-13105-1] c 37 N74-21060

Two speed drive system --- mechanical device for changing speed on rotating vehicle wheel  
[NASA-CASE-MFS-20645-1] c 37 N74-23070

Concentric differential gearing arrangement  
[NASA-CASE-ARC-10462-1] c 37 N74-27901

Geneva mechanism --- including star wheel and driver  
[NASA-CASE-NPO-13281-1] c 37 N75-13266

Mechanical thermal motor  
[NASA-CASE-MFS-23062-1] c 37 N77-12402

Mount for continuously orienting a collector dish in a system adapted to perform both diurnal and seasonal solar tracking  
[NASA-CASE-MFS-23267-1] c 35 N77-20401

Hydraulic drain means for servo-systems  
[NASA-CASE-NPO-10316-1] c 37 N77-22479

Mechanical sequencer  
[NASA-CASE-MSC-19536-1] c 37 N77-22482

Gas turbine engine with convertible accessories  
[NASA-CASE-LEW-12390-1] c 07 N78-17056

Wobble gear drive mechanism --- for aerospace environments  
[NASA-CASE-WOO-00625] c 37 N78-17385

Toggle mechanism for pinching metal tubes  
[NASA-CASE-GSC-12274-1] c 37 N79-28550

Antenna deployment mechanism for use with a spacecraft --- extensible and retractable telescopic antenna mast  
[NASA-CASE-GSC-12331-1] c 18 N80-14183

Redundant motor drive system  
[NASA-CASE-MFS-23777-1] c 37 N80-32716

Belt for transmitting power from a cogged driving member to a cogged driven member  
[NASA-CASE-GSC-12289-1] c 37 N80-32717

Base drive for paralleled inverter systems  
[NASA-CASE-NPO-14163-1] c 33 N81-14220

Speed control device for a heavy duty shaft --- solar sails for spacecraft propulsion  
[NASA-CASE-NPO-14170-1] c 37 N81-15364

Clutchless multiple drive source for output shaft  
[NASA-CASE-ARC-11325-1] c 37 N82-22496

Electrical rotary joint apparatus for large space structures  
[NASA-CASE-MFS-23981-1] c 07 N83-20944

Variable speed drive  
[NASA-CASE-GSC-12643-1] c 37 N83-26078

Remotely operable peristaltic pump  
[NASA-CASE-MFS-28059-1] c 37 N86-32738

Dual motion valve with single motion input  
[NASA-CASE-MFS-28058-1] c 37 N87-21332

Mobile remote manipulator vehicle system  
[NASA-CASE-LAR-13393-1] c 54 N87-29118

**MECHANICAL ENGINEERING**

Manual actuator --- for spacecraft exercising machines  
[NASA-CASE-MFS-21481-1] c 37 N74-18127

Shaft seal assembly for high speed and high pressure applications  
[NASA-CASE-LEW-11873-1] c 37 N79-22475

**MECHANICAL MEASUREMENT**

Strain gage Patent Application  
[NASA-CASE-FRC-10053] c 14 N70-35587

Apparatus for absorbing and measuring power Patent  
[NASA-CASE-XLE-00720] c 14 N70-40201

Strain sensor for high temperatures Patent  
[NASA-CASE-XNP-09205] c 14 N71-17657

Extensometer Patent  
[NASA-CASE-XMF-04680] c 15 N71-19489

Hall effect transducer  
[NASA-CASE-LAR-10620-1] c 09 N72-25255

Strain gage mounting assembly  
[NASA-CASE-NPO-13170-1] c 35 N76-14430

Photomechanical transducer  
[NASA-CASE-NPO-14363-1] c 39 N81-25400

Cervix-to-rectum measuring device in a radiation applicator for use in the treatment of cervical cancer  
[NASA-CASE-GSC-12081-2] c 52 N82-22875

**MECHANICAL PROPERTIES**

High temperature testing apparatus Patent  
[NASA-CASE-XLE-00335] c 14 N70-35368

Fluoroether modified epoxy composites  
[NASA-CASE-ARC-11418-1] c 24 N84-11213

Process for improving mechanical properties of epoxy resins by addition of cobalt ions  
[NASA-CASE-LAR-13230-1] c 24 N84-34571

Elastomer toughened polyimide adhesives --- bonding metal and composite material structures for aircraft and spacecraft  
[NASA-CASE-LAR-12775-2] c 27 N85-21349

Containerless high purity pulling process and apparatus for glass fiber  
[NASA-CASE-MFS-25905-2] c 31 N86-21718

Polyarylene ethers with improved properties  
[NASA-CASE-LAR-13555-1] c 23 N86-32526

Polyphenylquinoxalines containing alkylendiox groups  
[NASA-CASE-LAR-13601-1-CU] c 27 N89-14337

Furnace for tensile/fatigue testing  
[NASA-CASE-LEW-14848-1] c 14 N89-28549

**MECHANICS (PHYSICS)**

Gravity stabilized flying vehicle Patent  
[NASA-CASE-MSC-12111-1] c 02 N71-11039

**MECHANIZATION**

Machine for use in monitoring fatigue life for a plurality of elastomeric specimens  
[NASA-CASE-NPO-13731-1] c 39 N78-10493

**MEDICAL ELECTRONICS**

Circuit for detecting initial systole and diastolic notch --- for monitoring arterial pressure  
[NASA-CASE-LEW-11581-1] c 54 N75-13531

Pocket ECG electrode  
[NASA-CASE-ARC-11258-1] c 52 N80-33081

Subcutaneous electrode structure  
[NASA-CASE-ARC-11117-1] c 52 N81-14612

**MEDICAL EQUIPMENT**

Biomedical electrode arrangement Patent  
[NASA-CASE-XFR-10856] c 05 N71-11189

Method and system for respiration analysis Patent  
[NASA-CASE-XFR-08403] c 05 N71-11202

Laser machining apparatus Patent  
[NASA-CASE-HQN-10541-2] c 15 N71-27135

Telemetry actuated switch  
[NASA-CASE-ARC-10105] c 09 N72-17153

Tilting table for ergometer and for other biomedical devices  
[NASA-CASE-MFS-21010-1] c 05 N73-30078

Automatic instrument for chemical processing to detect microorganism in biological samples by measuring light reactions  
[NASA-CASE-GSC-11169-2] c 05 N73-32011

Servo-controlled intravitral microscope system  
[NASA-CASE-NPO-13214-1] c 35 N75-25123

- Heat sterilizable patient ventilator  
[NASA-CASE-NPO-13313-1] c 54 N75-27761
- Medical subject monitoring systems --- multichannel monitoring systems  
[NASA-CASE-MSC-14180-1] c 52 N76-14757
- Locking mechanism for orthopedic braces  
[NASA-CASE-GSC-12082-1] c 54 N76-22914
- Readout electrode assembly for measuring biological impedance  
[NASA-CASE-ARC-10816-1] c 35 N76-24525
- Corneal seal device  
[NASA-CASE-LEW-12258-1] c 52 N77-28716
- Snap-in compressible biomedical electrode  
[NASA-CASE-MSC-14623-1] c 52 N77-28717
- Tissue macerating instrument  
[NASA-CASE-LEW-12668-1] c 52 N78-14773
- Flow compensating pressure regulator  
[NASA-CASE-LEW-12718-1] c 34 N78-25351
- Intra-ocular pressure normalization technique and equipment  
[NASA-CASE-LEW-12723-1] c 52 N80-18690
- Micro-fluid exchange coupling apparatus  
[NASA-CASE-ARC-11114-1] c 51 N81-14605
- Urine collection device  
[NASA-CASE-MSC-16433-1] c 52 N81-24711
- Spine immobilization apparatus  
[NASA-CASE-ARC-11167-1] c 52 N81-25662
- Cervix-to-rectum measuring device in a radiation applicator for use in the treatment of cervical cancer  
[NASA-CASE-GSC-12081-2] c 52 N82-22875
- Acoustic tooth cleaner  
[NASA-CASE-LAR-12471-1] c 52 N82-29862
- Ion beam sputter-etched ventricular catheter for hydrocephalus shunt  
[NASA-CASE-LEW-13107-1] c 52 N83-21785
- System and method for moving a probe to follow movements of tissue  
[NASA-CASE-NPO-15197-1] c 52 N83-25346
- Medical clip  
[NASA-CASE-LAR-12650-1] c 52 N84-28388
- Process of making medical clip  
[NASA-CASE-LAR-12650-2] c 52 N84-28389
- Drop foot corrective device  
[NASA-CASE-LAR-12259-2] c 54 N86-22112

**MELTING**

- Hot melt recharge system --- repairing damaged or missing tiles on space shuttle orbiter  
[NASA-CASE-LAR-12881-1] c 27 N84-14323
- Hot melt adhesive attachment pad  
[NASA-CASE-LAR-12894-1] c 27 N85-20125

**MELTING POINTS**

- Mixed diamines for lower melting addition polyimide preparation and utilization  
[NASA-CASE-LAR-12054-1] c 27 N79-33316
- Low thrust monopropellant engine  
[NASA-CASE-GSC-12194-2] c 20 N82-18314

**MELTS (CRYSTAL GROWTH)**

- Growth of silicon carbide crystals on a seed while pulling silicon crystals from a melt  
[NASA-CASE-NPO-13969-1] c 76 N79-23798
- Preparation of monotelectic alloys having a controlled microstructure by directional solidification under dopant-induced interface breakdown  
[NASA-CASE-MFS-23816-1] c 26 N80-23419
- Means for growing ribbon crystals without subjecting the crystals to thermal shock-induced strains  
[NASA-CASE-NPO-14298-1] c 76 N80-32244
- Apparatus for use in the production of ribbon-shaped crystals from a silicon melt  
[NASA-CASE-NPO-14297-1] c 33 N81-19389
- Electromigration process for the purification of molten silicon during crystal growth  
[NASA-CASE-NPO-14831-1] c 76 N82-30105
- Controlled in situ etch-back  
[NASA-CASE-NPO-15625-1] c 76 N83-20789
- Apparatus and method for heating a material in a transparent ampoule --- crystal growth  
[NASA-CASE-MFS-25436-1] c 27 N83-36220
- Process and apparatus for growing a crystal ribbon  
[NASA-CASE-NPO-15629-1] c 76 N84-35113
- Ribbon growing method and apparatus  
[NASA-CASE-NPO-16306-1-CU] c 76 N85-30934
- Containerless high purity pulling process and apparatus for glass fiber  
[NASA-CASE-MFS-25905-2] c 31 N86-21718
- High-temperature, high-pressure optical cell  
[NASA-CASE-MFS-26000-1] c 74 N87-14971
- Total immersion crystal growth  
[NASA-CASE-NPO-15800-2] c 76 N87-23286
- MEMBRANE STRUCTURES**
- Liquid junction and method of fabricating the same  
Patent Application  
[NASA-CASE-NPO-10682] c 15 N70-34699
- Measuring device Patent  
[NASA-CASE-XMS-01546] c 14 N70-40233

- Flexible composite membrane Patent  
[NASA-CASE-XNP-08837] c 18 N71-16210
- Fluid impervious barrier including liquid metal alloy and method of making same Patent  
[NASA-CASE-XNP-08881] c 17 N71-28747
- Meteoroid capture cell construction  
[NASA-CASE-MSC-12423-1] c 91 N76-30131
- Strong thin membrane structure --- solar sails  
[NASA-CASE-NPO-14021-2] c 27 N80-16163
- In-situ cross linking of polyvinyl alcohol --- application to battery separator films  
[NASA-CASE-LEW-13135-2] c 27 N81-24257
- Separator for alkaline batteries and method of making same  
[NASA-CASE-GSC-10350-1] c 44 N82-24642
- Separator for alkaline electric batteries and method of making  
[NASA-CASE-GSC-10018-1] c 44 N82-24644

**MEMBRANES**

- Apparatus for measuring swelling characteristics of membranes  
[NASA-CASE-XGS-03865] c 14 N69-21363
- Mixture separation cell Patent  
[NASA-CASE-XMS-02952] c 18 N71-20742
- Ionene membrane separator  
[NASA-CASE-NPO-11091] c 18 N72-22567
- Dual membrane hollow fiber fuel cell and method of operating same  
[NASA-CASE-NPO-13732-1] c 44 N79-10513
- Microelectrophoretic apparatus and process  
[NASA-CASE-ARC-11121-1] c 25 N79-14169
- Dialysis system --- using ion exchange resin membranes permeable to urea molecules  
[NASA-CASE-NPO-14101-1] c 52 N80-14687
- Reverse osmosis membrane of high urea rejection properties --- water purification  
[NASA-CASE-ARC-10980-1] c 27 N80-23452
- Membrane consisting of polyquaternary amine ion exchange polymer network interpenetrating the chains of thermoplastic matrix polymer  
[NASA-CASE-NPO-14001-1] c 27 N81-14076
- Air removal device --- life support systems  
[NASA-CASE-XLA-08914-2] c 25 N82-21269
- Process of treating cellulosic membrane and alkaline with membrane separator  
[NASA-CASE-GSC-10019-1] c 44 N82-24641
- Aqueous alkali metal hydroxide insoluble cellulose ether membrane  
[NASA-CASE-XGS-05584-1] c 25 N82-29370
- Optical fiber tactile sensor  
[NASA-CASE-NPO-15375-1] c 74 N84-11921
- Method for the preparation of thin-skinned asymmetric reverse osmosis membranes and products thereof  
[NASA-CASE-ARC-11359-1] c 51 N84-28361
- Method of forming dynamic membrane on stainless steel support  
[NASA-CASE-MSC-18172-3] c 31 N88-29052

**MEMORY**

- Method for making conductors for ferrite memory arrays --- from pre-formed metal conductors  
[NASA-CASE-LAR-10994-1] c 24 N75-13032
- Thermocouple for heating and cooling of memory metal actuators  
[NASA-CASE-NPO-17068-1-CU] c 35 N88-29151

**MEMORY (COMPUTERS)**

- Automatic multi-banking of memory for microprocessors  
[NASA-CASE-NPO-15295-1] c 60 N85-21992
- Real-time garbage collection for list processing  
[NASA-CASE-MSC-20964-1] c 60 N87-14863
- Hybrid analog-digital associative neural network  
[NASA-CASE-NPO-17058-1-CU] c 62 N87-25803
- A method of up-front load balancing for local memory parallel processors  
[NASA-CASE-MSC-21348-1] c 62 N89-24084

**MERCURY (METAL)**

- Mercury capillary interrupter Patent  
[NASA-CASE-XNP-02251] c 12 N71-20896
- Method of forming ceramic to metal seal Patent  
[NASA-CASE-XNP-01263-2] c 15 N71-26312
- Feed system for an ion thruster  
[NASA-CASE-NPO-10737] c 28 N72-11709

**MERCURY VAPOR**

- Mercury capillary interrupter Patent  
[NASA-CASE-XNP-02251] c 12 N71-20896
- Rotating shaft seal Patent  
[NASA-CASE-XNP-02862-1] c 15 N71-26294

**MESSAGE PROCESSING**

- Method for Viterbi decoding of large constraint length convolutional codes  
[NASA-CASE-NPO-17310-1-CU] c 17 N88-28946

**METABOLIC WASTES**

- Cooling system for removing metabolic heat from an hermetically sealed spacesuit  
[NASA-CASE-ARC-11059-1] c 54 N78-32721

- Method and automated apparatus for detecting coliform organisms  
[NASA-CASE-MSC-16777-1] c 51 N80-27067

**METABOLISM**

- Automated analysis of oxidative metabolites  
[NASA-CASE-ARC-10469-1] c 25 N75-12086
- Process for control of cell division  
[NASA-CASE-LAR-10773-3] c 51 N77-25769
- Metabolic rate meter and method  
[NASA-CASE-MSC-12239-1] c 52 N79-21750

**METAL BONDING**

- Bonding thermoelectric elements to nonmagnetic refractory metal electrodes  
[NASA-CASE-XGS-04554] c 15 N69-39786
- Method of making a diffusion bonded refractory coating Patent  
[NASA-CASE-XLE-01604-2] c 15 N71-15610
- Metal valve pintle with encapsulated elastomeric body Patent  
[NASA-CASE-MSC-12116-1] c 15 N71-17648
- Apparatus for the determination of the existence or non-existence of a bonding between two members Patent  
[NASA-CASE-MFS-13686] c 15 N71-18132
- Soldering with solder flux which leaves corrosion resistant coating Patent  
[NASA-CASE-XNP-03459] c 15 N71-21078
- Bonded elastomeric seal for electrochemical cells Patent  
[NASA-CASE-XGS-02631] c 03 N71-23006
- Silicon solar cell with cover glass bonded to cell by metal pattern Patent  
[NASA-CASE-XLE-08569] c 03 N71-23449
- Positive contact resistance soldering unit  
[NASA-CASE-KSC-10242] c 15 N72-23497
- Bonding or repairing process  
[NASA-CASE-MSC-12357] c 15 N73-12489
- Totally confined explosive welding --- apparatus to reduce noise level and protect personnel during explosive bonding  
[NASA-CASE-LAR-10941-1] c 37 N74-21057
- Ultrasonically bonded valve assembly  
[NASA-CASE-NPO-13360-1] c 37 N75-25185
- Bimetallic junctions  
[NASA-CASE-LEW-11573-1] c 26 N77-28265
- Heat exchanger and method of making --- bonding rocket chambers with a porous metal matrix  
[NASA-CASE-LEW-12441-1] c 34 N79-13289
- Totally confined explosive welding  
[NASA-CASE-LAR-10941-2] c 37 N79-13364
- Method and apparatus for holding two separate metal pieces together for welding  
[NASA-CASE-GSC-12318-1] c 37 N80-23655
- Heat exchanger and method of making --- rocket lining  
[NASA-CASE-LEW-12441-2] c 34 N80-24573
- Aluminum ion-containing polyimide adhesives  
[NASA-CASE-LAR-12640-1] c 27 N82-11206
- Thermal barrier coating system having improved adhesion  
[NASA-CASE-LEW-1335901] c 27 N83-31855
- Impacting device for testing insulation  
[NASA-CASE-MFS-25862-2] c 37 N84-33807
- Method of coating a substrate with a rapidly solidified metal  
[NASA-CASE-GSC-12880-1] c 26 N86-32550
- Composite piston  
[NASA-CASE-LAR-13435-1] c 37 N88-23981
- METAL COATINGS**
- Method of joining aluminum to stainless steel Patent  
[NASA-CASE-MFS-07369] c 15 N71-20443
- Soldering with solder flux which leaves corrosion resistant coating Patent  
[NASA-CASE-XNP-03459] c 15 N71-21078
- Thermal control coating Patent  
[NASA-CASE-XLA-01995] c 18 N71-23047
- Trialkyl-dihalotantalum and niobium compounds Patent  
[NASA-CASE-XNP-04023] c 06 N71-28808
- Silicide coatings for refractory metals Patent  
[NASA-CASE-XLE-10910] c 18 N71-29040
- Selective nickel deposition  
[NASA-CASE-LEW-10965-1] c 15 N72-25452
- Wide temperature range electronic device with lead attachment  
[NASA-CASE-ERC-10224-2] c 09 N73-27150
- Panel for selectively absorbing solar thermal energy and the method of producing said panel  
[NASA-CASE-MFS-22562-1] c 44 N76-14595
- Ultraviolet light reflective coating  
[NASA-CASE-GSC-11786-1] c 24 N76-24363
- Metallic hot wire anemometer --- for high speed wind tunnel tests  
[NASA-CASE-ARC-10911-1] c 35 N77-20400
- Solar cell collector  
[NASA-CASE-LEW-12552-1] c 44 N78-25527



Electromagnetic radiation energy arrangement --- coatings for solar energy absorption and infrared reflection  
[NASA-CASE-WOO-00428-1] c 32 N79-19186

Electrodes for solid state devices  
[NASA-CASE-NPO-15161-1] c 33 N84-16456

Corrosion resistant coating  
[NASA-CASE-NPO-15928-1] c 26 N85-29005

Method of coating a substrate with a rapidly solidified metal  
[NASA-CASE-GSC-12880-1] c 26 N86-32550

Nickel base coating alloy  
[NASA-CASE-LEW-13834-1] c 26 N87-14482

Seamless metal-clad fiber-reinforced organic matrix composite structures and process for their manufacture  
[NASA-CASE-LAR-13562-1] c 24 N87-18613

Method for forming hermetic seals  
[NASA-CASE-NPO-16423-1-CU] c 37 N87-21334

**METAL COMPOUNDS**  
Phthalocyanine polymers  
[NASA-CASE-ARC-11413-1] c 27 N85-21348

**METAL CUTTING**  
Metal shearing energy absorber  
[NASA-CASE-HQN-10638-1] c 15 N73-30460

Vee-notching device --- with adjustable carriage  
[NASA-CASE-MFS-20730-1] c 39 N74-13131

Hole cutter --- drill bits and rotating shaft  
[NASA-CASE-MFS-22649-1] c 37 N75-25186

Method and tool for machining a transverse slot about a bore  
[NASA-CASE-LAR-11855-1] c 37 N81-14319

**METAL FATIGUE**  
Method for alleviating thermal stress damage in laminates  
[NASA-CASE-LEW-12493-2] c 24 N81-26179

**METAL FIBERS**  
Lightweight electrically-powered flexible thermal laminate --- made of metal and nonconductive yarns  
[NASA-CASE-MSC-12662-1] c 33 N79-12331

**METAL FILMS**  
Means and methods of depositing thin films on substrates Patent  
[NASA-CASE-XNP-00595] c 15 N70-34967

Metallic film diffusion for boundary lubrication Patent  
[NASA-CASE-XLE-01765] c 18 N71-10772

Bismuth-lead coatings for gas bearings used in atmospheric environments and vacuum chambers Patent  
[NASA-CASE-XGS-02011] c 15 N71-20739

Metallic film diffusion for boundary lubrication Patent  
[NASA-CASE-XLE-10337] c 15 N71-24046

Magnetic recording head and method of making same Patent  
[NASA-CASE-GSC-10097-1] c 08 N71-27210

Light regulator  
[NASA-CASE-LAR-10836-1] c 26 N72-27784

Deposition of alloy films --- on irregularly shaped metal object  
[NASA-CASE-LEW-11262-1] c 27 N74-13270

Multitarget sequential sputtering apparatus  
[NASA-CASE-NPO-13345-1] c 37 N75-19684

Method of forming metal hydride films  
[NASA-CASE-LEW-12083-1] c 37 N78-13436

Thin film strain transducer  
[NASA-CASE-WLP-10055-1] c 35 N84-28015

Fire blocking systems for aircraft seat cushions  
[NASA-CASE-ARC-11423-1] c 03 N84-33394

Glass heating panels and method for preparing the same from architectural reflective glass  
[NASA-CASE-NPO-15753-1] c 27 N84-33589

Method for forming hermetic seals  
[NASA-CASE-NPO-16423-1-CU] c 37 N87-21334

**METAL FINISHING**  
Selective plating of etched circuits without removing previous plating Patent  
[NASA-CASE-XGS-03120] c 15 N71-24047

Surface finishing --- for aircraft wings  
[NASA-CASE-MSC-12631-1] c 24 N77-28225

**METAL FOILS**  
Folding apparatus Patent  
[NASA-CASE-XLA-00137] c 15 N70-33180

Thermal control of space vehicles Patent  
[NASA-CASE-XLA-01291] c 33 N70-36617

Thermal radiation shielding Patent  
[NASA-CASE-XLE-03432] c 33 N71-24145

Method of making porous conductive supports for electrodes --- by electroforming and stacking nickel foils  
[NASA-CASE-GSC-11367-1] c 44 N74-19692

Method and apparatus for tensile testing of metal foil  
[NASA-CASE-LAR-10208-1] c 35 N76-18400

Hot foil transducer skin friction sensor  
[NASA-CASE-LAR-12321-1] c 35 N82-24470

**METAL FUELS**  
Preparing oxidizer coated metal fuel particles  
[NASA-CASE-NPO-11975-1] c 28 N74-33209

**METAL HALIDES**

Process for making anhydrous metal halides  
[NASA-CASE-LEW-11860-1] c 37 N76-18458

Direct current ballast circuit for metal halide lamp  
[NASA-CASE-MSC-18407-1] c 33 N82-24427

High power metallic halide laser --- amplifying a copper chloride laser  
[NASA-CASE-NPO-14782-1] c 36 N82-28616

Method and apparatus for convection control of metallic halide vapor density in a metallic halide laser  
[NASA-CASE-NPO-15021-1] c 36 N83-10417

**METAL HYDRIDES**

Method of forming metal hydride films  
[NASA-CASE-LEW-12083-1] c 37 N78-13436

**METAL IONS**

Metal containing polymers from cyclic tetrameric phenylphosphonitridamides Patent  
[NASA-CASE-HQN-10364] c 06 N71-27363

Aluminum ion-containing polyimide adhesives  
[NASA-CASE-LAR-12640-1] c 27 N82-11206

Process for improving mechanical properties of epoxy resins by addition of cobalt ions  
[NASA-CASE-LAR-12320-1] c 24 N84-34571

**METAL JOINTS**

Cryogenic connector for vacuum use Patent  
[NASA-CASE-XGS-02441] c 15 N70-41629

Mechanical bonding of metal method  
[NASA-CASE-LEW-12941-1] c 26 N83-10170

X-ray determination of parts alignment  
[NASA-CASE-MSC-20418-1] c 74 N86-20126

**METAL MATRIX COMPOSITES**

Reinforced metallic composites Patent  
[NASA-CASE-XLE-02428] c 17 N70-33288

Process for producing dispersion strengthened nickel with aluminum Patent  
[NASA-CASE-XLE-06969] c 17 N71-24142

Self-lubricating gears and other mechanical parts Patent  
[NASA-CASE-MFS-14971] c 15 N71-24984

Refractory metal base alloy composites  
[NASA-CASE-XLE-03940-2] c 17 N72-28536

Method of preparing graphite reinforced aluminum composite  
[NASA-CASE-MFS-21077-1] c 24 N75-28135

Method of making reinforced composite structure  
[NASA-CASE-LEW-12619-1] c 24 N77-19171

Heat exchanger and method of making --- bonding rocket chambers with a porous metal matrix  
[NASA-CASE-LEW-12441-1] c 34 N79-13289

Preparation of monotectic alloys having a controlled microstructure by directional solidification under dopant-induced interface breakdown  
[NASA-CASE-MFS-23816-1] c 26 N80-23419

Heat exchanger and method of making --- rocket lining  
[NASA-CASE-LEW-12441-2] c 34 N80-24573

Method for alleviating thermal stress damage in laminates --- metal matrix composites  
[NASA-CASE-LEW-12493-1] c 24 N81-17170

Method for alleviating thermal stress damage in laminates  
[NASA-CASE-LEW-12493-2] c 24 N81-26179

Fuselage structure using advanced technology fiber reinforced composites  
[NASA-CASE-LAR-11688-1] c 24 N82-26384

Metal matrix composite structural panel construction  
[NASA-CASE-LAR-12807-1] c 24 N84-11214

Arc spray fabrication of metal matrix composite monolayer  
[NASA-CASE-LEW-13828-1] c 24 N85-30027

Seamless metal-clad fiber-reinforced organic matrix composite structures and process for their manufacture  
[NASA-CASE-LAR-13562-1] c 24 N87-18613

**METAL OXIDE SEMICONDUCTORS**

Gyrator employing field effect transistors  
[NASA-CASE-MFS-21433] c 09 N73-20232

Radiation hardening of MOS devices by boron --- for stabilizing gate threshold potential of field effect device  
[NASA-CASE-GSC-11425-1] c 76 N74-20329

Integrated P-channel MOS gyrator  
[NASA-CASE-MFS-22343-1] c 33 N74-34638

Radiation hardening of MOS devices by boron --- for stabilizing gate threshold potential  
[NASA-CASE-GSC-11425-2] c 76 N75-25730

Solar cell collector  
[NASA-CASE-LEW-12552-1] c 44 N78-25527

Multilevel metallization method for fabricating a metal oxide semiconductor device  
[NASA-CASE-MFS-23541-1] c 76 N79-14906

Method of making V-MOS field effect transistors utilizing a two-step anisotropic etching and ion implantation  
[NASA-CASE-GSC-12515-1] c 33 N81-26360

Schottky barrier solar cell  
[NASA-CASE-NPO-13689-2] c 44 N81-29525

High voltage v-groove solar cell  
[NASA-CASE-LEW-13401-2] c 44 N83-32177

GaAs Schottky barrier photo-responsive device and method of fabrication  
[NASA-CASE-GSC-12816-1] c 76 N86-20150

Integrated photo-responsive metal oxide semiconductor circuit  
[NASA-CASE-GSC-12782-1] c 33 N88-14271

**METAL OXIDES**

Process for producing dispersion strengthened nickel with aluminum Patent  
[NASA-CASE-XLE-06969] c 17 N71-24142

Photoetching of metal-oxide layers  
[NASA-CASE-ERC-10108] c 06 N72-21094

Production of metal powders  
[NASA-CASE-XLE-06461] c 17 N72-22530

Method for obtaining oxygen from lunar or similar soil  
[NASA-CASE-MSC-12408-1] c 46 N74-13011

Method for depositing an oxide coating  
[NASA-CASE-LEW-13131-1] c 44 N83-10494

Method of forming oxide coatings --- for solar collector heating panels  
[NASA-CASE-LEW-13132-1] c 27 N83-29388

Absorbable-susceptor joining of ceramic surfaces  
[NASA-CASE-NPO-15640-1] c 27 N84-22748

Thermal barrier coating system  
[NASA-CASE-LEW-13324-2] c 24 N85-21266

Apparatus for producing oxidation protection coatings for polymers  
[NASA-CASE-LEW-14072-2] c 27 N86-32569

Oxidation protection coatings for polymers  
[NASA-CASE-LEW-14072-3] c 27 N87-23736

**METAL PARTICLES**

Slug flow magnetohydrodynamic generator  
[NASA-CASE-XLE-02083] c 03 N69-39983

Method of making a cermet Patent  
[NASA-CASE-LEW-10219-1] c 18 N71-28729

Preparing oxidizer coated metal fuel particles  
[NASA-CASE-NPO-11975-1] c 28 N74-33209

**METAL PLATES**

Detector panels-micrometeoroid impact Patent  
[NASA-CASE-XLA-05906] c 31 N71-16221

Nuclear fuel elements  
[NASA-CASE-XLE-00209] c 22 N73-32528

Strain arrestor plate for fused silica tile --- bonding of thermal insulation to metallic plates or structural parts  
[NASA-CASE-MSC-14182-1] c 27 N76-14264

Heat treat fixture and method of heat treating  
[NASA-CASE-LAR-11821-1] c 26 N80-28492

Multicolor printing plate joining  
[NASA-CASE-LEW-13598-1] c 35 N84-22930

High effectiveness contour matching contact heat exchanger  
[NASA-CASE-MSC-20840-1] c 34 N88-29132

**METAL POWDER**

Method of producing refractory bodies having controlled porosity Patent  
[NASA-CASE-LEW-10393-1] c 17 N71-15468

Sealing member and combination thereof and method of producing said sealing member Patent  
[NASA-CASE-XMS-01625] c 15 N71-23022

Shock tube powder dispersing apparatus Patent  
[NASA-CASE-XLE-04946] c 17 N71-24911

Preparation of high purity copper fluoride  
[NASA-CASE-LEW-10794-1] c 06 N72-17093

Production of metal powders  
[NASA-CASE-XLE-06461] c 17 N72-22530

Apparatus for producing metal powders  
[NASA-CASE-XLE-06461-2] c 17 N72-28535

Peen plating  
[NASA-CASE-GSC-11163-1] c 15 N73-32360

Electrodes for solid state devices  
[NASA-CASE-NPO-15161-1] c 33 N84-16456

**METAL SHEETS**

Light shield and infrared reflector for fatigue testing Patent  
[NASA-CASE-XLA-01782] c 14 N71-26136

Method of making pressure tight seal for super alloy  
[NASA-CASE-LAR-10170-1] c 37 N74-11301

Method of making an explosively welded scarf joint  
[NASA-CASE-LAR-11211-1] c 37 N75-12326

Process for making sheets with parallel pores of uniform size  
[NASA-CASE-GSC-10984-1] c 37 N75-26371

Apparatus for welding sheet material --- butt joints  
[NASA-CASE-XMS-01330] c 37 N75-27376

Method of bonding plasticized elastomer to metal and articles produced thereby  
[NASA-CASE-MFS-25181-1] c 27 N82-24340

Curved cap corrugated sheet  
[NASA-CASE-LAR-12884-1] c 18 N84-33450

**METAL SHELLS**

Shell tile thermal protection system  
[NASA-CASE-LAR-12862-1] c 27 N84-27886

**METAL SPINNING**

Spin forming tubular elbows Patent  
[NASA-CASE-XMF-01083] c 15 N71-22723



**METAL SPRAYING**

Method of coating a substrate with a rapidly solidified metal  
[NASA-CASE-GSC-12880-1] c 26 N86-32550

**METAL STRIPS**

Formed metal ribbon wrap Patent  
[NASA-CASE-XLE-00164] c 15 N70-36411  
Interconnection of solar cells Patent  
[NASA-CASE-XGS-01475] c 03 N71-11058  
Method of making tubes Patent  
[NASA-CASE-XGS-04175] c 15 N71-18579  
High speed shutter --- electrically actuated ribbon loop for shuttering optical or fluid passageways  
[NASA-CASE-ARC-10516-1] c 70 N74-21300  
Method for maintaining precise suction strip porosities  
[NASA-CASE-LAR-13638-1] c 31 N88-29051

**METAL SURFACES**

Condenser - Separator  
[NASA-CASE-XLA-08645] c 15 N69-21465  
Plating nickel on aluminum castings Patent  
[NASA-CASE-XNP-04148] c 17 N71-24830  
Process for applying black coating to metals Patent  
[NASA-CASE-XLA-06199] c 15 N71-24875  
Process for reducing secondary electron emission Patent  
[NASA-CASE-XNP-09469] c 24 N71-25555  
Method of forming ceramic to metal seal Patent  
[NASA-CASE-XNP-01263-2] c 15 N71-26312  
Temperature reducing coating for metals subject to flame exposure Patent  
[NASA-CASE-XLE-00035] c 33 N71-29151  
Thin film gauge --- for measuring convective heat transfer rates along test surfaces in wind tunnels  
[NASA-CASE-NPO-10617-1] c 35 N74-22095  
Surface finishing  
[NASA-CASE-MS-C-12631-3] c 27 N81-14077  
Improved refractory coatings --- sputtered coatings on substrates that form stable nitrides  
[NASA-CASE-LEW-23169-2] c 26 N81-16209  
Method of cold welding using ion beam technology  
[NASA-CASE-LEW-12982-1] c 37 N81-19455  
Corrosion resistant thermal barrier coating --- protecting gas turbines and other engine parts  
[NASA-CASE-LEW-13088-1] c 26 N81-25188  
Coating with overlay metallic-cermet alloy systems  
[NASA-CASE-LEW-13639-2] c 26 N84-27855  
Method for forming hermetic seals  
[NASA-CASE-NPO-16423-1-CU] c 37 N87-21334  
Ion-beam nitriding of steels  
[NASA-CASE-LEW-14104-2] c 26 N88-14179  
Arc-textured high emittance radiator surfaces  
[NASA-CASE-LEW-14679-1] c 27 N89-28651

**METAL VAPOR LASERS**

High power metallic halide laser --- amplifying a copper chloride laser  
[NASA-CASE-NPO-14782-1] c 36 N82-28616  
Method and apparatus for convection control of metallic halide vapor density in a metallic halide laser  
[NASA-CASE-NPO-15021-1] c 36 N83-10417

**METAL VAPORS**

Slug flow magnetohydrodynamic generator  
[NASA-CASE-XLE-02083] c 03 N69-39983  
Apparatus for making a metal slurry product Patent  
[NASA-CASE-XLE-00010] c 15 N70-33382  
Inert gas metallic vapor laser  
[NASA-CASE-NPO-13449-1] c 36 N75-32441  
Isotope separation using metallic vapor lasers  
[NASA-CASE-NPO-13550-1] c 36 N77-26477

**METAL WORKING**

Electric arc welding Patent  
[NASA-CASE-XMF-00392] c 15 N70-34814  
Method and apparatus for precision sizing and joining of large diameter tubes Patent  
[NASA-CASE-XMF-05114] c 15 N71-17650  
Protective device for machine and metalworking tools Patent  
[NASA-CASE-XLE-01092] c 15 N71-22797  
Portable milling tool Patent  
[NASA-CASE-XMF-03511] c 15 N71-22799  
Extrusion die for refractory metals Patent  
[NASA-CASE-XLE-06773] c 15 N71-23817  
Magnetomotive metal working device Patent  
[NASA-CASE-XMF-03793] c 15 N71-24833  
Method and apparatus for precision sizing and joining of large diameter tubes Patent  
[NASA-CASE-XMF-05114-3] c 15 N71-24865  
Insert facing tool --- manually operated cutting tool for forming studs in honeycomb material  
[NASA-CASE-MFS-21485-1] c 37 N74-25968  
Apparatus for forming dished ion thruster grids  
[NASA-CASE-LEW-11694-2] c 37 N76-14461  
Holding fixture for a hot stamping press  
[NASA-CASE-GSC-12619-1] c 37 N84-12491

**METAL-METAL BONDING**

Method of joining aluminum to stainless steel Patent  
[NASA-CASE-MFS-07369] c 15 N71-20443

Honeycomb panel and method of making same Patent  
[NASA-CASE-XMF-01402] c 18 N71-21651

Capillary flow weld-bonding  
[NASA-CASE-LAR-11726-1] c 37 N76-27568  
Method of cold welding using ion beam technology  
[NASA-CASE-LEW-12982-1] c 37 N81-19455  
Mechanical bonding of metal method  
[NASA-CASE-LEW-12941-1] c 26 N83-10170  
Joining lead wires to thin platinum alloy films  
[NASA-CASE-LEW-13934-1] c 35 N83-35338

**METALLIC GLASSES**

Glass compositions with a high modulus of elasticity --- nontoxic glass fibers  
[NASA-CASE-HQN-10274-1] c 27 N82-29451  
High modulus invert analog glass compositions containing beryllia  
[NASA-CASE-HQN-10931-2] c 27 N82-29452

**METALLIZING**

Multilevel metallization method for fabricating a metal oxide semiconductor device  
[NASA-CASE-MFS-23541-1] c 76 N79-14906  
Overlay metallic-cermet alloy coating systems  
[NASA-CASE-LEW-13639-1] c 26 N84-33555  
Method of coating a substrate with a rapidly solidified metal  
[NASA-CASE-GSC-12880-1] c 26 N86-32550

**METALLOGRAPHY**

Method for etching copper Patent  
[NASA-CASE-XGS-06306] c 17 N71-16044

**METALLOSILOXANE POLYMER**

Thiophenyl ether disiloxanes and trisiloxanes useful as lubricant fluids  
[NASA-CASE-MFS-22411-1] c 37 N74-21058

**METALLURGY**

Induction furnace with perforated tungsten foil shielding Patent  
[NASA-CASE-XLE-04026] c 14 N71-23267  
Method of purifying metallurgical grade silicon employing reduced pressure atmospheric control  
[NASA-CASE-NPO-14474-1] c 26 N80-14229

**METALS**

Transpiration cooled turbine blade manufactured from wires Patent  
[NASA-CASE-XLE-00020] c 15 N70-33226  
Self-lubricating fluoride metal composite materials Patent  
[NASA-CASE-XLE-08511] c 18 N71-23710  
Convoluting device for forming convolutions and the like Patent  
[NASA-CASE-XNP-05297] c 15 N71-23811  
Forming tool for ribbon or wire  
[NASA-CASE-XLA-05966] c 15 N72-12408  
Peen plating  
[NASA-CASE-GSC-11163-1] c 15 N73-32360  
Glass-to-metal seals comprising relatively high expansion metals  
[NASA-CASE-LEW-10698-1] c 37 N74-21063  
Scanning nozzle plating system --- for etching or plating metals on substrates without masking  
[NASA-CASE-NPO-11758-1] c 31 N74-23065  
Production of pure metals  
[NASA-CASE-LEW-10906-1] c 25 N74-30502  
Thermocouple tape --- developed from thermoelectrically different metals  
[NASA-CASE-LEW-11072-2] c 35 N76-15434  
Method of forming shrink-fit compression seal  
[NASA-CASE-LAR-11563-1] c 37 N77-23482  
Solar cells having integral collector grids  
[NASA-CASE-LEW-12819-1] c 44 N79-11467  
Metal phthalocyanine polymers  
[NASA-CASE-ARC-11405-1] c 27 N84-27884  
Insulation bonding test system  
[NASA-CASE-MFS-25862-1] c 27 N85-20126  
Device and method for frictionally testing materials for ignitability  
[NASA-CASE-MS-C-20622-1] c 25 N86-19413  
Metal phthalocyanine intermediates for the preparation of polymers  
[NASA-CASE-ARC-11405-2] c 27 N86-19455  
Method and apparatus for rebalancing a REDOX flow cell system  
[NASA-CASE-LEW-14127-1] c 33 N86-20680  
Thermocouple for heating and cooling of memory metal actuators  
[NASA-CASE-NPO-17068-1-CU] c 35 N88-29151

**METASTABLE STATE**

Stabilization of He<sub>2</sub>(a 3 Sigma u+ molecules in liquid helium by optical pumping for vacuum UV laser  
[NASA-CASE-NPO-13993-1] c 72 N79-13826  
Modulated voltage metastable ionization detector  
[NASA-CASE-ARC-11503-1] c 35 N85-34374

**METEORITE COLLISIONS**

Pressurized panel  
[NASA-CASE-XLA-08916-2] c 14 N73-28487

Method of and device for determining the characteristics and flux distribution of micrometeorites --- scanning puncture holes in sheet material with photoelectric cell  
[NASA-CASE-NPO-12127-1] c 91 N74-13130

**METEORITES**

Method of making pressurized panel Patent  
[NASA-CASE-XLA-08916] c 15 N71-29018

**METEORITIC DAMAGE**

Meteoroid sensing apparatus having a coincidence network connected to a pair of capacitors Patent  
[NASA-CASE-XLE-01246] c 14 N71-10797

**METEOROID HAZARDS**

Meteoroid impact position locator aid for manned space station  
[NASA-CASE-LAR-10629-1] c 35 N75-33367

**METEOROID PROTECTION**

Aerodynamic protection for space flight vehicles Patent  
[NASA-CASE-XNP-02507] c 31 N71-17679

**METEORIODS**

Apparatus for photographing meteors  
[NASA-CASE-LAR-10226-1] c 14 N73-19419  
Meteoroid capture cell construction  
[NASA-CASE-MS-C-12423-1] c 91 N76-30131

**METEOROLOGICAL BALLOONS**

Meteorological balloon Patent  
[NASA-CASE-XMF-04163] c 02 N71-23007

**METHANE**

Gas lubricant compositions Patent  
[NASA-CASE-XLE-00353] c 18 N70-39897  
Portable remote laser sensor for methane leak detection  
[NASA-CASE-NPO-15790-1] c 36 N85-21631

**METHYL ALCOHOL**

Supercritical multicomponent solvent coal extractor  
[NASA-CASE-NPO-15767-1] c 23 N84-16255

**METHYL COMPOUNDS**

Process for producing tris (n-methylamino) methylsilane  
[NASA-CASE-MFS-25721-1] c 25 N85-21280  
Polymer of phosphonylmethyl-2,4- and -2,6-diamine benzene and polyfunctional monomer  
[NASA-CASE-ARC-11506-2] c 23 N86-32525

**METHYLENE**

Carboranyl-methylene-substituted phosphazenes and polymers thereof  
[NASA-CASE-ARC-11370-1] c 27 N84-22750  
Process for crosslinking methylene-containing aromatic polymers with ionizing radiation  
[NASA-CASE-LAR-13448-1] c 27 N86-24840

**MICHELSON INTERFEROMETERS**

Interferometer direction sensor Patent  
[NASA-CASE-NPO-10320] c 14 N71-17655  
Interferometer servo system Patent  
[NASA-CASE-NPO-10300] c 14 N71-17662  
Multispectral imaging system  
[NASA-CASE-MS-C-12404-1] c 23 N73-13661  
Interferometer mirror tilt correcting system  
[NASA-CASE-NPO-13687-1] c 35 N78-18391

**MICROANALYSIS**

Plural output optometric sample cell and analysis system  
[NASA-CASE-NPO-10233-1] c 74 N78-33913

**MICROBALANCES**

Null-type vacuum microbalance Patent  
[NASA-CASE-XAC-00472] c 15 N70-40180  
Microbalance --- for measuring particle mass  
[NASA-CASE-MS-C-11242] c 35 N78-17358

**MICROBALLOONS**

Method of forming frozen spheres in a force-free drop tower  
[NASA-CASE-NPO-14845-1] c 27 N82-28442

**MICROBIOLOGY**

Variable angle tube holder  
[NASA-CASE-LAR-10507-1] c 11 N72-25284  
Apparatus for microbiological sampling --- including automatic swabbing  
[NASA-CASE-LAR-11069-1] c 35 N75-12272  
Automatic inoculating apparatus --- includes movable carriage, drive motor, and swabbing motor  
[NASA-CASE-LAR-11074-1] c 51 N75-13502  
Automatic microbial transfer device  
[NASA-CASE-LAR-11354-1] c 35 N75-27330  
Application of luciferase assay for ATP to antimicrobial drug susceptibility  
[NASA-CASE-GSC-12039-1] c 51 N77-22794  
Electrochemical detection device --- for use in microbiology  
[NASA-CASE-LAR-11922-1] c 25 N79-24073  
Indirect microbial detection  
[NASA-CASE-LAR-12520-1] c 51 N81-28698

**MICROCHANNELS**  
Low intensity X-ray and gamma-ray spectrometer  
[NASA-CASE-GSC-12587-1] c 35 N82-32659

**MICROCRACKS**

- System for detecting substructure microfractures and method therefore  
[NASA-CASE-NPO-14192-1] c 39 N80-10507
- Laser surface fusion of plasma sprayed ceramic turbine seals  
[NASA-CASE-LEW-13269-1] c 18 N83-20996

**MICROELECTRONICS**

- Apparatus and method for separating a semiconductor wafer Patent  
[NASA-CASE-ERC-10138] c 26 N71-14354
- Vibrophonocardiograph Patent  
[NASA-CASE-XFR-07172] c 05 N71-27234
- Microelectronic module package Patent  
[NASA-CASE-XMS-02182] c 10 N71-28783
- Method of coating through-holes Patent  
[NASA-CASE-XMF-05999] c 15 N71-29032
- Microcircuit negative cutter  
[NASA-CASE-XLA-09843] c 15 N72-27485
- Screened circuit capacitors  
[NASA-CASE-LAR-10294-1] c 26 N72-28762
- Active tuned circuit  
[NASA-CASE-GSC-11340-1] c 10 N72-33230
- Automatic visual inspection system for microelectronics  
[NASA-CASE-NPO-13282] c 38 N78-17396
- Method and apparatus for fabricating improved solar cell modules  
[NASA-CASE-NPO-14416-1] c 44 N81-14389
- Method of making a high voltage V-groove solar cell  
[NASA-CASE-LEW-13401-1] c 44 N82-29709
- Method for sequentially processing a multi-level interconnect circuit in a vacuum chamber  
[NASA-CASE-MFS-15670-1] c 33 N82-33634
- Method for sequentially processing a multi-level interconnect circuit in a vacuum chamber  
[NASA-CASE-MFS-256704-1] c 33 N84-22884

**MICROFIBERS**

- Small conductive particle sensor --- microfiber size determination  
[NASA-CASE-LAR-12552-1] c 35 N82-11431

**MICROFILMS**

- Apparatus for inspecting microfilm Patent  
[NASA-CASE-MFS-20240] c 14 N71-26788

**MICROGRAVITY APPLICATIONS**

- Spiral vane bioreactor  
[NASA-CASE-MS-C-21361-1] c 51 N89-25557

**MICROINSTRUMENTATION**

- Apparatus for handling micron size range particulate material  
[NASA-CASE-NPO-10151] c 37 N78-17386

**MICROMETEORITES**

- Method of and device for determining the characteristics and flux distribution of micrometeorites --- scanning puncture holes in sheet material with photoelectric cell  
[NASA-CASE-NPO-12127-1] c 91 N74-13130
- Micrometeoroid velocity and trajectory analyzer  
[NASA-CASE-GSC-11892-1] c 35 N76-15433

**MICROMETEORIDS**

- Micrometeoroid velocity measuring device Patent  
[NASA-CASE-XLA-00495] c 14 N70-41332
- Force transducer Patent  
[NASA-CASE-XAC-01101] c 14 N70-41957
- Pressurized cell micrometeoroid detector Patent  
[NASA-CASE-XLA-00936] c 14 N71-14996
- Detector panels-micrometeoroid impact Patent  
[NASA-CASE-XLA-05906] c 31 N71-16221
- Rotary bead dropper and selector for testing micrometeorite detectors Patent  
[NASA-CASE-XGS-03304] c 09 N71-22988
- Micrometeoroid penetration measuring device Patent  
[NASA-CASE-XLA-00941] c 14 N71-23240
- Fabric for micrometeoroid protection garment Patent  
[NASA-CASE-MS-C-12109] c 18 N71-26285
- Micrometeoroid analyzer  
[NASA-CASE-ARC-10443-1] c 14 N73-20477
- Meteoroid detector  
[NASA-CASE-LAR-10483-1] c 14 N73-32327
- Deployable pressurized cell structure for a micrometeoroid detector  
[NASA-CASE-LAR-10295-1] c 35 N74-21062
- Semiconductor projectile impact detector  
[NASA-CASE-MFS-23008-1] c 35 N78-18390

**MICROMETERS**

- Apparatus for handling micron size range particulate material  
[NASA-CASE-NPO-10151] c 37 N78-17386

**MICROMINIATURIZATION**

- Compensating radiometer  
[NASA-CASE-XLA-04556] c 14 N69-27484

**MICROORGANISMS**

- Bacteriostatic conformal coating and methods of application Patent  
[NASA-CASE-GSC-10007] c 18 N71-16046
- Vacuum probe surface sampler  
[NASA-CASE-LAR-10623-1] c 14 N73-30395

Measurement of gas production of microorganisms --- using pressure sensors

- [NASA-CASE-LAR-11326-1] c 35 N75-33368
- Biocombustion and particulate detection system  
[NASA-CASE-NPO-13953-1] c 35 N79-28527
- Indirect microbial detection  
[NASA-CASE-LAR-12520-1] c 51 N81-28698
- Apparatus and process for microbial detection and enumeration  
[NASA-CASE-LAR-12709-1] c 35 N82-28604
- Production of butanol by fermentation in the presence of cocultures of clostridium  
[NASA-CASE-NPO-16203-1] c 23 N85-35227

**MICROPARTICLES**

- Micropacked column for a chromatographic system  
[NASA-CASE-XNP-04816] c 06 N69-39936
- Powder fed sheared dispersal particle generator  
[NASA-CASE-LAR-12785-1] c 37 N84-16561

**MICROPHONES**

- Audio signal processor Patent  
[NASA-CASE-MS-C-12223-1] c 07 N71-26181
- Vibrophonocardiograph Patent  
[NASA-CASE-XFR-07172] c 05 N71-27234
- Wind tunnel microphone structure Patent  
[NASA-CASE-XNP-00250] c 11 N71-28779
- High-temperature microphone system --- for measuring pressure fluctuations in gases at high temperature  
[NASA-CASE-LAR-12375-1] c 32 N79-24203
- Adapter for mounting a microphone flush with the external surface of the skin of a pressurized aircraft  
[NASA-CASE-FRC-11072-1] c 05 N83-27975
- Carbon granule probe microphone for leak detection --- recovery boilers  
[NASA-CASE-NPO-16027-1] c 35 N85-21597

**MICROPROCESSORS**

- Microcomputerized electric field meter diagnostic and calibration system  
[NASA-CASE-KSC-11035-1] c 35 N78-28411
- Automatic multi-banking of memory for microprocessors  
[NASA-CASE-NPO-15295-1] c 60 N85-21992

**MICROSCOPES**

- Absolute focus lock for microscopes  
[NASA-CASE-LAR-10184] c 14 N72-22445
- Hand-held photomicroscope  
[NASA-CASE-ARC-10468-1] c 14 N73-33361
- Method of examining microcircuit patterns  
[NASA-CASE-NPO-16299-1] c 33 N87-14594

**MICROSTRIP ANTENNAS**

- Multiple band circularly polarized microstrip antenna  
[NASA-CASE-MS-C-18334-1] c 32 N80-32604
- Cavity-backed, micro-strip dipole antenna array  
[NASA-CASE-MS-C-18606-1] c 32 N82-11336

**MICROSTRIP TRANSMISSION LINES**

- Thin conformal antenna array for microwave power conversions  
[NASA-CASE-NPO-13886-1] c 32 N78-24391
- Cavity-backed, micro-strip dipole antenna array  
[NASA-CASE-MS-C-18606-1] c 32 N82-11336

**MICROSTRUCTURE**

- Method of producing refractory composites containing tantalum carbide, hafnium carbide, and hafnium boride Patent  
[NASA-CASE-XLE-03940] c 18 N71-26153
- Refractory metal base alloy composites  
[NASA-CASE-XLE-03940-2] c 17 N72-28536
- Diffusion welding --- heat treatment of nickel alloys following single step vacuum welding process  
[NASA-CASE-LEW-11388-2] c 37 N74-21055
- Method of determining bond quality of power transistors attached to substrates --- X ray inspection of junction microstructure  
[NASA-CASE-MFS-21931-1] c 37 N75-26372
- Preparation of monotelectic alloys having a controlled microstructure by directional solidification under dopant-induced interface breakdown  
[NASA-CASE-MFS-23816-1] c 26 N80-23419
- Method of making an ion beam sputter-etched ventricular catheter for hydrocephalus shunt  
[NASA-CASE-LEW-13107-2] c 52 N84-23095
- Ion beam sputter etching  
[NASA-CASE-LEW-13899-1] c 31 N87-21160
- High temperature electric arc furnace  
[NASA-CASE-MFS-28281-1] c 09 N88-28938
- MICROTHRUST**
- Annular slit colloid thruster Patent  
[NASA-CASE-GSC-10709-1] c 28 N71-25213
- Heated porous plug microthruster  
[NASA-CASE-GSC-10640-1] c 28 N72-18766
- MICROWAVE AMPLIFIERS**
- Temperature-compensating means for cavity resonator of amplifier Patent  
[NASA-CASE-XNP-00449] c 14 N70-35220
- Resonant isolator for maser amplifier  
[NASA-CASE-NPO-15201-1] c 36 N83-35350

**MICROWAVE ANTENNAS**

- Microwave power receiving antenna Patent  
[NASA-CASE-MFS-20333] c 09 N71-13486
- Low noise single aperture multimode monopulse antenna feed system Patent  
[NASA-CASE-XNP-01735] c 07 N71-22750
- Omnidirectional microwave spacecraft antenna Patent  
[NASA-CASE-XLA-03114] c 09 N71-22888
- Validation device for spacecraft checkout equipment Patent  
[NASA-CASE-XKS-10543] c 07 N71-26292
- Multi-purpose antenna employing dish reflector with plural coaxial horn feeds  
[NASA-CASE-NPO-11264] c 07 N72-25174
- Omnidirectional slot antenna for mounting on cylindrical space vehicle  
[NASA-CASE-LAR-10163-1] c 09 N72-25247
- Multiple reflection conical microwave antenna  
[NASA-CASE-NPO-11661] c 07 N73-14130
- Thin conformal antenna array for microwave power conversions  
[NASA-CASE-NPO-13886-1] c 32 N78-24391
- Cavity-backed, micro-strip dipole antenna array  
[NASA-CASE-MSC-18606-1] c 32 N82-11336

**MICROWAVE CIRCUITS**

- Quasi-optical microwave component Patent  
[NASA-CASE-ERC-10011] c 07 N71-29065
- Microwave integrated circuit for Josephson voltage standards  
[NASA-CASE-MFS-23845-1] c 33 N81-17348
- Laser activated MTOS microwave device  
[NASA-CASE-NPO-16112-1] c 33 N86-19516

**MICROWAVE COUPLING**

- Indexing microwave switch Patent  
[NASA-CASE-XNP-06507] c 09 N71-23548
- Maser cavity servo-tuning system  
[NASA-CASE-NPO-15890-1-CU] c 33 N85-29143

**MICROWAVE EQUIPMENT**

- Array phasing device Patent  
[NASA-CASE-ERC-10046] c 10 N71-18722
- Broadband microwave waveguide window Patent  
[NASA-CASE-XNP-08880] c 09 N71-24808
- Dual frequency microwave reflex feed  
[NASA-CASE-NPO-13091-1] c 09 N73-12214
- Resonant waveguide stark cell --- using microwave spectrometers  
[NASA-CASE-LAR-11352-1] c 33 N75-26245
- Refrigerated coaxial coupling --- for microwave equipment  
[NASA-CASE-NPO-13504-1] c 33 N75-30430
- Microwave dichroic plate  
[NASA-CASE-GSC-12171-1] c 33 N79-28416
- Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NAS 1.71-NPO-15494-2] c 35 N85-34373

**MICROWAVE FILTERS**

- High power microwave power divider Patent  
[NASA-CASE-NPO-11031] c 07 N71-33606
- High-Q bandpass resonators utilizing bandstop resonator pairs  
[NASA-CASE-GSC-10990-1] c 09 N73-26195

**MICROWAVE FREQUENCIES**

- Varactor high level mixer  
[NASA-CASE-XGS-02171] c 09 N69-24324
- Voltage tunable Gunn-type microwave generator Patent  
[NASA-CASE-XER-07894] c 09 N71-18721
- Composite antenna feed  
[NASA-CASE-GSC-11046-1] c 07 N73-28013

**MICROWAVE OSCILLATORS**

- Magnetically actuated tuning method for Gunn oscillators  
[NASA-CASE-NPO-12106] c 09 N73-15235
- Electron beam controller --- using magnetic field to refocus spent electron beam in microwave oscillator tube  
[NASA-CASE-LEW-11617-1] c 33 N74-10195
- Low noise cryogenic dielectric resonator oscillator  
[NASA-CASE-NPO-17157-1-CU] c 33 N88-26596

**MICROWAVE RADIOMETERS**

- Method and means for providing an absolute power measurement capability Patent  
[NASA-CASE-ERC-11020] c 14 N71-26774
- Electromagnetic power absorber  
[NASA-CASE-NPO-13830-1] c 32 N80-14281
- Microwave limb sounder --- measuring trace gases in the upper atmosphere  
[NASA-CASE-NPO-14544-1] c 46 N82-12685
- CAT altitude avoidance system  
[NASA-CASE-NPO-15351-1] c 06 N83-10040
- System for indicating fuel-efficient aircraft altitude  
[NASA-CASE-NPO-15351-2] c 06 N84-34443

**MICROWAVE REFLECTOMETERS**

- Reflectometer for receiver input impedance match measurement Patent  
[NASA-CASE-XNP-10843] c 07 N71-11267

Microwave flaw detector Patent  
[NASA-CASE-ARC-10009-1] c 15 N71-17822

**MICROWAVE RESONANCE**  
Dual resonant cavity absorption cell Patent  
[NASA-CASE-LAR-10305] c 14 N71-26137

**MICROWAVE SCATTERING**  
Almond test body --- for microwave anechoic chambers  
[NASA-CASE-LAR-13747-1-CU] c 32 N89-28672

**MICROWAVE SENSORS**  
Method and apparatus for sensor fusion  
[NASA-CASE-MSC-21334-1] c 32 N89-25360

**MICROWAVE SWITCHING**  
Gyrator type circuit Patent  
[NASA-CASE-XAC-10608-1] c 09 N71-12517  
Microwave switching power divider --- antenna feeds  
[NASA-CASE-GSC-12420-1] c 33 N82-16340

**MICROWAVE TRANSMISSION**  
Frequency translating phase conjugation circuit for active retrodirective antenna array --- microwave transmission  
[NASA-CASE-NPO-14536-1] c 32 N81-14185  
Waveguide cooling system  
[NASA-CASE-NPO-15401-1] c 32 N83-27085

**MICROWAVE TUBES**  
Electrostatic collector for charged particles  
[NASA-CASE-LEW-11192-1] c 09 N73-13208

**MICROWAVES**  
Parametric microwave noise generator Patent  
[NASA-CASE-XER-11019] c 09 N71-23598  
Method and apparatus for optical modulating a light signal Patent  
[NASA-CASE-GSC-10216-1] c 23 N71-26722  
Waveguide mixer  
[NASA-CASE-ERC-10179] c 07 N72-20141  
Microwave power transmission system wherein level of transmitted power is controlled by reflections from receiver  
[NASA-CASE-MFS-21470-1] c 44 N74-19870  
Wide power range microwave feedback controller  
[NASA-CASE-GSC-12146-1] c 33 N78-32340  
Microwave power transmission beam safety system  
[NASA-CASE-NPO-14224-1] c 33 N80-18287  
Doppler radar having phase modulation of both transmitted and reflected return signals  
[NASA-CASE-MSC-18675-1] c 32 N84-22820  
Beam forming network  
[NASA-CASE-NPO-15743-1] c 32 N85-29118  
Precision tunable resonant microwave cavity  
[NASA-CASE-LEW-13935-1] c 33 N87-21234

**MIDAIR COLLISIONS**  
Apparatus for aiding a pilot in avoiding a midair collision between aircraft  
[NASA-CASE-LAR-10717-1] c 21 N73-30641

**MILLIMETER WAVES**  
Millimeter wave antenna system Patent Application  
[NASA-CASE-GSC-10949-1] c 07 N71-28965  
Millimeter wave pumped parametric amplifier  
[NASA-CASE-GSC-11617-1] c 33 N74-32660

**MILLING (MACHINING)**  
Apparatus for machining geometric cones Patent  
[NASA-CASE-XMS-04292] c 15 N71-22722  
Method and tool for machining a transverse slot about a bore  
[NASA-CASE-LAR-11855-1] c 37 N81-14319  
Method for milling and drilling glass  
[NASA-CASE-GSC-12636-1] c 31 N83-27058

**MILLING MACHINES**  
Electro-optical alignment control system Patent  
[NASA-CASE-XMF-00908] c 14 N70-40238  
Portable milling tool Patent  
[NASA-CASE-XMF-03511] c 15 N71-22799  
Grinding arrangement for ball nose milling cutters  
[NASA-CASE-LAR-10450-1] c 37 N74-27905

**MINERAL DEPOSITS**  
Underground mineral extraction  
[NASA-CASE-NPO-14140-1] c 43 N81-26509

**MINERAL METABOLISM**  
Method and system for in vivo measurement of bone tissue using a two level energy source  
[NASA-CASE-MSC-14276-1] c 52 N77-14737

**MINES (EXCAVATIONS)**  
Mining volume measurement system  
[NASA-CASE-LAR-13519-1] c 35 N88-23963

**MINIATURE ELECTRONIC EQUIPMENT**  
Miniature stress transducer Patent  
[NASA-CASE-XNP-02983] c 14 N71-21091  
Transducer circuit and catheter transducer Patent  
[NASA-CASE-ARC-10132-1] c 09 N71-24597  
Solid state television camera system Patent  
[NASA-CASE-XMF-06092] c 07 N71-24612  
Miniature ingestible telemeter devices to measure deep-body temperature  
[NASA-CASE-ARC-10583-1] c 52 N76-29894  
Miniature biaxial strain transducer  
[NASA-CASE-LAR-11648-1] c 35 N77-14407

Miniature electrooptical air flow sensor  
[NASA-CASE-LAR-13085-1] c 35 N85-20295

**MINIATURIZATION**  
Miniature vibration isolator Patent  
[NASA-CASE-XLA-01019] c 15 N70-40156  
Counter and shift register Patent  
[NASA-CASE-XNP-01753] c 08 N71-22897  
Miniature carbon dioxide sensor and methods  
[NASA-CASE-MSC-13332-1] c 14 N72-21408  
Magnetometer with a miniature transducer and automatic scanning  
[NASA-CASE-LAR-11617-2] c 35 N78-32397  
Miniature cyclotron resonance ion source using small permanent magnet  
[NASA-CASE-NPO-14324-1] c 72 N80-27163  
Thumb-actuated two-axis controller  
[NASA-CASE-ARC-11372-1] c 08 N86-27288  
Miniature traveling wave tube and method of making  
[NASA-CASE-LEW-14520-1] c 33 N88-23936

**MINING**  
Coal-shale interface detection system  
[NASA-CASE-MFS-23720-2] c 43 N80-14423  
Coal-shale interface detector  
[NASA-CASE-MFS-23720-1] c 43 N80-23711  
Underground mineral extraction  
[NASA-CASE-NPO-14140-1] c 43 N81-26509  
Longwall shearer tracking system  
[NASA-CASE-MFS-25717-1] c 35 N84-33768  
Shuttle car loading system  
[NASA-CASE-NPO-15949-1] c 85 N85-34722

**MINORITY CARRIERS**  
Method of increasing minority carrier lifetime in silicon web or the like  
[NASA-CASE-NPO-15530-1] c 76 N83-35888

**MIRRORS**  
Pneumatic mirror support system  
[NASA-CASE-XLA-03271] c 11 N69-24321  
Electromagnetic mirror drive system  
[NASA-CASE-XLA-03724] c 14 N69-27461  
Interferometer servo system Patent  
[NASA-CASE-NPO-10300] c 14 N71-17662  
Method and apparatus for stabilizing a gaseous optical maser Patent  
[NASA-CASE-XGS-03644] c 16 N71-18614  
Optical mirror apparatus Patent  
[NASA-CASE-ERC-10001] c 23 N71-24868  
Adjustable mount for a trihedral mirror Patent  
[NASA-CASE-XNP-08907] c 23 N71-29123  
Optical range finder having nonoverlapping complete images  
[NASA-CASE-MSC-12105-1] c 14 N72-21409  
Optical system support apparatus  
[NASA-CASE-XER-07896-2] c 23 N72-22673  
Strain gauge ambiguity sensor for segmented mirror active optical system  
[NASA-CASE-MFS-20506-1] c 35 N75-12273  
Method for manufacturing mirrors in zero gravity environment  
[NASA-CASE-MSC-12611-1] c 12 N76-15189  
Method of and means for testing a glancing-incidence mirror system of an X-ray telescope  
[NASA-CASE-MFS-22409-2] c 74 N78-15880  
Interferometer mirror tilt correcting system  
[NASA-CASE-NPO-13687-1] c 35 N78-18391  
Anastigmatic three-mirror telescope  
[NASA-CASE-MFS-23675-1] c 89 N79-10969  
Dual aperture multispectral Schmidt objective  
[NASA-CASE-GSC-12756-1] c 74 N84-23248  
Spectral slicing X-ray telescope with variable magnification  
[NASA-CASE-MFS-25942-1] c 74 N86-20124  
Wide-angle flat field telescope  
[NASA-CASE-GSC-12825-1] c 74 N86-28732  
Compensation for primary reflector wavefront error  
[NASA-CASE-NPO-16869-1CU] c 74 N86-33138  
Self-clamping arc light reflector for welding torch  
[NASA-CASE-MFS-29207-1] c 74 N87-25843

**MIS (SEMICONDUCTORS)**  
Photocapacitive image converter  
[NASA-CASE-LAR-12513-1] c 44 N82-32841

**MISSILE CONTROL**  
Turnstile slot antenna  
[NASA-CASE-GSC-11428-1] c 32 N74-20864

**MISSILE LAUNCHERS**  
Missile launch release system Patent  
[NASA-CASE-XMF-03198] c 30 N70-40353  
Optical monitor panel Patent  
[NASA-CASE-XKS-03509] c 14 N71-23175  
Controlled release device Patent  
[NASA-CASE-XKS-03338] c 15 N71-24043

**MISSILE STRUCTURES**  
Missile rolling tail brake torque system --- simulating bearing friction on canard controlled missiles  
[NASA-CASE-LAR-12751-1] c 15 N84-16231

**MISSILES**

Hypersonic airbreathing missile  
[NASA-CASE-LAR-12264-1] c 15 N78-32168  
Fire protection covering for small diameter missiles  
[NASA-CASE-ARC-11104-1] c 15 N79-26100

**MITOSIS**  
Process for control of cell division  
[NASA-CASE-LAR-10773-3] c 51 N77-25769

**MIXERS**  
Variable mixer propulsion cycle  
[NASA-CASE-LEW-12917-1] c 07 N78-18067  
Planar oscillatory stirring apparatus  
[NASA-CASE-MFS-26002-1-CU] c 35 N86-26598  
Remotely controllable mixing system  
[NASA-CASE-MFS-28153-1] c 31 N86-32589  
Dual-fuel, dual-mode rocket engine  
[NASA-CASE-LAR-13773-1] c 20 N88-24685

**MIXING**  
Remotely controllable mixing system  
[NASA-CASE-MFS-28153-1] c 31 N86-32589

**MIXING CIRCUITS**  
Varactor high level mixer  
[NASA-CASE-XGS-02171] c 09 N69-24324  
Waveguide mixer  
[NASA-CASE-ERC-10179] c 07 N72-20141

**MIXTURES**  
Low gravity phase separator  
[NASA-CASE-MSC-14773-1] c 35 N78-1239C  
Process for producing tris s(n-methylamino methylsilane  
[NASA-CASE-MFS-25721-1] c 25 N85-2128C

**MOBILE COMMUNICATION SYSTEMS**  
Ground plane interference elimination by passive element  
[NASA-CASE-NPO-16632-1-CU] c 32 N87-1539C

**MOBILITY**  
Traveling wave solid state amplifier utilizing a semiconductor with negative differential mobility  
[NASA-CASE-HQN-10069] c 33 N75-27251  
Mobile sampler for use in acquiring samples of terrestrial atmospheric gases  
[NASA-CASE-NPO-15220-1] c 45 N83-25217  
Mobile remote manipulator vehicle system  
[NASA-CASE-LAR-13393-1] c 54 N87-29118  
Controlled method of reducing electrophoretic mobility of various substances  
[NASA-CASE-MFS-26049-1-NP] c 25 N89-28603

**MODE TRANSFORMERS**  
Transient-compensated SCR inverter  
[NASA-CASE-XLA-08507] c 09 N69-39984  
Dual waveguide mode source having control means for adjusting the relative amplitude of two modes Patent  
[NASA-CASE-XNP-03134] c 07 N71-10676  
Direct current transformer  
[NASA-CASE-MFS-23659-1] c 33 N79-17133

**MODEMS**  
Charge storage diode modulators and demodulators  
[NASA-CASE-NPO-10189-1] c 33 N77-21314

**MODES (STANDING WAVES)**  
Acoustic levitation methods and apparatus  
[NASA-CASE-NPO-15562-1] c 71 N82-27086

**MODULATION**  
Demodulator for carrier transducers  
[NASA-CASE-NUC-10107-1] c 33 N74-17930  
Faraday rotation measurement method and apparatus  
[NASA-CASE-NPO-14839-1] c 35 N82-15381  
Air modulation apparatus  
[NASA-CASE-LEW-13524-1] c 07 N84-33410  
Modulated voltage metastable ionization detector  
[NASA-CASE-ARC-11503-1] c 35 N85-34374  
Doppler radar with multiphase modulation of transmitted and reflected signal  
[NASA-CASE-MSC-18808-1] c 32 N88-23923

**MODULATORS**  
Retrodirective optical system  
[NASA-CASE-XGS-04480] c 16 N69-27491  
Retrodirective modulator Patent  
[NASA-CASE-GSC-10062] c 14 N71-15605  
Laser calibrator Patent  
[NASA-CASE-XLA-03410] c 16 N71-25914  
Full wave modulator-demodulator amplifier apparatus --- for generating rectified output signal  
[NASA-CASE-FRC-10072-1] c 33 N74-14939  
Charge storage diode modulators and demodulators  
[NASA-CASE-NPO-10189-1] c 33 N77-21314  
Coherently pulsed laser source  
[NASA-CASE-NPO-15111-1] c 36 N82-29589  
Navigation system and method  
[NASA-CASE-GSC-12508-1] c 04 N84-22546  
Solar energy modulator  
[NASA-CASE-NPO-15388-1] c 44 N84-28203

**MODULES**  
Modular encoder  
[NASA-CASE-NPO-10629] c 08 N72-18184  
Solar cell module assembly jig  
[NASA-CASE-XGS-00829-1] c 44 N79-19447

Method of fabricating a photovoltaic module of a substantially transparent construction  
[NASA-CASE-NPO-14303-1] c 44 N80-18550

Shuttle-launch triangular space station  
[NASA-CASE-MSC-20676-1] c 18 N86-24729

Space station architecture, module, berthing hub, shell assembly, berthing mechanism and utility connection channel  
[NASA-CASE-ARC-11505-2] c 18 N89-25266

**MODULUS OF ELASTICITY**  
Glass compositions with a high modulus of elasticity --- nontoxic glass fibers  
[NASA-CASE-HQN-10274-1] c 27 N82-29451

High modulus invert analog glass compositions containing beryllia  
[NASA-CASE-HQN-10931-2] c 27 N82-29452

Non-toxic invert analog glass compositions of high modulus  
[NASA-CASE-HQN-10328-2] c 27 N82-29454

High modulus rare earth and beryllium containing silicate glass compositions --- for glass reinforcing fibers  
[NASA-CASE-HQN-10595-1] c 27 N82-29455

High resistance and raised modulus carbon fibers  
[NASA-TM-76884] c 24 N85-25436

**MOISTURE**  
Gas purged dry box glove Patent  
[NASA-CASE-XLE-02531] c 05 N71-23080

Trace water sensor  
[NASA-CASE-NPO-15722-1] c 35 N85-29212

**MOISTURE CONTENT**  
Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NASA-CASE-NPO-15494-1] c 35 N82-25484

Moisture content and gas sampling device  
[NASA-CASE-MSC-18866-1] c 35 N85-29213

Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NAS 1.71-NPO-15494-2] c 35 N85-34373

**MOISTURE METERS**  
Method of evaluating moisture barrier properties of encapsulating materials Patent  
[NASA-CASE-NPO-10051] c 18 N71-24934

Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NASA-CASE-NPO-15494-1] c 35 N82-25484

Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NAS 1.71-NPO-15494-2] c 35 N85-34373

**MOISTURE RESISTANCE**  
Process for improving moisture resistance of epoxy resins by addition of chromium ions  
[NASA-CASE-LAR-13226-1] c 27 N85-34282

**MOLDING MATERIALS**  
Method for molding compounds Patent  
[NASA-CASE-XLA-01091] c 15 N71-10672

Method of making a molded connector Patent  
[NASA-CASE-XMF-03498] c 15 N71-15986

Hydraulic casting of liquid polymers Patent  
[NASA-CASE-XNP-07659] c 06 N71-22975

Hydroforming techniques using epoxy molds Patent  
[NASA-CASE-XLE-05641-1] c 15 N71-26346

Molding process for imidazopyrrolone polymers  
[NASA-CASE-LAR-10547-1] c 31 N74-13177

Evacuated displacement compression molding  
[NASA-CASE-LAR-10782-1] c 31 N74-14133

Molded composite pyrogen igniter for rocket motors --- solid propellant ignition  
[NASA-CASE-LAR-12018-1] c 20 N78-24275

Method of making a rocket nozzle  
[NASA-CASE-XMF-06884-1] c 20 N79-21123

**MOLDS**  
Apparatus for making curved reflectors Patent  
[NASA-CASE-XLE-08917-2] c 15 N71-24836

Technique of duplicating fragile core  
[NASA-CASE-XLA-07829] c 15 N72-16329

Evacuated displacement compression molding  
[NASA-CASE-LAR-10782-1] c 31 N74-14133

Molding apparatus --- for thermosetting plastic compositions  
[NASA-CASE-LAR-10489-2] c 31 N74-32920

Evacuated, displacement compression mold --- of tubular bodies from thermosetting plastics  
[NASA-CASE-LAR-10782-2] c 31 N75-13111

Method of making an apertured casting --- using duplicate mold  
[NASA-CASE-LEW-11169-1] c 37 N76-23570

**MOLECULAR BEAMS**  
Molecular beam velocity selector Patent  
[NASA-CASE-XLE-01533] c 11 N71-10777

Sputtering holes with ion beamlets  
[NASA-CASE-LEW-11646-1] c 20 N74-31269

**MOLECULAR CHAINS**  
Viscoelastic cationic polymers containing the urethane linkage  
[NASA-CASE-NPO-10830-1] c 27 N81-15104

Novel ladder polymers for use as high temperature stable resins or coatings  
[NASA-CASE-LEW-14203-1] c 27 N88-29984

**MOLECULAR GASES**  
Compact hydrogenator  
[NASA-CASE-NPO-11682-1] c 35 N74-15127

**MOLECULAR PUMPS**  
Omni-directional anisotropic molecular trap Patent  
[NASA-CASE-XGS-00783] c 30 N71-17788

Rotating shaft seal Patent  
[NASA-CASE-XNP-02862-1] c 15 N71-26294

**MOLECULAR RELAXATION**  
Double-beam optical method and apparatus for measuring thermal diffusivity and other molecular dynamic processes in utilizing the transient thermal lens effect  
[NASA-CASE-NPO-14657-1] c 74 N81-17887

**MOLECULAR ROTATION**  
Diatomic infrared gasdynamic laser --- for producing different wavelengths  
[NASA-CASE-ARC-10370-1] c 36 N75-31426

**MOLECULAR SPECTRA**  
Correlation spectrometer having high resolution and multiplexing capability  
[NASA-CASE-NPO-15558-1] c 35 N84-34705

**MOLECULAR SPECTROSCOPY**  
Dual resonant cavity absorption cell Patent  
[NASA-CASE-LAR-10305] c 14 N71-26137

**MOLECULAR STRUCTURE**  
Light weight polymer matrix composite material  
[NASA-CASE-LEW-14734-1] c 24 N89-23623

**MOLECULAR WEIGHT**  
Process of end-capping a polyimide system  
[NASA-CASE-LAR-13135-1] c 27 N86-19456

Process for crosslinking and extending conjugated diene-containing polymers  
[NASA-CASE-LAR-13452-1] c 27 N87-22848

**MOLECULES**  
Stabilization of He2(a 3 Sigma u+ molecules in liquid helium by optical pumping for vacuum UV laser 6  
[NASA-CASE-NPO-13993-1] c 72 N79-13826

Controlled method of reducing electrophoretic mobility of various substances  
[NASA-CASE-MFS-26049-1-NP] c 25 N89-28603

**MOLTEN SALT ELECTROLYTES**  
Combined electrolysis device and fuel cell and method of operation Patent  
[NASA-CASE-XLE-01645] c 03 N71-20904

Zinc-halide battery with molten electrolyte  
[NASA-CASE-NPO-11961-1] c 44 N76-18643

**MOLTEN SALTS**  
Molten salt pyrolysis of latex --- synthetic hydrocarbon fuel production using the Guayule shrub  
[NASA-CASE-NPO-14315-1] c 27 N81-17261

**MOLYBDENUM**  
Thermocouples of molybdenum and iridium alloys for more stable vacuum-high temperature performance  
[NASA-CASE-LEW-12174-2] c 35 N79-14346

**MOLYBDENUM CARBIDES**  
Method of coating carbonaceous base to prevent oxidation destruction and coated base Patent  
[NASA-CASE-XLA-00302] c 15 N71-16077

**MOLYBDENUM DISULFIDES**  
Atomic hydrogen storage method and apparatus  
[NASA-CASE-LEW-12081-3] c 28 N81-14103

**MOMENTS OF INERTIA**  
Moment of inertia test fixture Patent  
[NASA-CASE-XGS-01023] c 14 N71-22992

**MOMENTUM**  
Attitude control and damping system for spacecraft Patent  
[NASA-CASE-XLA-02551] c 21 N71-21708

Particle detection apparatus including a ballistic pendulum Patent  
[NASA-CASE-XMS-04201] c 14 N71-22990

**MONATOMIC GASES**  
Atomic hydrogen storage --- cryotrapping and magnetic field strength  
[NASA-CASE-LEW-12081-2] c 28 N80-20402

**MONITORS**  
Leak detector Patent  
[NASA-CASE-LAR-10323-1] c 12 N71-17573

Reduced bandwidth video communication system utilizing sampling techniques Patent  
[NASA-CASE-XNP-02791] c 07 N71-23026

Optical monitor panel Patent  
[NASA-CASE-XKS-03509] c 14 N71-23175

Peak polarity selector Patent  
[NASA-CASE-FRC-10010] c 10 N71-24862

Ripple indicator  
[NASA-CASE-KSC-10162] c 09 N72-11225

Droplet monitoring probe  
[NASA-CASE-NPO-10985] c 14 N73-20478

Automatic lightning detection and photographic system  
[NASA-CASE-KSC-10728-1] c 14 N73-32319

Method and apparatus for optically monitoring the angular position of a rotating mirror  
[NASA-CASE-GSC-11353-1] c 74 N74-21304

Remote lightning monitor system  
[NASA-CASE-KSC-11031-1] c 33 N79-11315

Apparatus including a plurality of spaced transformers for locating short circuits in cables  
[NASA-CASE-KSC-10899-1] c 33 N79-18193

Indirect microbial detection  
[NASA-CASE-LAR-12520-1] c 51 N81-28698

Scanning seismic intrusion detection method and apparatus --- monitoring unwanted subterranean entry and departure  
[NASA-CASE-ARC-11317-1] c 35 N83-34272

Focal plane array optical proximity sensor  
[NASA-CASE-NPO-15155-1] c 74 N85-22139

Retinally stabilized differential resolution television display  
[NASA-CASE-NPO-15432-1] c 32 N85-29117

Optical distance measuring instrument  
[NASA-CASE-GSC-12761-1] c 74 N86-32266

Laser schlieren crystal monitor  
[NASA-CASE-MFS-28060-1] c 76 N87-25862

Welding monitoring system  
[NASA-CASE-MFS-29177-1] c 37 N88-14362

Airplane runway performance monitoring system  
[NASA-CASE-LAR-13854-1-CU] c 04 N88-24621

Radio Frequency (RF) strain monitor  
[NASA-CASE-LAR-13705-1] c 39 N88-25011

Television monitor field shifter and an opto-electronic method for obtaining a stereo image of optimal depth resolution and reduced depth distortion on a single screen  
[NASA-CASE-NPO-17249-1-CU] c 32 N89-28676

**MONOCHROMATIC RADIATION**  
Continuous plasma light source  
[NASA-CASE-XNP-04167-2] c 25 N72-24753

Laser extensometer  
[NASA-CASE-MFS-19259-1] c 36 N78-14380

Multiprism collimator  
[NASA-CASE-GSC-12608-1] c 74 N83-10900

**MONOCHROMATORS**  
Analytical photoionization mass spectrometer with an argon gas filter between the light source and monochromator Patent  
[NASA-CASE-LAR-10180-1] c 06 N71-13461

Color television system  
[NASA-CASE-MSC-12146-1] c 07 N72-17109

**MONOMERS**  
Pressure transducer --- using a monomeric charge transfer complex sensor  
[NASA-CASE-NPO-11150] c 35 N78-17359

Bifunctional monomers having terminal oxime and cyano or amidine groups  
[NASA-CASE-ARC-11253-3] c 27 N81-24256

Cross-linked polyvinyl alcohol and method of making same  
[NASA-CASE-LEW-13101-2] c 23 N81-29160

Preparation of crosslinked 1,2,4-oxadiazole polymer  
[NASA-CASE-ARC-11253-2] c 27 N82-24338

Phosphorus-containing imide resins  
[NASA-CASE-ARC-11368-1] c 27 N83-31854

Chemical approach for controlling nadimide cure temperature and rate  
[NASA-CASE-LEW-13770-1] c 27 N84-27885

Process for preparing highly optically transparent/colorless aromatic polyimide film  
[NASA-CASE-LAR-13351-1] c 27 N86-31727

New condensation polyimides containing 1,1,1-triaryl-2,2,2-trifluoroethane structures  
[NASA-CASE-LEW-14346-1] c 23 N87-14433

Ethynyl terminated ester oligomers and polymers therefrom  
[NASA-CASE-LAR-13118-2] c 27 N87-16907

Substituted 1,1,1-Triaryl-2,2,2-Trifluoroethanes and processes for their synthesis  
[NASA-CASE-LEW-14345-1] c 23 N88-26404

Polyphenylquinoxalines containing alkylendioxy groups  
[NASA-CASE-LAR-13601-1-CU] c 27 N89-14337

**MONOPOLE ANTENNAS**  
Antenna system using parasitic elements and two driven elements at 90 deg angle fed 180 deg out of phase Patent  
[NASA-CASE-XLA-00414] c 07 N70-38200

Flexible blade antenna Patent  
[NASA-CASE-MSC-12101] c 09 N71-18720

**MONOPROPELLANTS**  
Ignition system for monopropellant combustion devices Patent  
[NASA-CASE-XNP-00249] c 28 N70-38249

Ignition means for monopropellant Patent  
[NASA-CASE-XNP-00876] c 28 N70-41311

Low thrust monopropellant engine  
[NASA-CASE-GSC-12194-2] c 20 N82-18314

## MONOPULSE ANTENNAS

- Monopulse system with an electronic scanner  
[NASA-CASE-XGS-05582] c 07 N69-27460  
Low noise single aperture multimode monopulse antenna feed system Patent  
[NASA-CASE-XNP-01735] c 07 N71-22750  
Electronic scanning of 2-channel monopulse patterns Patent  
[NASA-CASE-GSC-10299-1] c 09 N71-24804  
Switchable beamwidth monopulse method and system  
[NASA-CASE-GSC-11924-1] c 33 N76-27472

## MONOPULSE RADAR

- Polarization diversity monopulse tracking receiver Patent  
[NASA-CASE-XGS-03501] c 09 N71-20864  
Monopulse tracking system Patent  
[NASA-CASE-XGS-01155] c 10 N71-21483

## MONOSTABLE MULTIVIBRATORS

- Resettable monostable pulse generator Patent  
[NASA-CASE-GSC-11139] c 09 N71-27016  
Monostable multivibrator with complementary NOR gates Patent  
[NASA-CASE-MSC-13492-1] c 10 N71-28860

## MORPHOLOGY

- Method for growth of crystals by pressure reduction of supercritical or subcritical solution  
[NASA-CASE-NPO-15772-1] c 76 N85-29800

## MOSSBAUER EFFECT

- Mossbauer spectrometer radiation detector  
[NASA-CASE-LAR-11155-1] c 35 N74-15091  
Method and apparatus for vibration analysis utilizing the Mossbauer effect  
[NASA-CASE-XMF-05882] c 35 N75-27329

## MOTION

- Quick attach mechanism Patent  
[NASA-CASE-XFR-05421] c 15 N71-22994

## MOTION PICTURES

- Real time moving scene holographic camera system  
[NASA-CASE-MFS-21087-1] c 35 N74-17153  
Real time, large volume, moving scene holographic camera system  
[NASA-CASE-MFS-22537-1] c 35 N75-27328

## MOTION SIMULATORS

- Kinesthetic control simulator --- for pilot training  
[NASA-CASE-LAR-10276-1] c 09 N75-15662  
Helmet weight simulator  
[NASA-CASE-LAR-12320-1] c 54 N81-27806

## MOTION STABILITY

- Hydraulic drive mechanism Patent  
[NASA-CASE-XMS-03252] c 15 N71-10658

## MOTORS

- Nonmagnetic thermal motor for a magnetometer  
[NASA-CASE-XAR-03786] c 09 N69-21313  
System for maintaining a motor at a predetermined speed utilizing digital feedback means Patent  
[NASA-CASE-XMF-06892] c 09 N71-24805  
Mechanical thermal motor  
[NASA-CASE-MFS-23062-1] c 37 N77-12402  
Redundant motor drive system  
[NASA-CASE-MFS-23777-1] c 37 N80-32716  
A universal computer control system for motors  
[NASA-CASE-NPO-17134-1-CU] c 33 N88-24864

## MOUNTING

- Thermobulb mount Patent  
[NASA-CASE-NPO-10158] c 33 N71-16356  
Mount for thermal control system Patent  
[NASA-CASE-NPO-10138] c 33 N71-16357  
Clamping assembly for inertial components Patent  
[NASA-CASE-XMS-02184] c 15 N71-20813  
Circuit board package with wedge shaped covers  
[NASA-CASE-MFS-21919-1] c 10 N73-25243  
Lubricated journal bearing  
[NASA-CASE-LEW-11076-3] c 37 N75-30562  
Translatory shock absorber for attitude sensors  
[NASA-CASE-MFS-22905-1] c 19 N76-22284  
Deformable bearing seat  
[NASA-CASE-LEW-12527-1] c 37 N77-32500  
Impact absorbing blade mounts for variable pitch blades  
[NASA-CASE-LEW-12313-1] c 37 N78-10468  
Attaching of strain gages to substrates  
[NASA-CASE-FRC-10093-1] c 35 N80-20560  
Adapter for mounting a microphone flush with the external surface of the skin of a pressurized aircraft  
[NASA-CASE-FRC-11072-1] c 05 N83-27975  
Inflatable device for installing strain gage bridges  
[NASA-CASE-FRC-11068-1] c 35 N84-12443  
Clamp-mount device  
[NASA-CASE-MFS-25510-1] c 37 N84-16560  
Model mount system for testing flutter  
[NASA-CASE-LAR-12950-1] c 09 N84-34448  
Adjustable mount for electro-optic transducers in an evacuated cryogenic system  
[NASA-CASE-LAR-13100-1] c 37 N87-23982  
Airfoil flutter model suspension system  
[NASA-CASE-LAR-13522-1-SB] c 09 N87-25334

Almond test body --- for microwave anechoic chambers

- [NASA-CASE-LAR-13747-1-CU] c 32 N89-28672

## MOVING TARGET INDICATORS

- Automatic vehicle location system  
[NASA-CASE-NPO-11850-1] c 32 N74-12912  
Interferometric locating system  
[NASA-CASE-NPO-14173-1] c 04 N80-32359

## MULTIBEAM ANTENNAS

- Multibeam single frequency synthetic aperture radar processor for imaging separate range swaths  
[NASA-CASE-NPO-14525-2] c 32 N83-31918  
Switched steerable multiple beam antenna system  
[NASA-CASE-MSC-20873-1-SB] c 32 N89-11961

## MULTICHANNEL COMMUNICATION

- Tape guidance system and apparatus for the provision thereof Patent  
[NASA-CASE-XNP-09453] c 08 N71-19420  
Phase quadrature-plural channel data transmission system Patent  
[NASA-CASE-XAC-06302] c 08 N71-19763  
Receiver with an improved phase lock loop in a multichannel telemetry system with suppressed carrier  
[NASA-CASE-NPO-11593-1] c 07 N73-28012  
Miniature multichannel biotelemetry system  
[NASA-CASE-NPO-13065-1] c 52 N74-26625  
Medical subject monitoring systems --- multichannel monitoring systems  
[NASA-CASE-MSC-14180-1] c 52 N76-14757  
Multi-channel rotating optical interface for data transmission  
[NASA-CASE-NPO-14066-1] c 74 N79-34011

## MULTILAYER INSULATION

- Sealing member and combination thereof and method of producing said sealing member Patent  
[NASA-CASE-XMS-01625] c 15 N71-23022  
Panelized high performance multilayer insulation Patent  
[NASA-CASE-MFS-14023] c 33 N71-25351  
Electrical apparatus for detection of thermal decomposition of insulation Patent  
[NASA-CASE-XMF-03968] c 14 N71-27186  
Method of making an insulation foil  
[NASA-CASE-LEW-11484-1] c 24 N75-33181  
Multiwall thermal protection system  
[NASA-CASE-LAR-12620-1] c 24 N82-32417

## MULTIPACTOR DISCHARGES

- High power RF coaxial switch  
[NASA-CASE-NPO-14229-1] c 33 N80-18285

## MULTIPATH TRANSMISSION

- Anti-multipath digital signal detector  
[NASA-CASE-LAR-11827-1] c 32 N77-10392  
Large volume multiple-path nuclear pumped laser  
[NASA-CASE-LAR-12592-1] c 36 N82-13415

## MULTIPLE BEAM INTERVAL SCANNERS

- Tracking antenna system Patent  
[NASA-CASE-GSC-10553-1] c 07 N71-19854  
Variable beamwidth antenna --- with multiple beam, variable feed system  
[NASA-CASE-GSC-11862-1] c 32 N76-18295

## MULTIPLE DOCKING ADAPTERS

- Expanding center probe and drogue Patent  
[NASA-CASE-XMS-03613] c 31 N71-16346

## MULTIPLE OUTPUT PROGRAMS

- Multi-computer multiple data path hardware exchange system  
[NASA-CASE-NPO-13422-1] c 60 N76-14818

## MULTIPLYING

- Doppler frequency spread correction device for multiplex transmissions  
[NASA-CASE-XGS-02749] c 07 N69-39978  
Elimination of frequency shift in a multiplex communication system Patent  
[NASA-CASE-XNP-01306] c 07 N71-20814  
Satellite interface synchronization system  
[NASA-CASE-GSC-10390-1] c 07 N72-11149  
Method and apparatus for data compression by a decreasing slope threshold test  
[NASA-CASE-NPO-10769] c 08 N72-11171  
Data multiplexer using tree switching configuration  
[NASA-CASE-NPO-11333] c 08 N72-22162  
Television multiplexing system  
[NASA-CASE-KSC-10654-1] c 07 N73-30115  
Asynchronous, multiplexing, single line transmission and recovery data system --- for satellite use  
[NASA-CASE-NPO-13321-1] c 32 N75-26195  
Correlation type phase detector --- with time correlation integrator for frequency multiplexed signals  
[NASA-CASE-GSC-11744-1] c 33 N75-26243  
System for producing chroma signals  
[NASA-CASE-MSC-14683-1] c 74 N77-18893  
Fiber optic multiplex optical transmission system  
[NASA-CASE-KSC-11047-1] c 74 N78-14889

System for a displaying at a remote station data generated at a central station and for powering the remote station from the central station

- [NASA-CASE-GSC-12411-1] c 33 N81-14221  
Multifrequency broadband polarized horn antenna  
[NASA-CASE-NPO-14588-1] c 32 N81-25278  
High-speed multiplexing of keyboard data inputs  
[NASA-CASE-NPO-14554-1] c 60 N81-27814  
Multi-channel temperature measurement amplification system --- solar heating systems  
[NASA-CASE-MFS-23775-1] c 44 N82-16474  
Integrating IR detector imaging systems  
[NASA-CASE-NPO-15805-1] c 74 N84-28590  
Correlation spectrometer having high resolution and multiplexing capability  
[NASA-CASE-NPO-15558-1] c 35 N84-34705  
Adaptive data acquisition multiplexing system and method  
[NASA-CASE-MSC-21170-1] c 17 N88-24662  
Laser Doppler velocimeter multiplexer interface for simultaneous measured events  
[NASA-CASE-ARC-11536-1] c 33 N89-14384

## MULTIPLIERS

- Pulse-width modulation multiplier Patent  
[NASA-CASE-XER-09213] c 07 N71-12390  
Variable pulse width multiplier Patent  
[NASA-CASE-XLA-02850] c 09 N71-20447  
Capacitance multiplier and filter synthesizing network  
[NASA-CASE-NPO-11948-1] c 33 N74-32712  
Regulated high efficiency, lightweight capacitor-diode multiplier dc to dc converter  
[NASA-CASE-LEW-12791-1] c 33 N78-32341

## MULTISPECTRAL BAND SCANNERS

- Optical process for producing classification maps from multispectral data  
[NASA-CASE-MSC-14472-1] c 43 N77-10584  
Interactive color display for multispectral imagery using correlation clustering  
[NASA-CASE-MSC-16253-1] c 32 N79-20297  
Multispectral scanner optical system  
[NASA-CASE-MSC-18255-1] c 74 N80-33210  
Medical diagnosis system and method with multispectral imaging --- depth of burns and optical density of the skin  
[NASA-CASE-NPO-14402-1] c 52 N81-27783  
Dual aperture multispectral Schmidt objective  
[NASA-CASE-GSC-12756-1] c 74 N84-23248

## MULTISPECTRAL LINEAR ARRAYS

- Time delay and integration detectors using charge transfer devices  
[NASA-CASE-GSC-12324-1] c 33 N81-33403  
Multispectral linear array multiband selection device  
[NASA-CASE-GSC-12911-1] c 74 N86-29650

## MULTISPECTRAL PHOTOGRAPHY

- Multispectral imaging system  
[NASA-CASE-MSC-12404-1] c 23 N73-13661  
Optical process for producing classification maps from multispectral data  
[NASA-CASE-MSC-14472-1] c 43 N77-10584  
Multispectral imaging and analysis system --- using charge coupled devices and linear arrays  
[NASA-CASE-NPO-13691-1] c 43 N79-17288  
Interactive color display for multispectral imagery using correlation clustering  
[NASA-CASE-MSC-16253-1] c 32 N79-20297

## MULTISPECTRAL TRACKING TELESCOPES

- Multispectral glancing incidence X-ray telescope  
[NASA-CASE-MFS-28013-1] c 89 N86-22459

## MULTISTAGE ROCKET VEHICLES

- Recoverable rocket vehicle Patent  
[NASA-CASE-XMF-00389] c 31 N70-34176  
Steerable solid propellant rocket motor Patent  
[NASA-CASE-XNP-00234] c 28 N70-38645  
Multi-mission module Patent  
[NASA-CASE-XMF-01543] c 31 N71-17730  
Single action separation mechanism Patent  
[NASA-CASE-XLA-00188] c 15 N71-22874  
Lateral displacement system for separated rocket stages Patent  
[NASA-CASE-XLA-04804] c 31 N71-23008  
Frangible link  
[NASA-CASE-MSC-11849-1] c 15 N72-22488  
Three stage rocket vehicle with parallel staging  
[NASA-CASE-MFS-25878-1] c 18 N84-27787

## MULTIVIBRATORS

- Ultra-long monostable multivibrator employing bistable semiconductor switch to allow charging of timing circuit Patent  
[NASA-CASE-XGS-00381] c 09 N70-34819  
Variable frequency magnetic multivibrator Patent  
[NASA-CASE-XGS-00458] c 09 N70-38604  
Variable frequency magnetic multivibrator Patent  
[NASA-CASE-XGS-00131] c 09 N70-38995  
High efficiency multivibrator Patent  
[NASA-CASE-XAC-00942] c 10 N71-16042  
A dc-coupled noninverting one-shot Patent  
[NASA-CASE-XNP-09450] c 10 N71-18723

- Multivibrator circuit with means to prevent false triggering from supply voltage fluctuations Patent  
[NASA-CASE-ARC-10137-1] c 09 N71-28468
- Digital demodulator  
[NASA-CASE-LAR-12659-1] c 33 N82-26570
- MUSCLES**  
Subminiature insertable force transducer --- including a strain gage to measure forces in muscles  
[NASA-CASE-NPO-13423-1] c 33 N75-31329
- Multifunctional transducer  
[NASA-CASE-NPO-14329-1] c 52 N81-20703
- MUSCULAR FUNCTION**  
Miniature muscle displacement transducer  
[NASA-CASE-NPO-13519-1] c 33 N76-19338
- Simultaneous muscle force and displacement transducer  
[NASA-CASE-NPO-14212-1] c 52 N80-27072
- MUSCULOSKELETAL SYSTEM**  
Skeletal stressing method and apparatus Patent  
[NASA-CASE-ARC-10100-1] c 05 N71-24738
- MYOCARDIUM**  
Myocardium wall thickness transducer and measuring method  
[NASA-CASE-NPO-13644-1] c 52 N76-29895
- Simultaneous muscle force and displacement transducer  
[NASA-CASE-NPO-14212-1] c 52 N80-27072
- MYOPIA**  
Visual accommodation trainer-tester  
[NASA-CASE-ARC-11426-1] c 09 N84-12193

## N

**N-TYPE SEMICONDUCTORS**

- Complementary DMOS-VMOS integrated circuit structure  
[NASA-CASE-GSC-12190-1] c 33 N79-12321

**NACELLES**

- Inlet deflector for jet engines Patent  
[NASA-CASE-XLE-00388] c 28 N70-34788
- Nacelle afterbody for jet engines Patent  
[NASA-CASE-XLA-10450] c 28 N71-21493
- Integrated gas turbine engine-nacelle  
[NASA-CASE-LEW-12389-2] c 07 N78-18066
- Integrated gas turbine engine-nacelle  
[NASA-CASE-LEW-12389-3] c 07 N79-14096

**NASA PROGRAMS**

- Retractable environmental seal  
[NASA-CASE-MFS-23646-1] c 37 N79-22474

**NAVIGATION**

- Thumb-actuated two-axis controller  
[NASA-CASE-ARC-11372-1] c 08 N86-27288

**NAVIGATION AIDS**

- Magnetic heading reference  
[NASA-CASE-LAR-11387-1] c 04 N76-20114
- Ruler for making navigational computations  
[NASA-CASE-XNP-01458] c 04 N78-17031
- System for providing an integrated display of instantaneous information relative to aircraft attitude, heading, altitude, and horizontal situation  
[NASA-CASE-FRC-11005-1] c 06 N82-16075
- Magnetic heading reference  
[NASA-CASE-LAR-12638-1] c 04 N84-14132
- Low-frequency radio navigation system  
[NASA-CASE-NPO-15264-1] c 04 N84-27713

**NAVIGATION INSTRUMENTS**

- Sun angle calculator  
[NASA-CASE-MSC-12617-1] c 35 N76-29552

**NAVIGATION SATELLITES**

- Satellite aided vehicle avoidance system Patent  
[NASA-CASE-ERC-10090] c 21 N71-24948

**NEAR INFRARED RADIATION**

- Collimator of multiple plates with axially aligned identical random arrays of apertures  
[NASA-CASE-MFS-20546-2] c 14 N73-30389

**NEGATIVE FEEDBACK**

- Complementary regenerative switch Patent  
[NASA-CASE-XGS-02751] c 09 N71-23015
- Solid-state current transformer  
[NASA-CASE-MFS-22580-1] c 33 N77-14335

**NEGATIVE IONS**

- Generation of intense negative ion beams  
[NASA-CASE-NPO-16061-1-CU] c 72 N87-21660

**NEODYMIUM LASERS**

- Length controlled stabilized mode-lock ND:YAG laser  
[NASA-CASE-GSC-11571-1] c 36 N77-25499

**NERVES**

- Implantable electrical device  
[NASA-CASE-GSC-12560-1] c 52 N82-29863

**NETWORK SYNTHESIS**

- Electromagnetic polarization systems and methods Patent  
[NASA-CASE-GSC-10021-1] c 09 N71-24595
- High speed phase detector Patent  
[NASA-CASE-XNP-01306-2] c 09 N71-24596

- Tuned analog network  
[NASA-CASE-GSC-12650-1] c 33 N84-14421

**NEURAL NETS**

- Hybrid analog-digital associative neural network  
[NASA-CASE-NPO-17058-1-CU] c 62 N87-25803
- A method of up-front load balancing for local memory parallel processors  
[NASA-CASE-MSC-21348-1] c 62 N89-24084

**NEUROGLIA**

- Percutaneous connector device  
[NASA-CASE-KSC-10849-1] c 52 N77-14738

**NEUROLOGY**

- Implantable electrical device  
[NASA-CASE-GSC-12560-1] c 52 N82-29863

**NEUTRALIZERS**

- Method and apparatus for neutralizing potentials induced on spacecraft surfaces  
[NASA-CASE-GSC-11963-1] c 33 N77-10429
- Method of neutralizing the corrosive surface of amine-cured epoxy resins  
[NASA-CASE-GSC-12686-1] c 27 N83-34039

**NEUTRON EMISSION**

- Deuteron pass through target --- neutron emitting target  
[NASA-CASE-LEW-11866-1] c 72 N76-15860

**NICKEL**

- Process for producing dispersion strengthened nickel with aluminum Patent  
[NASA-CASE-XLE-06969] c 17 N71-24142
- Selective nickel deposition  
[NASA-CASE-LEW-10965-1] c 15 N72-25452
- Brazing alloy composition  
[NASA-CASE-XMF-06053] c 26 N75-27126
- Method of making reinforced composite structure  
[NASA-CASE-LEW-12619-1] c 24 N77-19171
- Directionally solidified eutectic gamma-gamma nickel-base superalloys  
[NASA-CASE-LEW-12905-1] c 26 N78-18183
- Method of making a light weight battery plaque  
[NASA-CASE-LEW-13349-1] c 26 N84-22734
- Metal (2) 4,4',4'' phthalocyanine tetraamines as curing agents for epoxy resins  
[NASA-CASE-ARC-11424-1] c 27 N85-34281
- Oxidation resistant slurry coating for carbon-based materials  
[NASA-CASE-LEW-13923-1] c 26 N85-35267

**NICKEL ALLOYS**

- High temperature nickel-base alloy Patent  
[NASA-CASE-XLE-00151] c 17 N70-33283
- Nickel-base alloy Patent  
[NASA-CASE-XLE-00283] c 17 N70-36616
- Nickel-base alloy containing Mo-W-Al-Cr-Ta-Zr-C-Nb-B Patent  
[NASA-CASE-XLE-02082] c 17 N71-16026
- Nickel base alloy  
[NASA-CASE-LEW-10874-1] c 17 N72-22535
- Diffusion welding --- heat treatment of nickel alloys following single step vacuum welding process  
[NASA-CASE-LEW-11388-2] c 37 N74-21055
- Method of heat treating age-hardenable alloys  
[NASA-CASE-XNP-01311] c 26 N75-29236
- Zirconium modified nickel-copper alloy  
[NASA-CASE-LEW-12245-1] c 26 N77-20201
- Directionally solidified eutectic gamma plus beta nickel-base superalloys  
[NASA-CASE-LEW-12906-1] c 26 N77-32279
- Nickel base alloy --- for gas turbine engine stator vanes  
[NASA-CASE-LEW-12270-1] c 26 N77-32280
- Nicral ternary alloy having improved cyclic oxidation resistance  
[NASA-CASE-LEW-13339-1] c 26 N82-31505
- Nickel base coating alloy  
[NASA-CASE-LEW-13834-1] c 26 N87-14482
- Heat treatment for superalloy  
[NASA-CASE-LEW-14262-1] c 26 N87-28647

**NICKEL CADMIUM BATTERIES**

- Heat flow calorimeter --- measures output of Ni-Cd batteries  
[NASA-CASE-GSC-11434-1] c 34 N74-27859
- Method and apparatus for conditioning of nickel-cadmium batteries  
[NASA-CASE-MFS-23270-1] c 44 N78-25531

**NICKEL COATINGS**

- Nickel aluminide coated low alloy stainless steel  
[NASA-CASE-LEW-11267-1] c 17 N73-32414
- Selective coating for solar panels --- using black chrome and black nickel  
[NASA-CASE-LEW-12159-1] c 44 N78-19599

**NICKEL COMPOUNDS**

- Didymium hydrate additive to nickel hydroxide electrodes Patent  
[NASA-CASE-XGS-03505] c 03 N71-10608
- Brazing alloy  
[NASA-CASE-XNP-03878] c 26 N75-27127

**NICKEL HYDROGEN BATTERIES**

- Oxygen recombination in individual pressure vessel nickel-hydrogen batteries  
[NASA-CASE-LEW-13822-1] c 44 N86-25874

**NICKEL PLATE**

- Plating nickel on aluminum castings Patent  
[NASA-CASE-XNP-04148] c 17 N71-24830

**NICKEL ZINC BATTERIES**

- Additive for zinc electrodes --- electric automobiles  
[NASA-CASE-LEW-13286-1] c 33 N84-14422

**NIOBIUM**

- Trialkyl-dihalotantalum and niobium compounds Patent  
[NASA-CASE-XNP-04023] c 06 N71-28808

**NIOBIUM COMPOUNDS**

- Method of producing high T(subc) superconducting NBN films  
[NASA-CASE-NPO-16681-1-CU] c 76 N88-24543

**NITRAMINE PROPELLANTS**

- Nitramine propellants --- gun propellant burning rate  
[NASA-CASE-NPO-14103-1] c 28 N78-31255

**NITRIC OXIDE**

- Reduction of nitric oxide emissions from a combustor  
[NASA-CASE-ARC-10814-2] c 07 N80-26298

**NITRIDES**

- Refractory coatings and method of producing the same  
[NASA-CASE-LEW-13169-1] c 26 N82-29415

- Method of producing high T(subc) superconducting NBN films  
[NASA-CASE-NPO-16681-1-CU] c 76 N88-24543

**NITRIDING**

- Ion-beam nitriding of steels  
[NASA-CASE-LEW-14104-2] c 26 N88-14179

**NITRILES**

- Intumescent paint containing nitrile rubber  
[NASA-CASE-ARC-10196-1] c 18 N73-13562
- Trimerization of aromatic nitriles  
[NASA-CASE-LEW-12053-1] c 27 N78-15276
- Process for preparing phthalocyanine polymer from imide containing bisphthalonitrile  
[NASA-CASE-ARC-11511-2] c 27 N87-21112

**NITRO COMPOUNDS**

- Intumescent coatings containing 4,4'-dinitrosulfanilide  
[NASA-CASE-ARC-11042-1] c 24 N78-14096

**NITROAMINES**

- Intumescent paints Patent  
[NASA-CASE-ARC-10099-1] c 18 N71-15469
- Polymeric vehicles as carriers for sulfonic acid salt of nitrosubstituted aromatic amines  
[NASA-CASE-ARC-10325] c 06 N72-25147

**NITROGEN**

- III-V photocathode with nitrogen doping for increased quantum efficiency  
[NASA-CASE-NPO-12134-1] c 33 N76-31409

**NITROGEN COMPOUNDS**

- Method for preparing addition type polyimide prepreps  
[NASA-CASE-LAR-12054-2] c 27 N81-14078

**NITROGEN OXIDES**

- Combustion engine --- for air pollution control  
[NASA-CASE-NPO-13671-1] c 37 N77-31497
- Combustor --- low nitrogen oxide formation  
[NASA-CASE-NPO-13958-1] c 25 N79-11151

**NITROGEN TETROXIDE**

- Procedure and apparatus for determination of water in nitrogen tetroxide  
[NASA-CASE-NPO-10234] c 06 N72-17094

**NITROGUANIDINE**

- Hydrazinium nitroformate propellant stabilized with nitroguanidine  
[NASA-CASE-NPO-12000] c 27 N72-25699

**NOBLE METALS**

- GaAs Schottky barrier photo-responsive device and method of fabrication  
[NASA-CASE-GSC-12816-1] c 76 N86-20150

**NODES (STANDING WAVES)**

- System for controlled acoustic rotation of objects  
[NASA-CASE-NPO-15522-1] c 71 N83-32516

**NOISE GENERATORS**

- Pseudo-noise test set for communication system evaluation --- test signals  
[NASA-CASE-MFS-22671-1] c 35 N75-21582
- Method of and means for testing a tape record/playback system  
[NASA-CASE-MFS-22671-2] c 35 N77-17426
- Active control of boundary layer transition and turbulence  
[NASA-CASE-LAR-13532-1] c 34 N86-26575

**NOISE METERS**

- Instrumentation for measurement of aircraft noise and sonic boom  
[NASA-CASE-LAR-11173-1] c 35 N75-19614
- Differential sound level meter  
[NASA-CASE-LAR-12106-1] c 71 N78-14867
- Ride quality meter  
[NASA-CASE-LAR-12882-1] c 35 N84-12445



## NOISE REDUCTION

- Jet aircraft configuration Patent  
[NASA-CASE-XLA-00087] c 02 N70-33332
- Cassegrainian antenna subreflector flange for suppressing ground noise Patent  
[NASA-CASE-XNP-00683] c 09 N70-35425
- Device for suppressing sound and heat produced by high-velocity exhaust jets Patent  
[NASA-CASE-XMF-01813] c 28 N70-41582
- Variable time constant smoothing circuit Patent  
[NASA-CASE-XGS-01983] c 10 N70-41964
- Digital telemetry system Patent  
[NASA-CASE-XGS-01812] c 07 N71-23001
- Audio signal processor Patent  
[NASA-CASE-MS-C-12223-1] c 07 N71-26181
- Variable frequency nuclear magnetic resonance spectrometer Patent  
[NASA-CASE-XNP-09830] c 14 N71-26266
- Method and apparatus for eliminating coherent noise in a coherent energy imaging system without destroying spatial coherence  
[NASA-CASE-GSC-11133-1] c 23 N72-11568
- Audio system with means for reducing noise effects  
[NASA-CASE-NPO-11631] c 10 N73-12244
- Gas turbine exhaust nozzle --- for noise reduction  
[NASA-CASE-LEW-11569-1] c 07 N74-15453
- Totally confined explosive welding --- apparatus to reduce noise level and protect personnel during explosive bonding  
[NASA-CASE-LAR-10941-1] c 37 N74-21057
- Jet exhaust noise suppressor  
[NASA-CASE-LEW-11286-1] c 07 N74-27490
- Supersonic fan blading --- noise reduction in turbofan engines  
[NASA-CASE-LEW-11402-1] c 07 N74-28226
- Variably positioned guide vanes for aerodynamic choking  
[NASA-CASE-LAR-10642-1] c 07 N74-31270
- Noise suppressor --- for turbofan engine by incorporating annular acoustically porous elements in exhaust and inlet ducts  
[NASA-CASE-LAR-11141-1] c 07 N74-32418
- Abating exhaust noises in jet engines  
[NASA-CASE-ARC-10712-1] c 07 N74-33218
- Television noise reduction device  
[NASA-CASE-MS-C-12607-1] c 32 N75-21485
- Cascade plug nozzle --- for jet noise reduction  
[NASA-CASE-LAR-11674-1] c 07 N76-18117
- Apparatus for reducing aerodynamic noise in a wind tunnel  
[NASA-CASE-MFS-23099-1] c 09 N76-23273
- Optical noise suppression device and method --- laser light exposing film  
[NASA-CASE-MS-C-12640-1] c 74 N76-31998
- Variable thrust nozzle for quiet turbofan engine and method of operating same  
[NASA-CASE-LEW-12317-1] c 07 N78-17055
- Magneto-optic detection system with noise cancellation  
[NASA-CASE-NPO-11954-1] c 35 N78-29421
- Totally confined explosive welding  
[NASA-CASE-LAR-10941-2] c 37 N79-13364
- Sound-suppressing structure with thermal relief  
[NASA-CASE-LEW-12658-1] c 71 N79-14871
- Acoustically swept rotor --- helicopter noise reduction  
[NASA-CASE-ARC-11106-1] c 05 N80-14107
- Support assembly for cryogenically coolable low-noise choke waveguide  
[NASA-CASE-NPO-14253-1] c 32 N80-32605
- Curved centerline air intake for a gas turbine engine  
[NASA-CASE-LEW-13201-1] c 07 N81-14999
- Multiple pure tone elimination strut assembly --- air breathing engines  
[NASA-CASE-FRC-11062-1] c 71 N82-16800
- Sound shield  
[NASA-CASE-LAR-12883-1] c 71 N83-17235
- Noise suppressor for turbo fan jet engines  
[NASA-CASE-ARC-10812-1] c 07 N83-33884
- Apparatus and method for jet noise suppression  
[NASA-CASE-LAR-11903-2] c 71 N84-14873
- Phase sensitive guidance sensor for wire-following vehicles  
[NASA-CASE-NPO-15341-1] c 35 N84-33769
- Comparator with noise suppression  
[NASA-CASE-LAR-13151-1] c 33 N87-21235
- NOISE TEMPERATURE**  
Method and means for providing an absolute power measurement capability Patent  
[NASA-CASE-ERC-11020] c 14 N71-26774
- NOISE THRESHOLD**  
Frequency modulation demodulator threshold extension device Patent  
[NASA-CASE-MS-C-12165-1] c 07 N71-33696
- NONADIABATIC CONDITIONS**  
Direct heating surface combustor  
[NASA-CASE-LEW-11877-1] c 34 N78-27357

## NONDESTRUCTIVE TESTS

- Determination of spot weld quality Patent  
[NASA-CASE-XNP-02588] c 15 N71-18613
- Space simulator Patent  
[NASA-CASE-NPO-10141] c 11 N71-24964
- Apparatus for inspecting microfilm Patent  
[NASA-CASE-MFS-20240] c 14 N71-26788
- Dye penetrant for surfaces subsequently contacted by liquid oxygen Patent  
[NASA-CASE-XMF-02221] c 18 N71-27170
- Method and device for detecting voids in low density material Patent  
[NASA-CASE-MFS-20044] c 14 N71-28993
- Holographic system for nondestructive testing  
[NASA-CASE-MFS-21704-1] c 35 N75-25124
- Method and apparatus for nondestructive testing of pressure vessels  
[NASA-CASE-NPO-12142-1] c 38 N76-28563
- Non-destructive method for applying and removing instrumentation on helicopter rotor blades  
[NASA-CASE-LAR-11201-1] c 35 N78-24515
- Hybrid holographic non-destructive test system  
[NASA-CASE-MFS-23114-1] c 38 N78-32447
- Insulation bonding test system  
[NASA-CASE-MFS-25862-1] c 27 N85-20126
- Method and apparatus for mapping the distribution of chemical elements in an extended medium  
[NASA-CASE-GSC-12808-1] c 25 N85-21279
- Ultrasonic angle beam standard reflector --- ultrasonic nondestructive inspection  
[NASA-CASE-LAR-13153-1] c 71 N86-21276
- Method and apparatus for measuring minority carrier lifetime in a direct band-gap semiconductor  
[NASA-CASE-NPO-16337-1-CU] c 33 N87-22894
- Acoustic emission frequency discrimination  
[NASA-CASE-MS-C-20467-1] c 35 N88-23966
- Method of radiographic inspection of wooden members  
[NASA-CASE-LAR-13724-1] c 38 N88-23983
- Method and apparatus for non-destructive testing of temper embrittlement in steels  
[NASA-CASE-LAR-13817-1] c 26 N88-29012

## NONEQUILIBRIUM CONDITIONS

- Condition sensor system and method  
[NASA-CASE-MS-C-14805-1] c 54 N78-32720

## NONEQUILIBRIUM PLASMAS

- Probes having ring and primary sensor at same potential to prevent collection of stray wall currents in ionized gases  
[NASA-CASE-XLE-00690] c 25 N69-39884

## NONEQUILIBRIUM RADIATION

- Non-equilibrium radiation nuclear reactor  
[NASA-CASE-HQN-10841-1] c 73 N78-19920

## NONFLAMMABLE MATERIALS

- Intumescent paint containing nitrile rubber  
[NASA-CASE-ARC-10196-1] c 18 N73-13562
- Non-flammable elastomeric fiber from a fluorinated elastomer and containing an halogenated flame retardant  
[NASA-CASE-MS-C-14331-1] c 27 N76-24405

## NONLINEAR FEEDBACK

- Coherent receiver employing nonlinear coherence detection for carrier tracking  
[NASA-CASE-NPO-11921-1] c 32 N74-30523
- Nonlinear nonsingular feedback shift registers  
[NASA-CASE-NPO-13451-1] c 33 N76-14373

## NONLINEAR FILTERS

- Apparatus for damping operator induced oscillations of a controlled system --- flight control  
[NASA-CASE-FRC-11041-1] c 33 N82-18493

## NONLINEAR SYSTEMS

- Phase detector assembly Patent  
[NASA-CASE-XMF-00701] c 09 N70-40272
- Nonlinear analog-to-digital converter Patent  
[NASA-CASE-XAC-04031] c 08 N71-18594
- Split range transducer  
[NASA-CASE-XLA-11189] c 10 N72-20222
- Contour measurement system  
[NASA-CASE-MFS-23726-1] c 43 N79-26439

## NORMAL DENSITY FUNCTIONS

- Ultrasonic transducer with Gaussian radial pressure distribution  
[NASA-CASE-LAR-12967-1] c 35 N84-22932

## NOSE CONES

- Automatically deploying nozzle exit cone extension Patent  
[NASA-CASE-XLE-01640] c 31 N71-15637
- Nose cone mounted heat resistant antenna Patent  
[NASA-CASE-XMS-04312] c 07 N71-22984

## NOSE WHEELS

- Nose gear steering system for vehicle with main skids Patent  
[NASA-CASE-XLA-01804] c 02 N70-34160

## NOTCH STRENGTH

- Active notch filter network with variable notch depth, width and frequency  
[NASA-CASE-FRC-11055-1] c 33 N80-29583

## NOTCH TESTS

- Vee-notching device --- with adjustable carriage  
[NASA-CASE-MFS-20730-1] c 39 N74-13131
- Notch filter  
[NASA-CASE-MFS-23303-1] c 32 N77-18307

## NOTCHES

- Notch filter  
[NASA-CASE-MFS-23303-1] c 32 N77-18307

## NOZZLE DESIGN

- Annular rocket motor and nozzle configuration Patent  
[NASA-CASE-XLE-00078] c 28 N70-33284
- Penshape exhaust nozzle for supersonic engine Patent  
[NASA-CASE-XLE-00057] c 28 N70-38711
- Telescoping-spike supersonic inlet for aircraft engines Patent  
[NASA-CASE-XLE-00005] c 28 N70-39899
- Automatically deploying nozzle exit cone extension Patent  
[NASA-CASE-XLE-01640] c 31 N71-15637
- Injector assembly for liquid fueled rocket engines Patent  
[NASA-CASE-XMF-00968] c 28 N71-15660
- Collapsible nozzle extension for rocket engines Patent  
[NASA-CASE-MFS-11497] c 28 N71-16224
- Gas turbine combustion apparatus Patent  
[NASA-CASE-XLE-103477-1] c 28 N71-20330
- Prestressed refractory structure Patent  
[NASA-CASE-XNP-02888] c 18 N71-21068
- Scanning nozzle plating system --- for etching or plating metals on substrates without masking  
[NASA-CASE-NPO-11758-1] c 31 N74-23065
- Variable thrust nozzle for quiet turbofan engine and method of operating same  
[NASA-CASE-LEW-12317-1] c 07 N78-17055
- Variable area exhaust nozzle  
[NASA-CASE-LEW-12378-1] c 07 N79-14097
- Aircraft engine nozzle  
[NASA-CASE-ARC-10977-1] c 07 N80-32392
- Sandblasting nozzle  
[NASA-CASE-NPO-13823-1] c 37 N81-25371
- Controlled overspray spray nozzle  
[NASA-CASE-MFS-25139-1] c 34 N82-13376

## NOZZLE FLOW

- Control system for rocket vehicles Patent  
[NASA-CASE-XLA-01163] c 21 N71-15582
- Aerodynamic spike nozzle Patent  
[NASA-CASE-XGS-01143] c 31 N71-15647
- Propellant mass distribution metering apparatus Patent  
[NASA-CASE-NPO-10185] c 10 N71-26339
- Tertiary flow injection thrust vectoring system Patent  
[NASA-CASE-MFS-20831] c 28 N71-29153
- Multi-purpose wind tunnel reaction control model block  
[NASA-CASE-MS-C-19706-1] c 09 N78-31129

## NOZZLE GEOMETRY

- Method of making a rocket nozzle  
[NASA-CASE-XMF-06884-1] c 20 N79-21123
- Nozzle fabrication technique  
[NASA-CASE-MS-C-21299-1] c 20 N88-24684

## NOZZLE INSERTS

- Self-sealing, unbonded, rocket motor nozzle closure Patent  
[NASA-CASE-XLA-02651] c 28 N70-41967
- Wind tunnel supplementary Mach number minimum section insert  
[NASA-CASE-LAR-12532-1] c 09 N82-11088

## NUCLEAR EXPLOSION EFFECT

- Method and construction for protecting heat sensitive bodies from thermal radiation and convective heat Patent  
[NASA-CASE-XNP-01310] c 33 N71-28852

## NUCLEAR FUEL ELEMENTS

- Nuclear fuel elements  
[NASA-CASE-XLE-00209] c 22 N73-32523

## NUCLEAR MAGNETIC RESONANCE

- Variable frequency nuclear magnetic resonance spectrometer Patent  
[NASA-CASE-XNP-09830] c 14 N71-26266

## NUCLEAR POWER PLANTS

- Self-adjusting multisegment, deployable, natural circulation radiator Patent  
[NASA-CASE-XHQ-03673] c 33 N71-29046

## NUCLEAR PUMPED LASERS

- Volumetric direct nuclear pumped laser  
[NASA-CASE-LAR-12183-1] c 36 N79-18307

## NUCLEAR PUMPING

- Large volume multiple-path nuclear pumped laser  
[NASA-CASE-LAR-12592-1] c 36 N82-13415



**NUCLEAR REACTOR CONTROL**

- Gaseous control system for nuclear reactors  
[NASA-CASE-XLE-04599] c 22 N72-20597
- Control for nuclear thermionic power source  
[NASA-CASE-NPO-13114-2] c 73 N78-28913

**NUCLEAR REACTORS**

- Nuclear thermionic converter --- tungsten-thorium oxide rods  
[NASA-CASE-NPO-13121-1] c 73 N77-18891
- High thermal power density heat transfer apparatus providing electrical isolation at high temperature using heat pipes  
[NASA-CASE-LEW-12950-2] c 34 N85-29179
- Jet pump-drive system for heat removal  
[NASA-CASE-NPO-16494-1-CU] c 34 N85-29182

**NUCLEATE BOILING**

- Method of improving heat transfer characteristics in a nucleate boiling process Patent  
[NASA-CASE-XMS-04268] c 33 N71-16277

**NUCLEOPHILES**

- Polymethylquinoxalines via aromatic nucleophilic displacement  
[NASA-CASE-LAR-13988-1] c 23 N89-11814

**NULL ZONES**

- Null device for hand controller Patent  
[NASA-CASE-XLA-01808] c 15 N71-20740

**NUMBER THEORY**

- Binary concatenated coding system  
[NASA-CASE-MS-C-14082-1] c 60 N76-23850

**NUMERICAL ANALYSIS**

- Method of and apparatus for generating an interstitial point in a data stream having an even number of data points  
[NASA-CASE-MFS-25319-1] c 60 N85-33701

**NUMERICAL CONTROL**

- Fringe counter for interferometers Patent  
[NASA-CASE-LAR-10204] c 14 N71-27215
- Digital numerically controlled oscillator  
[NASA-CASE-MS-C-16747-1] c 33 N81-17349
- Controller for computer control of brushless dc motors --- automobile engines  
[NASA-CASE-NPO-13970-1] c 33 N81-20352
- Reconfiguring redundancy management  
[NASA-CASE-MS-C-18498-1] c 60 N82-29013
- Brushless DC motor control system responsive to control signals generated by a computer or the like  
[NASA-CASE-NPO-16420-1] c 33 N86-20681
- Variable friction secondary seal for face seals  
[NASA-CASE-LEW-14170-1] c 37 N86-25790
- A universal computer control system for motors  
[NASA-CASE-NPO-17134-1-CU] c 33 N88-24864
- Smart tunnel: Docking mechanism  
[NASA-CASE-MS-C-21360-1] c 18 N89-25263
- Spacecraft component heater control system  
[NASA-CASE-MFS-28327-1] c 18 N89-28556

**NUMERICAL INTEGRATION**

- Apparatus for computing square roots Patent  
[NASA-CASE-XGS-04768] c 08 N71-19437

**NUTATION**

- Method and means for damping nutation in a satellite Patent  
[NASA-CASE-XMF-00442] c 31 N71-10747
- Nutation damper  
[NASA-CASE-GSC-11205-1] c 15 N73-25513

**NUTATION DAMPERS**

- Active nutation controller  
[NASA-CASE-GSC-12273-1] c 35 N80-21719
- Method of damping nutation motion with minimum spin axis attitude disturbance  
[NASA-CASE-GSC-12551-1] c 18 N83-28064

**NUTS (FASTENERS)**

- Separation nut Patent  
[NASA-CASE-XGS-01971] c 15 N71-15922
- Split nut separation system Patent  
[NASA-CASE-XNP-06914] c 15 N71-21489
- Fastener stretcher  
[NASA-CASE-GSC-11149-1] c 15 N73-30457
- High-torque open-end wrench  
[NASA-CASE-NPO-13541-1] c 37 N79-14383
- Floating nut retention system  
[NASA-CASE-MS-C-16938-1] c 37 N80-23653
- Daze fasteners  
[NASA-CASE-LAR-13009-2] c 37 N87-22976
- Tube coupling device  
[NASA-CASE-MFS-25964-2] c 37 N87-22977

**O****O RING SEALS**

- High pressure four-way valve Patent  
[NASA-CASE-XNP-00214] c 15 N70-36908
- Self-stabilizing radial face seal  
[NASA-CASE-LEW-12991-1] c 37 N81-24442
- Circumferential shaft seal  
[NASA-CASE-LEW-12119-2] c 37 N81-26447

- Modified spiral wound retaining ring  
[NASA-CASE-LAR-12361-1] c 37 N83-19091
- Resilient seal ring assembly with spring means applying force to wedge member --- cryogenic applications  
[NASA-CASE-MFS-25678-1] c 37 N84-11497
- Variable friction secondary seal for face seals  
[NASA-CASE-LEW-14170-1] c 37 N86-25790
- O-ring gasket test fixture  
[NASA-CASE-MFS-28376-1] c 14 N89-28546

**OBlique WINGS**

- Oblique-wing supersonic aircraft  
[NASA-CASE-ARC-10470-3] c 05 N76-29217

**OBSERVATION**

- Method for investigating the formation of crystals in a transparent material  
[NASA-CASE-MFS-26008-1-CU] c 76 N88-14835

**OCCLUSION**

- Prosthetic occlusive device for an internal passageway  
[NASA-CASE-MFS-25740-1] c 52 N84-11744

**OCEAN CURRENTS**

- Method and apparatus for Delta Kappa synthetic aperture radar measurement of ocean current  
[NASA-CASE-NPO-15704-1] c 32 N85-34327

**OCEAN DATA ACQUISITIONS SYSTEMS**

- Oceanic wave measurement system  
[NASA-CASE-MFS-23862-1] c 48 N80-18667
- Method of measuring sea surface water temperature with a satellite including wideband passive synthetic-aperture multichannel receiver  
[NASA-CASE-NPO-15651-1] c 43 N85-21723

**OCEAN SURFACE**

- Surface roughness measuring system --- synthetic aperture radar measurements of ocean wave height and terrain peaks  
[NASA-CASE-NPO-13862-1] c 35 N79-10391
- Oceanic wave measurement system  
[NASA-CASE-MFS-23862-1] c 48 N80-18667

**OCEAN THERMAL ENERGY CONVERSION**

- Ocean thermal plant  
[NASA-CASE-KSC-11034-1] c 44 N78-32542

**ODORS**

- Vapor fragrances  
[NASA-CASE-LAR-13680-1] c 35 N87-25561

**OFFSHORE PLATFORMS**

- Ocean thermal plant  
[NASA-CASE-KSC-11034-1] c 44 N78-32542

**OHMMETERS**

- Positive contact resistance soldering unit  
[NASA-CASE-KSC-10242] c 15 N72-23497
- Four-terminal electrical testing device --- initiator bridgeway resistance  
[NASA-CASE-MS-C-21166-1] c 35 N87-25555

**OIL EXPLORATION**

- Underwater seismic source --- for petroleum exploration  
[NASA-CASE-NPO-14255-1] c 46 N79-23555
- Borehole geological assessment  
[NASA-CASE-NPO-14231-1] c 46 N80-10709

**OIL RECOVERY**

- Oil and fat absorbing polymers  
[NASA-CASE-NPO-11609-2] c 27 N77-31308
- In-situ laser retorting of oil shale  
[NASA-CASE-LEW-12217-1] c 43 N78-14452
- Crude oil desulfurization  
[NASA-CASE-NPO-14542-1] c 25 N82-23282
- Solar heated oil shale pyrolysis process  
[NASA-CASE-NPO-16392-1] c 25 N86-25428

**OILS**

- Method of recording a gas flow pattern Patent  
[NASA-CASE-XMF-01779] c 12 N71-20815

- Oil and fat absorbing polymers  
[NASA-CASE-NPO-11609-2] c 27 N77-31308

**OMNIDIRECTIONAL ANTENNAS**

- Omnidirectional microwave spacecraft antenna Patent  
[NASA-CASE-XLA-03114] c 09 N71-22888
- Stacked array of omnidirectional antennas  
[NASA-CASE-LAR-10545-1] c 09 N72-21244
- Omnidirectional slot antenna for mounting on cylindrical space vehicle  
[NASA-CASE-LAR-10163-1] c 09 N72-25247

**ONBOARD EQUIPMENT**

- Survival couch Patent  
[NASA-CASE-XLA-00118] c 05 N70-33285
- Cryogenic storage system Patent  
[NASA-CASE-XMS-04390] c 31 N70-41871
- Fiber optic vibration transducer and analyzer Patent  
[NASA-CASE-XMF-02433] c 14 N71-10616
- Satellite appendage tie down cord Patent  
[NASA-CASE-XGS-02554] c 31 N71-21064
- Satellite aided vehicle avoidance system Patent  
[NASA-CASE-ERC-10090] c 21 N71-24948
- A dc servosystem including an ac motor Patent  
[NASA-CASE-NPO-10700] c 07 N71-33613
- Collapsible Apollo couch  
[NASA-CASE-MS-C-13140] c 05 N72-11085

- Monostable multivibrator  
[NASA-CASE-GSC-10082-1] c 10 N72-20221
- Delayed simultaneous release mechanism  
[NASA-CASE-GSC-10814-1] c 03 N73-20039
- Electronic strain-level counter  
[NASA-CASE-LAR-10756-1] c 32 N73-26910
- Magnetic heading reference  
[NASA-CASE-LAR-11387-1] c 04 N76-20114

**OPEN CHANNEL FLOW**

- Monogroove heat pipe design: Insulated liquid channel with bridging wick  
[NASA-CASE-MSC-20497-1] c 34 N85-29180

**OPERATING TEMPERATURE**

- Solar cell having improved back surface reflector  
[NASA-CASE-LEW-13620-1] c 44 N83-13579

**OPERATIONAL AMPLIFIERS**

- Digital automatic gain amplifier  
[NASA-CASE-KSC-11008-1] c 33 N79-22373
- Automatic level control circuit  
[NASA-CASE-KSC-11170-1] c 33 N83-36356
- Phase detector for three-phase power factor controller  
[NASA-CASE-MFS-25854-1] c 33 N84-27975
- Temperature sensitive oscillator  
[NASA-CASE-GSC-12958-1] c 33 N86-32624

**OPHTHALMOLOGY**

- Ophthalmic method and apparatus  
[NASA-CASE-LEW-11669-1] c 05 N73-27062
- Ophthalmic liquefaction pump  
[NASA-CASE-LEW-12051-1] c 52 N75-33640

**OPTICAL COMMUNICATION**

- Retrodirective optical system  
[NASA-CASE-XGS-04480] c 16 N69-27491
- Optical communications system Patent  
[NASA-CASE-XLA-01090] c 07 N71-12389
- Optical frequency waveguide and transmission system Patent  
[NASA-CASE-HQN-10541-4] c 16 N71-27183
- High pulse rate high resolution optical radar system  
[NASA-CASE-NPO-11426] c 07 N73-26119
- Apparatus for simulating optical transmission links  
[NASA-CASE-GSC-11877-1] c 74 N76-18913
- Fiber distributed feedback laser  
[NASA-CASE-NPO-13531-1] c 36 N76-24553
- Polarization compensator for optical communications  
[NASA-CASE-GSC-11782-1] c 74 N76-30053
- Gregorian all-reflective optical system  
[NASA-CASE-GSC-12058-1] c 74 N77-26942
- Wideband heterodyne receiver for laser communication system  
[NASA-CASE-GSC-12053-1] c 32 N77-28346
- Fiber optic multiplex optical transmission system  
[NASA-CASE-KSC-11047-1] c 74 N78-14889
- Fiber optic crossbar switch for automatically patching optical signals  
[NASA-CASE-KSC-11104-1] c 74 N83-29032
- Synchronization tracking in pulse position modulation receiver  
[NASA-CASE-NPO-16256-1] c 32 N87-21207

**OPTICAL COUPLING**

- Automatic quadrature control and measuring system --- using optical coupling circuitry  
[NASA-CASE-MFS-21660-1] c 35 N74-21017
- Optical fiber coupling method and apparatus  
[NASA-CASE-NPO-15464-1] c 74 N85-29749

**OPTICAL DATA PROCESSING**

- Optical data processing using paraboloidal mirror segments  
[NASA-CASE-GSC-11296-1] c 23 N73-30666
- Recorder/processor apparatus --- for optical data processing  
[NASA-CASE-GSC-11553-1] c 35 N74-15831
- Multibeam single frequency synthetic aperture radar processor for imaging separate range swaths  
[NASA-CASE-NPO-14525-1] c 32 N79-19195
- Interleaving device  
[NASA-CASE-GSC-12111-2] c 33 N81-29342
- Real-time multiple-look synthetic aperture radar processor for spacecraft applications  
[NASA-CASE-NPO-14054-1] c 32 N82-12297
- Multibeam single frequency synthetic aperture radar processor for imaging separate range swaths  
[NASA-CASE-NPO-14525-2] c 32 N83-31918
- Optical stereo video signal processor  
[NASA-CASE-MFS-25752-1] c 74 N86-21348
- Remotely controllable real-time optical processor  
[NASA-CASE-NPO-16750-1-CU] c 74 N89-14078

**OPTICAL DENSITY**

- Medical diagnosis system and method with multispectral imaging --- depth of burns and optical density of the skin  
[NASA-CASE-NPO-14402-1] c 52 N81-27783

**OPTICAL EMISSION SPECTROSCOPY**

- Laser schlieren crystal monitor  
[NASA-CASE-MFS-28060-1] c 76 N87-25862
- Maksutov spectrograph Patent  
[NASA-CASE-XLA-10402] c 14 N71-29041

- Method and apparatus for determining optical absorption and emission characteristics of a crystal or non-crystalline fiber  
[NASA-CASE-LAR-13963-1] c 76 N89-14119
- OPTICAL EQUIPMENT**
- Light detection instrument Patent  
[NASA-CASE-XGS-05534] c 23 N71-16355
- Optical characteristics measuring apparatus Patent  
[NASA-CASE-XNP-08840] c 23 N71-16365
- Combined optical attitude and altitude indicating instrument Patent  
[NASA-CASE-XLA-01907] c 14 N71-23268
- Laser grating interferometer Patent  
[NASA-CASE-XLA-04295] c 16 N71-24170
- Optical mirror apparatus Patent  
[NASA-CASE-ERC-10001] c 23 N71-24868
- Method for generating ultra-precise angles Patent  
[NASA-CASE-XGS-04173] c 19 N71-26674
- Petzval type objective including field shaping lens Patent  
[NASA-CASE-GSC-10700] c 23 N71-30027
- Compact spectroradiometer  
[NASA-CASE-HQN-10683] c 14 N71-34389
- Fine adjustment mount  
[NASA-CASE-MFS-20249] c 15 N72-11386
- Method of coating solar cell with borosilicate glass and resultant product  
[NASA-CASE-GSC-11514-1] c 03 N72-24037
- Light sensor  
[NASA-CASE-NPO-11311] c 14 N72-25414
- Boreoscope with variable angle scope  
[NASA-CASE-MFS-15162] c 14 N72-32452
- Cyclically operable optical shutter  
[NASA-CASE-NPO-10758] c 14 N73-14427
- Star tracking reticles and process for the production thereof  
[NASA-CASE-GSC-11188-2] c 21 N73-19630
- Infrared horizon locator  
[NASA-CASE-LAR-10726-1] c 14 N73-20475
- Multiple pass reimaging optical system  
[NASA-CASE-ARC-10194-1] c 23 N73-20741
- Attitude sensor  
[NASA-CASE-LAR-10586-1] c 19 N74-15089
- Formation of star tracking reticles  
[NASA-CASE-GSC-11188-3] c 74 N74-20008
- Method and apparatus for optically monitoring the angular position of a rotating mirror  
[NASA-CASE-GSC-11353-1] c 74 N74-21304
- Single reflector interference spectrometer and drive system therefor  
[NASA-CASE-NPO-11932-1] c 35 N74-23040
- Strain gauge ambiguity sensor for segmented mirror active optical system  
[NASA-CASE-MFS-20506-1] c 35 N75-12273
- Optical alignment device  
[NASA-CASE-ARC-10932-1] c 74 N76-22993
- Visual examination apparatus  
[US-PATENT-RE-28,921] c 52 N76-30793
- Optical instrument employing reticle having preselected visual response pattern formed thereon  
[NASA-CASE-ARC-10976-1] c 74 N77-22950
- Opto-mechanical subsystem with temperature compensation through isothermal design  
[NASA-CASE-GSC-12059-1] c 35 N77-27366
- Method and apparatus for producing an image from a transparent object  
[NASA-CASE-GSC-11989-1] c 74 N77-28932
- Method of treating the surface of a glass member  
[NASA-CASE-GSC-12110-1] c 27 N77-32308
- Process for producing a well-adhered durable optical coating on an optical plastic substrate --- abrasion resistant polymethyl methacrylate lenses  
[NASA-CASE-ARC-11039-1] c 74 N78-32854
- Water system virus detection  
[NASA-CASE-MSC-16098-1] c 51 N79-10693
- Method of forming a sharp edge on an optical device  
[NASA-CASE-GSC-12348-1] c 74 N80-24149
- Rhomboid prism pair for rotating the plane of parallel light beams  
[NASA-CASE-ARC-11311-1] c 74 N83-13978
- High speed multi focal plane optical system  
[NASA-CASE-GSC-12683-1] c 74 N83-36898
- Optical system  
[NASA-CASE-NPO-15801-1] c 74 N85-23396
- High-temperature, high-pressure optical cell  
[NASA-CASE-MFS-26000-1] c 74 N87-14971
- OPTICAL FIBERS**
- Method and apparatus for determining optical absorption and emission characteristics of a crystal or non-crystalline fiber  
[NASA-CASE-LAR-13963-1] c 76 N89-14119
- OPTICAL FILTERS**
- High temperature lens construction Patent  
[NASA-CASE-XNP-04111] c 14 N71-15622

- Method and apparatus for eliminating coherent noise in a coherent energy imaging system without destroying spatial coherence  
[NASA-CASE-GSC-11133-1] c 23 N72-11568
- Optical noise suppression device and method --- laser light exposing film  
[NASA-CASE-MSC-12640-1] c 74 N76-31998
- System for producing chroma signals  
[NASA-CASE-MSC-14683-1] c 74 N77-18893
- Optical conversion method --- for spacecraft television  
[NASA-CASE-MSC-12618-1] c 74 N78-17865
- Partial polarizer filter  
[NASA-CASE-GSC-12225-1] c 74 N79-14891
- Portable reflectance spectrometer  
[NASA-CASE-NPO-13556-1] c 35 N84-33766
- Multispectral linear array multiband selection device  
[NASA-CASE-GSC-12911-1] c 74 N86-29650
- Method and apparatus for making an optical element having a dielectric film  
[NASA-CASE-ARC-11611-1] c 74 N87-28416
- OPTICAL GYROSCOPES**
- Optical gyroscope system  
[NASA-CASE-NPO-14258-1] c 35 N81-33448
- Laser pulse detection method and apparatus  
[NASA-CASE-NPO-16030-1] c 36 N84-25037
- Closed loop fiber optic rotation sensor  
[NASA-CASE-NPO-16558-1-CU] c 74 N87-23259
- OPTICAL HETERODYNING**
- Multispectral imaging system  
[NASA-CASE-MSC-12404-1] c 23 N73-13661
- Gregorian all-reflective optical system  
[NASA-CASE-GSC-12058-1] c 74 N77-26942
- Wideband heterodyne receiver for laser communication system  
[NASA-CASE-GSC-12053-1] c 32 N77-28346
- OPTICAL MATERIALS**
- Process for producing a well-adhered durable optical coating on an optical plastic substrate --- abrasion resistant polymethyl methacrylate lenses  
[NASA-CASE-ARC-11039-1] c 74 N78-32854
- Containerless high purity pulling process and apparatus for glass fiber  
[NASA-CASE-MFS-25905-2] c 31 N86-21718
- OPTICAL MEASUREMENT**
- Passive optical wind and turbulence detection system Patent  
[NASA-CASE-XMF-14032] c 20 N71-16340
- Ellipsoidal mirror reflectometer including means for averaging the radiation reflected from the sample Patent  
[NASA-CASE-XGS-05291] c 23 N71-16341
- Single reflector interference spectrometer and drive system therefor  
[NASA-CASE-NPO-11932-1] c 35 N74-23040
- Hybrid holographic non-destructive test system  
[NASA-CASE-MFS-23114-1] c 38 N78-32447
- Plural output optometric sample cell and analysis system  
[NASA-CASE-NPO-10233-1] c 74 N78-33913
- Film advance indicator  
[NASA-CASE-LAR-12474-1] c 35 N82-26628
- Interferometric angle monitor  
[NASA-CASE-GSC-12614-1] c 74 N83-32577
- Rotary target V-block  
[NASA-CASE-LAR-12007-3] c 35 N84-16523
- Portable reflectance spectrometer  
[NASA-CASE-NPO-13556-1] c 35 N84-33766
- Optical multiple sample vacuum integrating sphere  
[NASA-CASE-GSC-12849-1] c 74 N86-26190
- OPTICAL MEASURING INSTRUMENTS**
- Optically pumped resonance magnetometer for determining vectorial components in a spatial coordinate system Patent  
[NASA-CASE-XGS-04879] c 14 N71-20428
- Optical machine tool alignment indicator Patent  
[NASA-CASE-XAC-09489-1] c 15 N71-26673
- Optical systems having spatially invariant outputs  
[NASA-CASE-ERC-10248] c 14 N72-17323
- Optical probing of supersonic flows with statistical correlation  
[NASA-CASE-MFS-20642] c 14 N72-21407
- Multiparameter vision testing apparatus  
[NASA-CASE-MSC-13601-2] c 54 N75-27759
- Noncontacting method for measuring angular deflection  
[NASA-CASE-LAR-12178-1] c 74 N80-21138
- Visible and infrared polarization ratio spectrophotometer  
[NASA-CASE-LAR-12285-1] c 35 N80-28687
- Interferometer  
[NASA-CASE-NPO-14502-1] c 74 N81-17888
- Optical crystal temperature gauge with fiber optic connections  
[NASA-CASE-MSC-18627-1] c 74 N82-30071
- Optical fiber tactile sensor  
[NASA-CASE-NPO-15375-1] c 74 N84-11921

- Optical distance measuring instrument  
[NASA-CASE-GSC-12761-1] c 74 N86-32266
- Vibration-free Raman Doppler velocimeter  
[NASA-CASE-LAR-13268-1] c 35 N87-14669
- Phase length optical phase-locked-loop sensor  
[NASA-CASE-LAR-13387-1] c 74 N88-25302
- OPTICAL PATHS**
- Optical instruments  
[NASA-CASE-MSC-14096-1] c 74 N74-15095
- Large volume multiple-path nuclear pumped laser  
[NASA-CASE-LAR-12592-1] c 36 N82-13415
- Phase length optical phase-locked-loop sensor  
[NASA-CASE-LAR-13387-1] c 74 N88-25302
- OPTICAL POLARIZATION**
- Real-time image difference detection using a polarization rotation spatial light modulator  
[NASA-CASE-NPO-17144-1-CU] c 74 N88-25305
- OPTICAL PROPERTIES**
- Optical torquemeter Patent  
[NASA-CASE-XLE-00503] c 14 N70-34818
- Quasi-optical microwave component Patent  
[NASA-CASE-ERC-10011] c 07 N71-29065
- Light sensor  
[NASA-CASE-NPO-11311] c 14 N72-25414
- Light direction sensor  
[NASA-CASE-NPO-11201] c 14 N72-27409
- Device and method for determining X ray reflection efficiency of optical surfaces  
[NASA-CASE-MFS-20243] c 23 N73-13662
- Formation of star tracking reticles  
[NASA-CASE-GSC-11188-3] c 74 N74-20008
- Optically actuated two position mechanical mover  
[NASA-CASE-NPO-13105-1] c 37 N74-21060
- Modification of the electrical and optical properties of polymers --- ion irradiation to create texture  
[NASA-CASE-LEW-13027-1] c 27 N80-24437
- OPTICAL PUMPING**
- Optical pump and driver system for lasers  
[NASA-CASE-ERC-10283] c 16 N72-25485
- Laser head for simultaneous optical pumping of several dye lasers --- with single flash lamp  
[NASA-CASE-LAR-11341-1] c 36 N75-19655
- Stabilization of He2(a 3 Sigma u+ molecules in liquid helium by optical pumping for vacuum UV laser 6  
[NASA-CASE-NPO-13993-1] c 72 N79-13826
- Active lamp pulse driver circuit --- optical pumping of laser media  
[NASA-CASE-GSC-12566-1] c 33 N83-34189
- Off-axis coherently pumped laser  
[NASA-CASE-GSC-12592-1] c 36 N84-28065
- OPTICAL PYROMETERS**
- Motion picture camera for optical pyrometry Patent  
[NASA-CASE-XLA-00062] c 14 N70-33254
- OPTICAL RADAR**
- Acquisition and tracking system for optical radar  
[NASA-CASE-MFS-20125] c 16 N72-13437
- OPTICAL RANGE FINDERS**
- Altitude sensing device  
[NASA-CASE-XMS-01994-1] c 14 N72-17326
- Optical range finder having nonoverlapping complete images  
[NASA-CASE-MSC-12105-1] c 14 N72-21409
- OPTICAL REFLECTION**
- Hybrid holographic system using reflected and transmitted object beams simultaneously Patent  
[NASA-CASE-MFS-20074] c 16 N71-15565
- Method for generating ultra-precise angles Patent  
[NASA-CASE-XGS-04173] c 19 N71-26674
- Illumination system including a virtual light source Patent  
[NASA-CASE-HQN-10781] c 23 N71-30292
- Diffuse reflective coating  
[NASA-CASE-GSC-11214-1] c 06 N73-13128
- Gregorian all-reflective optical system  
[NASA-CASE-GSC-12058-1] c 74 N77-26942
- Lightweight reflector assembly  
[NASA-CASE-NPO-13707-1] c 74 N77-28933
- Method and apparatus for splitting a beam of energy --- optical communication  
[NASA-CASE-GSC-12083-1] c 73 N78-32848
- Apparatus for and method of compensating dynamic unbalance  
[NASA-CASE-GSC-12550-1] c 37 N84-28082
- Phase length optical phase-locked-loop sensor  
[NASA-CASE-LAR-13387-1] c 74 N88-25302
- OPTICAL RESONANCE**
- Optically pumped resonance magnetometer for determining vectorial components in a spatial coordinate system Patent  
[NASA-CASE-XGS-04879] c 14 N71-20428
- Laser system with an antiresonant optical ring  
[NASA-CASE-HQN-10844-1] c 36 N75-19653
- OPTICAL SCANNERS**
- Optical spin compensator  
[NASA-CASE-XGS-02401] c 14 N69-27485

- Optical inspection apparatus Patent  
[NASA-CASE-XMF-00462] c 14 N70-34298
- Electro-optical scanning apparatus Patent Application  
[NASA-CASE-NPO-11106] c 14 N70-34697
- Multi-lobar scan horizon sensor Patent  
[NASA-CASE-XGS-00809] c 21 N70-35427
- Optical binocular scanning apparatus  
[NASA-CASE-NPO-11002] c 14 N72-22441
- Spacecraft attitude sensor  
[NASA-CASE-GSC-10890-1] c 21 N73-30640
- Optical instruments  
[NASA-CASE-MS-C-14096-1] c 74 N74-15095
- Dual digital video switcher  
[NASA-CASE-KSC-10782-1] c 33 N75-30431
- Traffic survey system --- using optical scanners  
[NASA-CASE-MFS-22631-1] c 66 N76-19888
- Optical scanner --- laser doppler velocimeters  
[NASA-CASE-LAR-11711-1] c 74 N78-17866
- Device for measuring the contour of a surface  
[NASA-CASE-LAR-11869-1] c 74 N78-27904
- Velocity servo for continuous scan Fourier interference spectrometer  
[NASA-CASE-NPO-14093-1] c 35 N80-20563
- Method of growing a ribbon crystal particularly suited for facilitating automated control of ribbon width  
[NASA-CASE-NPO-14295-1] c 76 N80-32245
- Scanning afocal laser velocimeter projection lens system  
[NASA-CASE-LAR-12328-1] c 36 N82-32712
- Optical scanner  
[NASA-CASE-GSC-12897-1] c 74 N87-21679
- OPTICAL TRACKING**  
Sun tracker with rotatable plane-parallel plate and two photocells Patent  
[NASA-CASE-XGS-01159] c 21 N71-10678
- Optical tracker having overlapping reticles on parallel axes Patent  
[NASA-CASE-XGS-05715] c 23 N71-16100
- Optical tracking mount Patent  
[NASA-CASE-MFS-14017] c 14 N71-26627
- Solar tracking system  
[NASA-CASE-MFS-23999-1] c 44 N81-24520
- Longwall shearer tracking system  
[NASA-CASE-MFS-25717-1] c 35 N84-33768
- Retinally stabilized differential resolution television display  
[NASA-CASE-NPO-15432-1] c 32 N85-29117
- Optical stereo video signal processor  
[NASA-CASE-MFS-25752-1] c 74 N86-21348
- Real-time optical multiple object recognition and tracking system and method  
[NASA-CASE-NPO-17139-1-CU] c 74 N88-25301
- OPTICAL TRANSFER FUNCTION**  
Electronic optical transfer function analyzer  
[NASA-CASE-MFS-21672-1] c 74 N76-19935
- OPTICAL WAVEGUIDES**  
Fiber optic transmission line stabilization apparatus and method  
[NASA-CASE-NPO-15036-1] c 74 N82-19029
- OPTIMIZATION**  
Maximum power point tracker Patent  
[NASA-CASE-GSC-10376-1] c 14 N71-27407
- OPTOELECTRONIC DEVICES**  
Television monitor field shifter and an opto-electronic method for obtaining a stereo image of optimal depth resolution and reduced depth distortion on a single screen  
[NASA-CASE-NPO-17249-1-CU] c 32 N89-28676
- OPTOGALVANIC SPECTROSCOPY**  
Discharge cell for optogalvanic spectroscopy having orthogonal relationship between the probe laser and discharge axis  
[NASA-CASE-NPO-16271-1] c 35 N86-25753
- ORAL HYGIENE**  
Acoustic tooth cleaner  
[NASA-CASE-LAR-12471-1] c 52 N82-29862
- ORBIT TRANSFER VEHICLES**  
Tanker orbit transfer vehicle and method  
[NASA-CASE-MS-C-20543-1] c 18 N84-22610
- ORBITAL ASSEMBLY**  
Structural members, method and apparatus  
[NASA-CASE-MS-C-16217-1] c 31 N81-27323
- Beam connector apparatus and assembly  
[NASA-CASE-MFS-25134-1] c 31 N83-31895
- Space spider crane  
[NASA-CASE-LAR-13411-1-SB] c 18 N88-23828
- Bi-stem gripping apparatus  
[NASA-CASE-MFS-28185-1] c 37 N88-23979
- Mobile remote manipulator system for a tetrahedral truss  
[NASA-CASE-MS-C-20985-1] c 18 N88-26398
- ORBITAL LAUNCHING**  
Space probe/satellite ejection apparatus for spacecraft  
[NASA-CASE-MFS-25429-1] c 18 N86-20469
- ORBITAL MANEUVERING VEHICLES**  
Orbital maneuvering end effectors  
[NASA-CASE-MFS-28161-1] c 37 N87-18817
- Mobile remote manipulator vehicle system  
[NASA-CASE-LAR-13393-1] c 54 N87-29118
- ORBITAL MANEUVERS**  
Passive propellant system  
[NASA-CASE-MFS-23642-1] c 20 N80-10278
- ORBITAL MECHANICS**  
A method of delivering a vehicle to earth orbit and returning the reusable portion thereof to earth  
[NASA-CASE-MS-C-12391] c 30 N73-12884
- ORBITAL SERVICING**  
Electrical self-aligning connector --- orbital servicer vehicles  
[NASA-CASE-MFS-25211-2] c 33 N84-14423
- Tanker orbit transfer vehicle and method  
[NASA-CASE-MS-C-20543-1] c 18 N84-22610
- Shuttle-launch triangular space station  
[NASA-CASE-MS-C-20676-1] c 18 N86-24729
- Mobile remote manipulator vehicle system  
[NASA-CASE-LAR-13393-1] c 54 N87-29118
- Quick-disconnect inflatable seal assembly  
[NASA-CASE-KSC-11368-1] c 37 N89-13786
- ORDNANCE**  
Timing control system  
[NASA-CASE-NPO-16882-1-CU] c 33 N88-24863
- ORGANIC CHEMISTRY**  
Process for interfacial polymerization of pyromellitic dianhydride and 1,2,4,5-tetraamino-benzene Patent  
[NASA-CASE-XLA-03104] c 06 N71-11235
- Amino acid analysis  
[NASA-CASE-NPO-12130-1] c 25 N75-14844
- ORGANIC COMPOUNDS**  
Process for preparation of dianilinosilanes Patent  
[NASA-CASE-XMF-06409] c 06 N71-23230
- Dicyanoacetylene polymers Patent  
[NASA-CASE-XNP-03250] c 06 N71-23500
- Epoxy-aziridine polymer product Patent  
[NASA-CASE-NPO-10701] c 06 N71-28620
- Diffuse reflective coating  
[NASA-CASE-GSC-11214-1] c 06 N73-13128
- Automated system for identifying traces of organic chemical compounds in aqueous solutions  
[NASA-CASE-NPO-13063-1] c 25 N76-18245
- Analysis of volatile organic compounds --- trace amounts of organic volatiles in gas samples  
[NASA-CASE-MS-C-14428-1] c 23 N77-17161
- Electrophotolysis oxidation system for measurement of organic concentration in water  
[NASA-CASE-MS-C-16497-1] c 25 N82-12166
- Thermoset-thermoplastic aromatic polyamide containing N-propargyl groups  
[NASA-CASE-LAR-12723-2] c 27 N84-22746
- Amine terminated bisaspartamide polymer  
[NASA-CASE-ARC-11421-2] c 27 N86-31726
- The 1-(diorganoxy phosphonyl) methyl-2,4- and -2,6-diamino benzenes and their derivatives  
[NASA-CASE-ARC-11425-2] c 23 N87-28605
- ORGANIC MATERIALS**  
Process for crosslinking methylene-containing aromatic polymers with ionizing radiation  
[NASA-CASE-LAR-13448-1] c 27 N86-24840
- ORGANIC SILICON COMPOUNDS**  
Oxygen post-treatment of plastic surface coated with plasma polymerized silicon-containing monomers  
[NASA-CASE-ARC-10915-2] c 27 N79-18052
- Boron-containing organosilane polymers and ceramic materials thereof  
[NASA-CASE-ARC-11649-1-SB] c 27 N88-29040
- ORGANIC SULFUR COMPOUNDS**  
Coal desulfurization --- using iron pentacarbonyl  
[NASA-CASE-NPO-14272-1] c 25 N81-33246
- ORGANOMETALLIC COMPOUNDS**  
Ammonium perchlorate composite propellant containing an organic transitional metal chelate catalytic additive Patent  
[NASA-CASE-LAR-10173-1] c 27 N71-14090
- Trialkyl-dihaloantantalum and niobium compounds Patent  
[NASA-CASE-XNP-04023] c 06 N71-28808
- Carboranyl-methylene-substituted phosphazenes and polymers thereof  
[NASA-CASE-ARC-11370-1] c 27 N84-22750
- Method for forming hermetic seals  
[NASA-CASE-NPO-16423-1-CU] c 37 N87-21334
- ORGANOMETALLIC POLYMERS**  
Metal containing polymers from cyclic tetrameric phenylphosphonitriamides Patent  
[NASA-CASE-HQN-10364] c 06 N71-27363
- Thiophenyl ether disiloxanes and trisiloxanes useful as lubricant fluids  
[NASA-CASE-MFS-22411-1] c 37 N74-21058
- ORIFICE FLOW**  
Relief valve  
[NASA-CASE-XMS-05894-1] c 15 N69-21924
- ORIFICES**  
Rocket engine injector Patent  
[NASA-CASE-XLE-03157] c 28 N71-24736
- Liquid seeding atomizer  
[NASA-CASE-ARC-11631-1] c 34 N87-21255
- ORTHO HYDROGEN**  
Cooling by conversion of para to ortho-hydrogen  
[NASA-CASE-GSC-12770-1] c 25 N83-29324
- ORTHO PARA CONVERSION**  
Cooling by conversion of para to ortho-hydrogen  
[NASA-CASE-GSC-12770-1] c 25 N83-29324
- ORTHOGONAL MULTIPLEXING THEORY**  
Minimal logic block encoder Patent  
[NASA-CASE-NPO-10595] c 10 N71-25917
- ORTHOGONALITY**  
Floating two force component measuring device Patent  
[NASA-CASE-XAC-04885] c 14 N71-23790
- Geometries for roughness shapes in laminar flow  
[NASA-CASE-LAR-13255-1] c 02 N87-16793
- ORTHOPEDICS**  
Locking mechanism for orthopedic braces  
[NASA-CASE-GSC-12082-1] c 54 N76-22914
- Locking mechanism for orthopedic braces  
[NASA-CASE-GSC-12082-2] c 52 N81-25661
- ORTHOTROPIC CYLINDERS**  
Method of making a rocket motor casing Patent  
[NASA-CASE-XLE-00409] c 28 N71-15658
- Rocket motor casing Patent  
[NASA-CASE-XLE-05689] c 28 N71-15659
- OSCILLATION DAMPERS**  
Viscous-pendulum-damper Patent  
[NASA-CASE-XLA-02079] c 12 N71-16894
- Stabilization of gravity oriented satellites Patent  
[NASA-CASE-XAC-01591] c 31 N71-17729
- Suspended mass impact damper Patent  
[NASA-CASE-LAR-10193-1] c 15 N71-27146
- Wind tunnel model damper Patent  
[NASA-CASE-XLA-09480] c 11 N71-33612
- Apparatus for damping operator induced oscillations of a controlled system --- flight control  
[NASA-CASE-FRC-11041-1] c 33 N82-18493
- Method of damping nutation motion with minimum spin axis attitude disturbance  
[NASA-CASE-GSC-12551-1] c 18 N83-28064
- Variable force, eddy-current or magnetic damper  
[NASA-CASE-LEW-13717-1] c 37 N85-30333
- OSCILLATIONS**  
Parasitic suppressing circuit  
[NASA-CASE-ERC-10403-1] c 10 N73-26228
- Stabilization and oscillation of an acoustically levitated object  
[NASA-CASE-NPO-16896-1-CU] c 71 N89-13236
- OSCILLATORS**  
Electromagnetic mirror drive system  
[NASA-CASE-XLA-03724] c 14 N69-27461
- Frequency control network for a current feedback oscillator Patent  
[NASA-CASE-GSC-10041-1] c 10 N71-19418
- Static inverter Patent  
[NASA-CASE-XGS-05289] c 09 N71-19470
- Signal ratio system utilizing voltage controlled oscillators Patent  
[NASA-CASE-XMF-04367] c 09 N71-23545
- Pneumatic oscillator Patent  
[NASA-CASE-LEW-10345-1] c 10 N71-25899
- Wideband VCO with high phase stability Patent  
[NASA-CASE-XLA-03893] c 10 N71-27271
- Variable frequency oscillator with temperature compensation Patent  
[NASA-CASE-XNP-03916] c 09 N71-28810
- Inverter oscillator with voltage feedback  
[NASA-CASE-NPO-10760] c 09 N72-25254
- Controlled oscillator system with a time dependent output frequency  
[NASA-CASE-NPO-11962-1] c 33 N74-10194
- Ultra-stable oscillator with complementary transistors  
[NASA-CASE-GSC-11513-1] c 33 N74-20862
- LC-oscillator with automatic stabilized amplitude via bias current control --- power supply circuit for transducers  
[NASA-CASE-MFS-21698-1] c 33 N74-26732
- Frequency modulated oscillator  
[NASA-CASE-MFS-23181-1] c 33 N77-17351
- Distributed feedback acoustic surface wave oscillator  
[NASA-CASE-NPO-13673-1] c 71 N77-26919
- Digital numerically controlled oscillator  
[NASA-CASE-MS-C-16747-1] c 33 N81-17349
- Laser Resonator  
[NASA-CASE-GSC-12565-1] c 36 N84-14509
- Ladder supported ring bar circuit  
[NASA-CASE-LEW-13570-1] c 33 N84-16452
- Dielectric based submillimeter backward wave oscillator circuit  
[NASA-CASE-LEW-13736-1] c 33 N84-27974
- JFET reflection oscillator  
[NASA-CASE-GSC-12555-1] c 33 N86-19515

- Temperature sensitive oscillator  
[NASA-CASE-GSC-12958-1] c 33 N86-32624
- Low phase noise oscillator using two parallel connected amplifiers  
[NASA-CASE-GSC-13018-1] c 33 N87-21232
- Programmable electronic synthesized capacitance  
[NASA-CASE-GSC-12961-1] c 33 N87-22895
- Water-absorbing capacitor system for measuring relative humidity  
[NASA-CASE-NPO-16544-1-CU] c 35 N87-22953
- OSCILLOSCOPES**
- Waveform simulator Patent  
[NASA-CASE-NPO-10251] c 10 N71-27365
- Method and apparatus for mapping the sensitivity of the face of a photodetector specifically a PMT  
[NASA-CASE-LAR-10320-1] c 09 N72-23172
- Exposure interlock for oscilloscope cameras  
[NASA-CASE-LAR-10319-1] c 14 N73-32322
- X-Y alphanumeric character generator for oscilloscopes  
[NASA-CASE-GSC-11582-1] c 33 N75-19517
- OUTER PLANETS EXPLORERS**
- Spectrometer integrated with a facsimile camera  
[NASA-CASE-LAR-11207-1] c 35 N75-19613
- OUTGASSING**
- Optical characteristics measuring apparatus Patent  
[NASA-CASE-XNP-08840] c 23 N71-16365
- Process for glass coating an ion accelerator grid Patent  
[NASA-CASE-LEW-10278-1] c 15 N71-28582
- Low outgassing polydimethylsiloxane material and preparation thereof  
[NASA-CASE-GSC-11358-1] c 06 N73-26100
- OUTLET FLOW**
- Amplified wind turbine apparatus  
[NASA-CASE-MFS-23830-1] c 44 N82-24639
- Continuous laminar smoke generator  
[NASA-CASE-LAR-13014-1] c 09 N85-21178
- OUTPUT**
- Nonlinear nonsingular feedback shift registers  
[NASA-CASE-NPO-13451-1] c 33 N76-14373
- Programmable electronic synthesized capacitance  
[NASA-CASE-GSC-12961-1] c 33 N87-22895
- Ovens**
- Heat shield oven  
[NASA-CASE-XMS-04318] c 15 N69-27871
- Thermocouple, multiple junction reference oven  
[NASA-CASE-FRC-10112-1] c 35 N81-26431
- OVERPRESSURE**
- Method and apparatus for suppressing ignition overpressure in solid rocket propulsion systems  
[NASA-CASE-MFS-25843-1] c 20 N83-17588
- OVERVOLTAGE**
- Protective circuit of the spark gap type  
[NASA-CASE-XAC-08981] c 09 N69-39897
- Power responsive overload sensing circuit Patent  
[NASA-CASE-GSC-10667-1] c 10 N71-33129
- Overvoltage protection network  
[NASA-CASE-ARC-10197-1] c 33 N74-17929
- Overload protection system for power inverter  
[NASA-CASE-NPO-13872-1] c 33 N78-10377
- OXAZOLE**
- Preparation of heterocyclic block copolymer omega-diamidoximes  
[NASA-CASE-ARC-11060-1] c 27 N79-22300
- The 1,2,4-oxadiazole elastomers --- heat resistant polymers  
[NASA-CASE-ARC-11253-1] c 27 N81-17262
- Preparation of perfluorinated 1,2,4-oxadiazoles  
[NASA-CASE-ARC-11267-2] c 23 N82-28353
- OXIDATION**
- Silicide coatings for refractory metals Patent  
[NASA-CASE-XLE-10910] c 18 N71-29040
- Automated analysis of oxidative metabolites  
[NASA-CASE-ARC-10469-1] c 25 N75-12086
- Hydrogen rich gas generator  
[NASA-CASE-NPO-13464-2] c 44 N76-29704
- Process of forming catalytic surfaces for wet oxidation reactions  
[NASA-CASE-MSC-14831-1] c 25 N78-10225
- Compound oxidized styrylphosphine --- flame resistant vinyl polymers  
[NASA-CASE-MSC-14903-2] c 27 N80-10358
- Overlay metallic-cermet alloy coating systems  
[NASA-CASE-LEW-13639-1] c 26 N84-33555
- Oxidation protection coatings for polymers  
[NASA-CASE-LEW-14072-1] c 27 N86-19458
- Oxidation protection coatings for polymers  
[NASA-CASE-LEW-14072-3] c 27 N87-23736
- Oxidation of semiconductors and superconductors  
[NASA-CASE-NPO-17534-1-CU] c 76 N89-30076
- OXIDATION RESISTANCE**
- Nickel-base alloy containing Mo-W-Al-Cr-Ta-Zr-C-Nb-B Patent  
[NASA-CASE-XLE-02082] c 17 N71-16026

- Method of protecting the surface of a substrate --- by applying aluminide coating  
[NASA-CASE-LEW-11696-1] c 37 N75-13261
- Duplex aluminized coatings  
[NASA-CASE-LEW-11696-2] c 26 N75-19408
- High temperature oxidation resistant cermet compositions  
[NASA-CASE-NPO-13666-1] c 27 N77-13217
- High temperature resistant cermet and ceramic compositions  
[NASA-CASE-NPO-13690-2] c 27 N79-14213
- Method of making bearing materials --- self-lubricating, oxidation resistant composites for high temperature applications  
[NASA-CASE-LEW-11930-4] c 24 N79-17916
- Nical ternary alloy having improved cyclic oxidation resistance  
[NASA-CASE-LEW-13339-1] c 26 N82-31505
- Thermal barrier coating system  
[NASA-CASE-LEW-14057-1] c 24 N85-35233
- High temperature resistant polyimide from tetra ester, diamine, diester and N-arynadimide  
[NASA-CASE-LEW-13864-1] c 27 N86-19457
- Apparatus for producing oxidation protection coatings for polymers  
[NASA-CASE-LEW-14072-2] c 27 N86-32569
- Nickel base coating alloy  
[NASA-CASE-LEW-13864-1] c 26 N87-14482
- Oxygen diffusion barrier coating  
[NASA-CASE-LAR-13474-1-SB] c 26 N87-25455
- OXIDATION-REDUCTION REACTIONS**
- Electrochemical cell for rebalancing REDOX flow system  
[NASA-CASE-LEW-13150-1] c 44 N79-26474
- Catalyst surfaces for the chromous/chromic redox couple  
[NASA-CASE-LEW-13148-1] c 33 N80-20487
- Method of making formulated plastic separators for soluble electrode cells  
[NASA-CASE-LEW-12358-2] c 25 N82-21268
- OXIDE FILMS**
- Method of forming oxide coatings --- for solar collector heating panels  
[NASA-CASE-LEW-13132-1] c 27 N83-29388
- Thermal barrier coating system  
[NASA-CASE-LEW-14057-1] c 24 N85-35233
- Oxidation protection coatings for polymers  
[NASA-CASE-LEW-14072-1] c 27 N86-19458
- Apparatus for producing oxidation protection coatings for polymers  
[NASA-CASE-LEW-14072-2] c 27 N86-32569
- Oxidation protection coatings for polymers  
[NASA-CASE-LEW-14072-3] c 27 N87-23736
- OXIDES**
- Novel polymers and method of preparing same  
[NASA-CASE-NPO-10998-1] c 06 N73-32029
- OXIDIZERS**
- Electrolytically regenerative hydrogen-oxygen fuel cell Patent  
[NASA-CASE-XLE-04526] c 03 N71-11052
- Injection head for delivering liquid fuel and oxidizers  
[NASA-CASE-NPO-10046] c 28 N72-17843
- Device and method for frictionally testing materials for ignitability  
[NASA-CASE-MSC-20622-1] c 25 N86-19413
- OXIMETRY**
- Method and apparatus for continuously monitoring blood oxygenation, blood pressure, pulse rate and the pressure pulse curve utilizing an ear oximeter as transducer Patent  
[NASA-CASE-XAC-05422] c 04 N71-23185
- OXIGEN**
- Analytical test apparatus and method for determining oxide content of alkali metal Patent  
[NASA-CASE-XLE-01997] c 06 N71-23527
- Method for removing oxygen impurities from cesium Patent  
[NASA-CASE-XNP-04262-2] c 17 N71-26773
- Method of detecting oxygen in a gas  
[NASA-CASE-LAR-10668-1] c 06 N73-16106
- Method for obtaining oxygen from lunar or similar soil  
[NASA-CASE-MSC-12408-1] c 46 N74-13011
- Nonflammable coating compositions --- for use in high oxygen environments  
[NASA-CASE-MFS-20486-2] c 27 N74-17283
- A system for controlling the oxygen content of a gas produced by combustion  
[NASA-CASE-LAR-13257-1] c 25 N84-32447
- Technique for measuring gas conversion factors  
[NASA-CASE-LAR-13220-1] c 34 N86-12547
- Oxygen recombination in individual pressure vessel nickel-hydrogen batteries  
[NASA-CASE-LEW-13822-1] c 44 N86-25874

**OXYGEN ATOMS**

- Variable energy, high flux, ground-state atomic oxygen source  
[NASA-CASE-NPO-16640-1-CU] c 72 N87-21661

**OXYGEN CONSUMPTION**

- Method and system for respiration analysis Patent  
[NASA-CASE-XFR-08403] c 05 N71-11202

**OXYGEN FLUORIDES**

- Utilization of oxygen difluoride for syntheses of fluoropolymers  
[NASA-CASE-NPO-12061-1] c 27 N76-16228

**OXYGEN METABOLISM**

- Metabolic analyzer --- for measuring metabolic rate and breathing dynamics of human beings  
[NASA-CASE-MFS-21415-1] c 52 N74-20728

**OXYGEN PLASMA**

- Oxygen post-treatment of plastic surface coated with plasma polymerized silicon-containing monomers  
[NASA-CASE-ARC-10915-2] c 27 N79-18052

**OXYGEN PRODUCTION**

- Liquid hydrogen polygeneration system and process  
[NASA-CASE-KSC-11304-2] c 28 N86-23744

**OXYGEN REGULATORS**

- Lead-oxygen dc power supply system having a closed loop oxygen and water system  
[NASA-CASE-MFS-23059-1] c 44 N76-27664

**OXYGEN SUPPLY EQUIPMENT**

- Self-contained breathing apparatus  
[NASA-CASE-MSC-14733-1] c 54 N76-24900
- Slow opening valve --- valve design for shuttle portable oxygen system  
[NASA-CASE-MSC-20112-1] c 37 N85-20338

**OZONE**

- Thermoluminescent aerosol analysis  
[NASA-CASE-LAR-12046-1] c 25 N78-15210
- Ozonation of cooling tower waters  
[NASA-CASE-NPO-14340-1] c 45 N80-14579
- Curable liquid hydrocarbon prepolymers containing hydroxyl groups and process for producing same  
[NASA-CASE-NPO-13137-1] c 27 N80-32514

**P****P-I-N JUNCTIONS**

- High voltage v-groove solar cell  
[NASA-CASE-LEW-13401-2] c 44 N83-32177

**P-N JUNCTIONS**

- Thin window, drifted silicon, charged particle detector  
[NASA-CASE-XLE-10529] c 14 N69-23191
- Semiconductor p-n junction stress and strain sensor  
[NASA-CASE-XLA-04980] c 09 N69-27422
- Radiation resistant silicon semiconductor devices Patent  
[NASA-CASE-XGS-07801] c 09 N71-12513
- Biomedical radiation detecting probe Patent  
[NASA-CASE-XMS-01177] c 05 N71-19440
- Method of making electrical contact on silicon solar cell and resultant product Patent  
[NASA-CASE-XLE-04787] c 03 N71-20492
- Method of changing the conductivity of vapor deposited gallium arsenide by the introduction of water into the vapor deposition atmosphere Patent  
[NASA-CASE-XNP-01961] c 26 N71-29156
- Method of making semiconductor p-n junction stress and strain sensor  
[NASA-CASE-XLA-04980-2] c 14 N72-28438
- Semiconductor surface protection material  
[NASA-CASE-ERC-10339-1] c 18 N73-30532
- Method and apparatus for measuring minority carrier lifetimes and bulk diffusion length in P-N junction solar cells  
[NASA-CASE-NPO-14100-1] c 44 N79-12541
- Back wall solar cell  
[NASA-CASE-LEW-12236-2] c 44 N79-14528

**P-TYPE SEMICONDUCTORS**

- Semiconductor material and method of making same Patent  
[NASA-CASE-XLE-02798] c 26 N71-23654
- Integrated P-channel MOS gyrator  
[NASA-CASE-MFS-22343-1] c 33 N74-34638
- Method of Fabricating Schottky Barrier solar cell  
[NASA-CASE-NPO-13689-4] c 44 N82-28780

**PACKAGES**

- Impact testing machine Patent  
[NASA-CASE-XNP-04817] c 14 N71-23225
- One hand backpack harness  
[NASA-CASE-LAR-10102-1] c 05 N72-23085

**PACKAGING**

- Folding apparatus Patent  
[NASA-CASE-XLA-00137] c 15 N70-33180
- Reflector space satellite Patent  
[NASA-CASE-XLA-00138] c 31 N70-37981
- Apparatus and method for skin packaging articles  
[NASA-CASE-MFS-20855] c 15 N73-27405

Double-sided solar cell package  
[NASA-CASE-NPO-14199-1] c 44 N79-25482

**PACKET TRANSMISSION**  
Multicomputer communication system  
[NASA-CASE-NPO-15433-1] c 32 N85-21428

**PACKING DENSITY**  
Micropacked column for a chromatographic system  
[NASA-CASE-XNP-04816] c 06 N69-39936

**PACKINGS (SEALS)**  
Fluid seal for rotating shafts  
[NASA-CASE-LEW-11676-1] c 37 N76-22541

**PAD**  
Lubricated journal bearing  
[NASA-CASE-LEW-11076-3] c 37 N75-30562

**PAINTS**  
Intumescent paints Patent  
[NASA-CASE-ARC-10099-1] c 18 N71-15469  
Alkali metal silicate protective coating Patent  
[NASA-CASE-XGS-04799] c 18 N71-24183  
Inorganic thermal control pigment Patent  
[NASA-CASE-XNP-02139] c 18 N71-24184  
Diffusely reflecting paints including polytetrafluoroethylene and method of manufacture  
[NASA-CASE-GSC-12883-1] c 27 N85-29044

**PALLADIUM**  
Electrically conductive palladium containing polyimide films  
[NASA-CASE-LAR-12705-1] c 25 N82-26396

**PALLADIUM COMPOUNDS**  
Prevention of pressure build-up in electrochemical cells Patent  
[NASA-CASE-XGS-01419] c 03 N70-41864  
Process for separation of dissolved hydrogen from water by use of palladium and process for coating palladium with palladium black  
[NASA-CASE-MSC-13335-1] c 06 N72-31140

**PANELS**  
All-directional fastener Patent  
[NASA-CASE-XLA-01807] c 15 N71-10799  
Panelized high performance multilayer insulation Patent  
[NASA-CASE-MFS-14023] c 33 N71-25351  
Solar panel fabrication Patent  
[NASA-CASE-XNP-03413] c 03 N71-26726  
Method of making pressurized panel Patent  
[NASA-CASE-XLA-08916] c 15 N71-29018  
Honeycomb panels formed of minimal surface periodic tubule layers  
[NASA-CASE-ERC-10364] c 18 N72-25540  
Pressurized panel  
[NASA-CASE-XLA-08916-2] c 14 N73-28487  
Ultrasonic scanner for radial and flat panels  
[NASA-CASE-MFS-20335-1] c 35 N74-10415  
Folding structure fabricated of rigid panels  
[NASA-CASE-XHQ-02146] c 18 N75-27040  
Method of making a composite sandwich lattice structure  
[NASA-CASE-LAR-11898-2] c 24 N78-17149  
Selective coating for solar panels --- using black chrome and black nickel  
[NASA-CASE-LEW-12159-1] c 44 N78-19599  
Hexagon solar power panel  
[NASA-CASE-NPO-12148-1] c 44 N78-27515  
Aluminum or copper substrate panel for selective absorption of solar energy  
[NASA-CASE-MFS-23518-3] c 44 N80-16452  
Structural wood panels with improved fire resistance  
[NASA-CASE-ARC-11174-1] c 24 N81-13999  
Method of forming oxide coatings --- for solar collector heating panels  
[NASA-CASE-LEW-13132-1] c 27 N83-29388  
Combustor liner construction  
[NASA-CASE-LEW-14035-1] c 07 N84-24577  
Saltless solar pond  
[NASA-CASE-NPO-15808-1] c 44 N84-34792  
Structural panels  
[NASA-CASE-ARC-11429-2-CU] c 27 N87-22845  
Truss-core corrugation for compressive loads  
[NASA-CASE-LAR-13438-1] c 31 N89-12786  
High temperature flexible seal  
[NASA-CASE-LEW-14695-1] c 37 N89-28830

**PANORAMIC SCANNING**  
Atmospheric autorotating imaging device  
[NASA-CASE-NPO-17390-1-CU] c 35 N88-24944

**PAPER (MATERIAL)**  
Process for purification of waste water produced by a Kraft process pulp and paper mill  
[NASA-CASE-NPO-13847-2] c 85 N79-17747

**PAPERS**  
Guide for a typewriter  
[NASA-CASE-MFS-15218-1] c 37 N77-19457

**PARA HYDROGEN**  
Cooling by conversion of para to ortho-hydrogen  
[NASA-CASE-GSC-12770-1] c 25 N83-29324

**PARABOLIC ANTENNAS**

Antenna beam-shaping apparatus Patent  
[NASA-CASE-XNP-00611] c 09 N70-35219  
Reversible motion drive system Patent  
[NASA-CASE-NPO-10173] c 15 N71-24696  
Switchable beamwidth monopulse method and system  
[NASA-CASE-GSC-11924-1] c 33 N76-27472  
Telescoping columns --- parabolic antenna support  
[NASA-CASE-LAR-12195-1] c 31 N81-27324  
Focal axis resolver for offset reflector antennas  
[NASA-CASE-GSC-12630-1] c 33 N83-36355  
Antenna surface contour control system  
[NASA-CASE-LAR-13798-1] c 32 N89-25363

**PARABOLIC REFLECTORS**

Parabolic reflector horn feed with spillover correction Patent  
[NASA-CASE-XNP-00540] c 09 N70-35382  
Foldable solar concentrator Patent  
[NASA-CASE-XLA-04622] c 03 N70-41580  
Collapsible reflector Patent  
[NASA-CASE-XMS-03454] c 09 N71-20658  
Plural beam antenna  
[NASA-CASE-GSC-11013-1] c 09 N73-19234  
Composite antenna feed  
[NASA-CASE-GSC-11046-1] c 07 N73-28013  
Single frequency, two feed dish antenna having switchable beamwidth  
[NASA-CASE-GSC-11968-1] c 32 N76-15329  
Sun tracking solar energy collector  
[NASA-CASE-NPO-13921-1] c 44 N79-14526  
Horizontally mounted solar collector  
[NASA-CASE-MFS-23349-1] c 44 N79-23481  
Solar concentrator  
[NASA-CASE-MFS-23727-1] c 44 N80-14473  
Apparatus for and method of compensating dynamic unbalance  
[NASA-CASE-GSC-12550-1] c 37 N84-28082  
Antenna surface contour control system  
[NASA-CASE-LAR-13798-1] c 32 N89-25363

**PARABOLOID MIRRORS**

Optical data processing using paraboloidal mirror segments  
[NASA-CASE-GSC-11296-1] c 23 N73-30666  
Three mirror glancing incidence system for X-ray telescope  
[NASA-CASE-MFS-21372-1] c 74 N74-27866

**PARACHUTE DESCENT**

Parachute glider Patent  
[NASA-CASE-XLA-00898] c 02 N70-36804  
Vehicle parachute and equipment jettison system Patent  
[NASA-CASE-XLA-00195] c 02 N70-38009  
Line cutter Patent  
[NASA-CASE-XMS-04072] c 15 N70-42017  
Vortex breach high pressure gas generator  
[NASA-CASE-LAR-10549-1] c 31 N73-13898

**PARACHUTE FABRICS**

Lightweight, variable solidity knitted parachute fabric --- for aerodynamic decelerators  
[NASA-CASE-LAR-10776-1] c 02 N74-10034  
Method for refurbishing and processing parachutes  
[NASA-CASE-KSC-11042-1] c 09 N82-29330

**PARACHUTES**

System for stabilizing torque between a balloon and gondola  
[NASA-CASE-GSC-11077-1] c 02 N73-13008  
Deploy/release system --- model aircraft flight control  
[NASA-CASE-LAR-11575-1] c 02 N76-16014  
System and method for refurbishing and processing parachutes --- monorial conveyor system  
[NASA-CASE-KSC-11042-2] c 02 N81-26073  
Method for refurbishing and processing parachutes  
[NASA-CASE-KSC-11042-1] c 09 N82-29330  
Dual towline spin-recovery device  
[NASA-CASE-LAR-13076-1] c 08 N85-35200

**PARAGLIDERS**

Parachute glider Patent  
[NASA-CASE-XLA-00898] c 02 N70-36804

**PARALLAX**

Projection system for display of parallax and perspective  
[NASA-CASE-MFS-23194-1] c 35 N78-17357  
Ranging system which compares an object reflected component of a light beam to a reference component of the light beam  
[NASA-CASE-NPO-15865-1] c 74 N85-34629

**PARALLEL PLATES**

Parallel plate viscometer Patent  
[NASA-CASE-XNP-09462] c 14 N71-17584  
Dynamic capacitor having a peripherally driven element and system incorporating the same  
[NASA-CASE-XNP-02899-1] c 33 N79-21265  
Multiple plate hydrostatic viscous damper  
[NASA-CASE-LEW-12445-1] c 37 N81-22360

**PARALLEL PROCESSING (COMPUTERS)**

Digital data reformatter/deserializer  
[NASA-CASE-NPO-13676-1] c 60 N79-20751  
Massively parallel processor computer  
[NASA-CASE-GSC-12223-1] c 60 N83-25378  
Memory-based parallel data output controller  
[NASA-CASE-GSC-12447-2] c 60 N84-28491  
A method of up-front load balancing for local memory parallel processors  
[NASA-CASE-MSC-21348-1] c 62 N89-24084

**PARAMETRIC AMPLIFIERS**

Parametric amplifiers with idler circuit feedback  
[NASA-CASE-LAR-10253-1] c 09 N72-25258  
Millimeter wave pumped parametric amplifier  
[NASA-CASE-GSC-11617-1] c 33 N74-32660

**PARAMETRIC FREQUENCY CONVERTERS**

Method and apparatus for quadriphase-shift-key and linear phase modulation  
[NASA-CASE-NPO-14444-1] c 33 N81-15192

**PARAWINGS**

Wing deployment method and apparatus Patent  
[NASA-CASE-XMS-00907] c 02 N70-41630

**PARKING**

Automated multi-level vehicle parking system  
[NASA-CASE-NPO-13058-1] c 37 N77-22480

**PARTIAL PRESSURE**

Vapor pressure measuring system and method Patent  
[NASA-CASE-XMS-01618] c 14 N71-20741

**PARTICLE ACCELERATION**

Molecular beam velocity selector Patent  
[NASA-CASE-XLE-01533] c 11 N71-10777  
Dust particle injector for hypervelocity accelerators Patent  
[NASA-CASE-XGS-06628] c 24 N71-16213

**PARTICLE ACCELERATOR TARGETS**

Dispensing targets for ion beam particle generators  
[NASA-CASE-NPO-13112-1] c 73 N74-26767  
Deuterium pass through target --- neutron emitting target  
[NASA-CASE-LEW-11866-1] c 72 N76-15860  
Closed loop spray cooling apparatus --- for particle accelerator targets  
[NASA-CASE-LEW-11981-1] c 31 N78-17237

**PARTICLE BEAMS**

Particle beam measurement apparatus using beam kinetic energy to change the heat sensitive resistance of the detection probe Patent  
[NASA-CASE-XLE-00243] c 14 N70-38602  
Doppler shift system --- system for measuring velocities of radiating particles  
[NASA-CASE-HQN-10740-1] c 72 N74-19310  
Apparatus for measuring charged particle beam  
[NASA-CASE-MFS-25641-1] c 72 N84-28575

**PARTICLE COLLISIONS**

Particle detection apparatus including a ballistic pendulum Patent  
[NASA-CASE-XMS-04201] c 14 N71-22990  
Ion generator and ion application system  
[NASA-CASE-MFS-28122-1] c 72 N88-24253

**PARTICLE DENSITY (CONCENTRATION)**

Micrometeoroid velocity measuring device Patent  
[NASA-CASE-XLA-00495] c 14 N70-41332

**PARTICLE EMISSION**

Extended area semiconductor radiation detectors and a novel readout arrangement Patent  
[NASA-CASE-XGS-03230] c 14 N71-23401  
Coincidence apparatus for detecting particles  
[NASA-CASE-XLA-07813] c 14 N72-17328

**PARTICLE ENERGY**

Particle detection apparatus Patent  
[NASA-CASE-XLA-00135] c 14 N70-33322  
Particulate and aerosol detector  
[NASA-CASE-LAR-11434-1] c 35 N76-22509

**PARTICLE MASS**

Cosmic dust analyzer  
[NASA-CASE-MSC-13802-2] c 35 N76-15431  
Microbalance --- for measuring particle mass  
[NASA-CASE-MSC-11242] c 35 N78-17358

**PARTICLE MOTION**

Moving particle composition analyzer  
[NASA-CASE-GSC-11889-1] c 35 N76-16393

**PARTICLE PRODUCTION**

Production of I-123  
[NASA-CASE-LEW-11390-3] c 25 N76-29379

**PARTICLE SIZE DISTRIBUTION**

Micropacked column for a chromatographic system  
[NASA-CASE-XNP-04816] c 06 N69-39936  
Apparatus for making a metal slurry product Patent  
[NASA-CASE-XLE-00010] c 15 N70-33382  
Method of producing refractory composites containing tantalum carbide, hafnium carbide, and hafnium boride Patent  
[NASA-CASE-XLE-03940] c 18 N71-26153  
Grain refinement control in TIG arc welding  
[NASA-CASE-MSC-19095-1] c 37 N75-19683

- Apparatus for handling micron size range particulate material  
[NASA-CASE-NPO-10151] c 37 N78-17386
- Frequency-scanning particle size spectrometer  
[NASA-CASE-NPO-13606-2] c 35 N80-18364
- Process for preparation of large-particle-size monodisperse latexes  
[NASA-CASE-MFS-25000-1] c 25 N81-19242
- Polyvinyl alcohol battery separator containing inert filler --- alkaline batteries  
[NASA-CASE-LEW-13556-1] c 44 N81-27615
- Powder fed sheared dispersal particle generator  
[NASA-CASE-LAR-12785-1] c 37 N84-16561
- Method of evaporation  
[NASA-CASE-NPO-15609-2] c 25 N88-23846
- PARTICLE TRAJECTORIES**
- Micrometeoroid velocity and trajectory analyzer  
[NASA-CASE-GSC-11892-1] c 35 N76-15433
- Direction sensitive laser velocimeter --- determining the direction of particles using a helium-neon laser  
[NASA-CASE-LAR-12177-1] c 36 N81-24422
- PARTICLES**
- Soil particles separator, collector and viewer Patent  
[NASA-CASE-XNP-09770] c 15 N71-20440
- Apparatus for producing metal powders  
[NASA-CASE-XLE-06461-2] c 17 N72-28535
- Particle parameter analyzing system --- x-y plotter circuits and display  
[NASA-CASE-XLE-06094] c 33 N78-17293
- Surfactant-assisted liquefaction of particulate carbonaceous substances  
[NASA-CASE-NPO-13904-1] c 25 N79-11152
- Acoustic particle separation  
[NASA-CASE-NPO-15559-1] c 71 N85-30765
- Solar heated oil shale pyrolysis process  
[NASA-CASE-NPO-16392-1] c 25 N86-25428
- Controlled method of reducing electrophoretic mobility of various substances  
[NASA-CASE-MFS-26049-1-NP] c 25 N89-28603
- PARTICULATE SAMPLING**
- Apparatus for sampling particulates in gases  
[NASA-CASE-HQN-10037-1] c 14 N73-27376
- Electrophoretic sample insertion --- device for uniformly distributing samples in flow path  
[NASA-CASE-MFS-21395-1] c 25 N74-26948
- Sampler of gas borne particles  
[NASA-CASE-NPO-13396-1] c 35 N76-18401
- Fine particulate capture device  
[NASA-CASE-LEW-11583-1] c 35 N79-17192
- Biocontamination and particulate detection system  
[NASA-CASE-NPO-13953-1] c 35 N79-28527
- Particle analyzing method and apparatus  
[NASA-CASE-NPO-15292-1] c 35 N83-27184
- PARTICULATES**
- Apparatus for sampling particulates in gases  
[NASA-CASE-HQN-10037-1] c 14 N73-27376
- PASSAGEWAYS**
- Inflatable tether Patent  
[NASA-CASE-XMS-10993] c 15 N71-28936
- PASSENGERS**
- Ride quality meter  
[NASA-CASE-LAR-12882-1] c 35 N84-12445
- PASSIVE SATELLITES**
- Passive communication satellite Patent  
[NASA-CASE-XLA-00210] c 30 N70-40309
- Method and apparatus for determining electromagnetic characteristics of large surface area passive reflectors  
[NASA-CASE-XGS-02608] c 07 N70-41678
- Method of making an inflatable panel Patent  
[NASA-CASE-XLA-03497] c 15 N71-23052
- PATENTS**
- Constant magnification optical tracking system  
[NASA-CASE-NPO-14813-1] c 74 N82-24072
- Method for depositing an oxide coating  
[NASA-CASE-LEW-13131-1] c 44 N83-10494
- High stability amplifier  
[NASA-CASE-GSC-12646-1] c 33 N83-34191
- PATIENTS**
- Stretcher Patent  
[NASA-CASE-XMF-06589] c 05 N71-23159
- PATTERN RECOGNITION**
- Surface roughness detector Patent  
[NASA-CASE-XLA-00203] c 14 N70-34161
- Auditory display for the blind  
[NASA-CASE-HQN-10832-1] c 71 N74-21014
- Real-time optical multiple object recognition and tracking system and method  
[NASA-CASE-NPO-17139-1-CU] c 74 N88-25301
- Remotely controllable real-time optical processor  
[NASA-CASE-NPO-16750-1-CU] c 74 N89-14078
- Method and apparatus for sensor fusion  
[NASA-CASE-MSC-21334-1] c 32 N89-25360
- Programmable pipelined image processor  
[NASA-CASE-NPO-16461-1CU] c 60 N89-26400

**PAYLOAD DELIVERY (STS)**

- Space probe/satellite ejection apparatus for spacecraft  
[NASA-CASE-MFS-25429-1] c 18 N86-20469
- PAYLOAD DEPLOYMENT & RETRIEVAL SYSTEM**
- Payload deployment method and system  
[NASA-CASE-MSC-21330-1] c 16 N88-24660
- PAYLOAD RETRIEVAL (STS)**
- Simulator method and apparatus for practicing the mating of an observer-controlled object with a target  
[NASA-CASE-MFS-23052-2] c 74 N79-13855
- Satellite retrieval system  
[NASA-CASE-MFS-25403-1] c 18 N83-29303
- PAYLOADS**
- Foam generator Patent  
[NASA-CASE-XLA-00838] c 03 N70-36778
- Spacecraft separation system for spinning vehicles and/or payloads Patent  
[NASA-CASE-XLA-02132] c 31 N71-10582
- Payload/burned-out motor case separation system Patent  
[NASA-CASE-XLA-05369] c 31 N71-15687
- Velocity package Patent  
[NASA-CASE-XLA-01339] c 31 N71-15692
- Ornidirectional multiple impact landing system Patent  
[NASA-CASE-XLA-09881] c 31 N71-16085
- Zero gravity apparatus Patent  
[NASA-CASE-XMF-06515] c 14 N71-23227
- Space probe/satellite ejection apparatus for spacecraft  
[NASA-CASE-MFS-15429-1] c 18 N84-22609
- PCM TELEMETRY**
- Variable time constant smoothing circuit Patent  
[NASA-CASE-XGS-01983] c 10 N70-41964
- Data transfer system Patent  
[NASA-CASE-NPO-12107] c 08 N71-27255
- High speed direct binary-to-binary coded decimal converter  
[NASA-CASE-KSC-10326] c 08 N72-21197
- PEELING**
- Wire stripper  
[NASA-CASE-FRC-10111-1] c 37 N79-10419
- PEENING**
- Method of coating a substrate with a rapidly solidified metal  
[NASA-CASE-GSC-12880-1] c 26 N86-32550
- PELLETS**
- Support structure for irradiated elements Patent  
[NASA-CASE-XNP-06031] c 15 N71-15606
- Contactless pellet fabrication  
[NASA-CASE-NPO-15592-1] c 71 N84-16940
- PELTIER EFFECTS**
- Protection for energy conversion systems  
[NASA-CASE-XGS-04808] c 03 N69-25146
- Memory metal actuator  
[NASA-CASE-NPO-15960-1] c 37 N86-19604
- PELVIS**
- Shoulder and hip joints for hard space suits and the like  
[NASA-CASE-ARC-11534-1] c 54 N86-29507
- PENETRANTS**
- Dye penetrant for surfaces subsequently contacted by liquid oxygen Patent  
[NASA-CASE-XMF-02221] c 18 N71-27170
- PENETRATION**
- Method and device for detection of surface discontinuities or defects  
[NASA-CASE-MSC-14187-1] c 35 N74-32879
- Fire extinguishing apparatus having a slidable mass for a penetrator nozzle --- for penetrating aircraft and shuttle orbiter skin  
[NASA-CASE-KSC-11064-1] c 31 N81-14137
- PENETROMETERS**
- Lunar penetrometer Patent  
[NASA-CASE-XLA-00934] c 14 N71-22765
- Self-recording portable soil penetrometer  
[NASA-CASE-MFS-20774] c 14 N73-19420
- Soil penetrometer  
[NASA-CASE-XNP-05530] c 14 N73-32321
- Penetrometer --- for determining load bearing characteristics of inclined surfaces  
[NASA-CASE-NPO-11103-1] c 35 N77-27367
- Coal-shale interface detection  
[NASA-CASE-MFS-23720-3] c 43 N79-25443
- PERCEPTION**
- Method for measuring cutaneous sensory perception  
[NASA-CASE-MSC-13609-1] c 05 N72-25122
- PERFLUORO COMPOUNDS**
- Hydroxy terminated perfluoro ethers Patent  
[NASA-CASE-NPO-10768] c 06 N71-27254
- Perfluoro polyether acyl fluorides  
[NASA-CASE-NPO-10765] c 06 N72-20121
- Reaction of fluorine with polyperfluoropolyenes  
[NASA-CASE-NPO-10862] c 06 N72-22107

- Silphenylenesiloxane polymers having in-chain perfluoroalkyl groups  
[NASA-CASE-MFS-20979] c 06 N72-25151
- Polymers of perfluorobutadiene and method of manufacture  
[NASA-CASE-NPO-10863-2] c 06 N72-25152
- Polyurethane resins from hydroxy terminated perfluoro ethers  
[NASA-CASE-NPO-10768-2] c 06 N72-27144
- Polymerizable disilanol having in-chain perfluoroalkyl groups  
[NASA-CASE-MFS-20979-2] c 06 N73-32030
- Perfluoro alkylene dioxy-bis-(4-phthalic anhydrides and oxy-bis-(perfluoroalkyleneoxyphthalic anhydrides  
[NASA-CASE-MFS-22356-1] c 23 N75-30256
- Preparation of perfluorinated 1,2,4-oxadiazoles  
[NASA-CASE-ARC-11267-2] c 23 N82-28353
- High performance channel injection sealant invention abstract  
[NASA-CASE-ARC-14408-1] c 27 N82-33523
- Fluoroether modified epoxy composites  
[NASA-CASE-ARC-11418-1] c 24 N84-11213
- Process for preparing perfluorotriazine elastomers and precursors thereof  
[NASA-CASE-ARC-11402-1] c 27 N84-22744
- Perfluoro (Imidoylamidine) diamidines  
[NASA-CASE-ARC-11402-3] c 23 N86-21582
- PERFLUOROALKANE**
- Preparation of heterocyclic block copolymer omega-diamidoximes  
[NASA-CASE-ARC-11060-1] c 27 N79-2230C
- PERFORATED PLATES**
- Process for glass coating an ion accelerator grid Patent  
[NASA-CASE-LEW-10278-1] c 15 N71-28582
- PERFORATED SHELLS**
- Method of fabricating an article with cavities --- with their bottom walls  
[NASA-CASE-LAR-10318-1] c 31 N74-18089
- PERFORMANCE PREDICTION**
- Failure detection and control means for improved drift performance of a gimbaled platform system  
[NASA-CASE-MFS-23551-1] c 04 N76-26175
- PERFORMANCE TESTS**
- Frangible electrochemical cell  
[NASA-CASE-XGS-10010] c 03 N72-15986
- Solar cell assembly test method  
[NASA-CASE-NPO-10401] c 03 N72-2003C
- Linear explosive comparison  
[NASA-CASE-LAR-10800-1] c 33 N72-27959
- Split-cross-bridge resistor for testing for proper fabrication of integrated circuits  
[NASA-CASE-NPO-16021-1] c 33 N85-3018\*
- O-ring gasket test fixture  
[NASA-CASE-MFS-28376-1] c 14 N89-28546
- A torsional suspension system for testing space structures  
[NASA-CASE-LAR-14149-1-SB] c 14 N89-28547
- Integrated circuit reliability testing  
[NASA-CASE-NPO-17393-1-CU] c 33 N89-29679
- PERIODIC VARIATIONS**
- Mount for continuously orienting a collector dish in a system adapted to perform both diurnal and seasonal solar tracking  
[NASA-CASE-MFS-23267-1] c 35 N77-20401
- PERIPHERAL EQUIPMENT (COMPUTERS)**
- Digital interface for bi-directional communication between a computer and a peripheral device  
[NASA-CASE-MSC-20258-1] c 60 N84-28492
- PERISCOPES**
- Welding monitoring system  
[NASA-CASE-MFS-29177-1] c 37 N88-14362
- PERMEABILITY**
- Ionene membrane separator  
[NASA-CASE-NPO-11091] c 18 N72-22567
- System for detecting substructure microfractures and method therefore  
[NASA-CASE-NPO-14192-1] c 39 N80-10507
- Dialysis system --- using ion exchange resin membranes permeable to urea molecules  
[NASA-CASE-NPO-14101-1] c 52 N80-14687
- Geological assessment probe  
[NASA-CASE-NPO-14558-1] c 46 N80-24906
- PEROXIDES**
- Method of polymerizing perfluorobutadiene Patent application  
[NASA-CASE-NPO-10447] c 06 N70-11252
- PERSPIRATION**
- Method of making a perspiration resistant biopotential electrode  
[NASA-CASE-MSC-90153-2] c 05 N72-25120
- Sweat collection capsule  
[NASA-CASE-ARC-11031-1] c 52 N81-29763
- PERTURBATION**
- Gaseous control system for nuclear reactors  
[NASA-CASE-XLE-04599] c 22 N72-20567



## PERTURBATION THEORY

- Dual wavelength scanning Doppler velocimeter --- without perturbation of flow fields  
[NASA-CASE-ARC-10637-1] c 35 N75-16783

## PH FACTOR

- Method for determining the point of zero zeta potential of semiconductor  
[NASA-CASE-LAR-12893-1] c 76 N85-30923

## PHASE COHERENCE

- Signal phase estimator  
[NASA-CASE-NPO-11203] c 10 N72-20224  
Coherent receiver employing nonlinear coherence detection for carrier tracking  
[NASA-CASE-NPO-11921-1] c 32 N74-30523

## PHASE CONTRAST

- Laser pulse detection method and apparatus  
[NASA-CASE-NPO-16030-1] c 36 N84-25037

## PHASE CONTROL

- Rapid sync acquisition system Patent  
[NASA-CASE-NPO-10214] c 10 N71-26577  
Wideband VCO with high phase stability Patent  
[NASA-CASE-XLA-03893] c 10 N71-27271  
Induction motor control system with voltage controlled oscillator circuit  
[NASA-CASE-MFS-21465-1] c 10 N73-32145  
System for generating timing and control signals  
[NASA-CASE-NPO-13125-1] c 33 N75-19519  
Digital numerically controlled oscillator  
[NASA-CASE-MSC-16747-1] c 33 N81-17349  
Combinational logic for generating gate drive signals for phase control rectifiers  
[NASA-CASE-MFS-25208-1] c 33 N83-10345  
System for controlled acoustic rotation of objects  
[NASA-CASE-NPO-15522-1] c 71 N83-32516  
Method and apparatus for self-calibration and phasing of array antenna  
[NASA-CASE-NPO-15920-1] c 33 N85-21493

## PHASE DEMODULATORS

- Phase demodulation system with two phase locked loops Patent  
[NASA-CASE-XNP-00777] c 10 N71-19469  
Linear phase demodulator including a phase locked loop with auxiliary feedback loop  
[NASA-CASE-GSC-12018-1] c 33 N77-14334

## PHASE DETECTORS

- Phase detector assembly Patent  
[NASA-CASE-XMF-00701] c 09 N70-40272  
Bi-polar phase detector and corrector for split phase PCM data signals Patent  
[NASA-CASE-XGS-01590] c 07 N71-12392  
High speed phase detector Patent  
[NASA-CASE-XNP-01306-2] c 09 N71-24596  
Phase protection system for ac power lines  
[NASA-CASE-MSC-17832-1] c 33 N74-14956  
Low distortion automatic phase control circuit --- voltage controlled phase shifter  
[NASA-CASE-MFS-21671-1] c 33 N74-22885  
Correlation type phase detector --- with time correlation integrator for frequency multiplexed signals  
[NASA-CASE-GSC-11744-1] c 33 N75-26243  
Impact position detector for outer space particles  
[NASA-CASE-GSC-11829-1] c 35 N75-27331  
Frequency discriminator and phase detector circuit  
[NASA-CASE-NPO-11515-1] c 33 N77-13315  
Phase substitution of spare converter for a failed one of parallel phase staggered converters  
[NASA-CASE-NPO-13812-1] c 33 N77-30365  
Apparatus and method for stabilized phase detection for binary signal tracking loops  
[NASA-CASE-MSC-16461-1] c 33 N79-11313  
High stability buffered phase comparator  
[NASA-CASE-GSC-12645-1] c 33 N84-16454  
Three phase power factor controller  
[NASA-CASE-MFS-25535-2] c 33 N84-22885  
Method and apparatus for receiving and tracking phase modulated signals  
[NASA-CASE-MSC-16170-2] c 32 N84-27952  
Phase detector for three-phase power factor controller  
[NASA-CASE-MFS-25854-1] c 33 N84-27975  
Maser cavity servo-tuning system  
[NASA-CASE-NPO-15890-1-CU] c 33 N85-29143  
Double reference pulsed phase locked loop  
[NASA-CASE-LAR-13310-1] c 32 N87-14559  
Method and apparatus for measuring frequency and phase difference  
[NASA-CASE-MSC-20865-1] c 32 N87-18692
- PHASE DEVIATION**  
System for stabilizing cable phase delay utilizing a coaxial cable under pressure  
[NASA-CASE-NPO-13138-1] c 33 N74-17927
- PHASE LOCK DEMODULATORS**  
Compensating bandwidth switching transients in an amplifier circuit Patent  
[NASA-CASE-XNP-01107] c 10 N71-28859

## PHASE LOCKED SYSTEMS

- Automatic acquisition system for phase-lock loop  
[NASA-CASE-XGS-04994] c 09 N69-21543  
Phase-locked loop with sideband rejecting properties Patent  
[NASA-CASE-XNP-02723] c 07 N70-41680  
Automatic frequency discriminators and control for a phase-lock loop providing frequency preset capabilities Patent  
[NASA-CASE-XMF-08665] c 10 N71-19467  
Burst synchronization detection system Patent  
[NASA-CASE-XMS-05605-1] c 10 N71-19468  
Phase demodulation system with two phase locked loops Patent  
[NASA-CASE-XNP-00777] c 10 N71-19469  
Diversity receiving system with diversity phase lock Patent  
[NASA-CASE-XGS-01222] c 10 N71-20841  
Phase locked phase modulator including a voltage controlled oscillator Patent  
[NASA-CASE-XNP-05382] c 10 N71-23544  
Video sync processor Patent  
[NASA-CASE-KSC-10002] c 10 N71-25865  
Transition tracking bit synchronization system  
[NASA-CASE-NPO-10844] c 07 N72-20140  
Data-aided carrier tracking loops  
[NASA-CASE-NPO-11282] c 10 N73-16205  
Filter for third order phase locked loops  
[NASA-CASE-NPO-11941-1] c 10 N73-27171  
Receiver with an improved phase lock loop in a multichannel telemetry system with suppressed carrier  
[NASA-CASE-NPO-11593-1] c 07 N73-28012  
Automatic carrier acquisition system  
[NASA-CASE-NPO-11628-1] c 07 N73-30113  
Digital second-order phase-locked loop  
[NASA-CASE-NPO-11905-1] c 33 N74-12887  
Phase-locked servo system --- for synchronizing the rotation of slip ring assembly  
[NASA-CASE-MFS-22073-1] c 33 N75-13139  
Low speed phase-lock speed control system --- for brushless dc motor  
[NASA-CASE-GSC-11127-1] c 09 N75-24758  
Digital phase-locked loop  
[NASA-CASE-GSC-11623-1] c 33 N75-25040  
Telemetry synchronizer  
[NASA-CASE-GSC-11868-1] c 17 N76-22245  
Linear phase demodulator including a phase locked loop with auxiliary feedback loop  
[NASA-CASE-GSC-12018-1] c 33 N77-14334  
Frequency translating phase conjugation circuit for active retrodirective antenna array --- microwave transmission  
[NASA-CASE-NPO-14536-1] c 32 N81-14185  
PN lock indicator for dithered PN code tracking loop  
[NASA-CASE-NPO-14435-1] c 33 N81-33405  
Discriminator aided phase lock acquisition for suppressed carrier signals  
[NASA-CASE-NPO-14311-1] c 33 N82-29539  
Pulsed phase locked loop strain monitor --- voltage controlled oscillators  
[NASA-CASE-LAR-12772-1] c 33 N83-16626  
Double reference pulsed phase locked loop  
[NASA-CASE-LAR-13310-1] c 32 N87-14559  
Means for phase locking the outputs of a surface emitting laser diode array  
[NASA-CASE-NPO-16542-1-CU] c 36 N87-23960  
Processing circuit with asymmetry corrector and convolutional encoder for digital data  
[NASA-CASE-MSC-20187-1] c 33 N87-25531  
Phase length optical phase-locked-loop sensor  
[NASA-CASE-LAR-13387-1] c 74 N88-25302  
Digital phase-lock loop having an estimator and predictor of error  
[NASA-CASE-NPO-17196-1-CU] c 32 N88-29076
- PHASE MODULATION**  
Phase quadrature-plural channel data transmission system Patent  
[NASA-CASE-XAC-06302] c 08 N71-19763  
Adaptive tracking notch filter system Patent  
[NASA-CASE-XMF-01892] c 10 N71-22986  
Phase locked phase modulator including a voltage controlled oscillator Patent  
[NASA-CASE-XNP-05382] c 10 N71-23544  
Phase multiplying electronic scanning system Patent  
[NASA-CASE-NPO-10302] c 10 N71-26142  
Phase modulator Patent  
[NASA-CASE-MSC-13201-1] c 07 N71-28429  
Two carrier communication system with single transmitter  
[NASA-CASE-NPO-11548] c 07 N73-26118  
Decision feedback loop for tracking a polyphase modulated carrier  
[NASA-CASE-NPO-13103-1] c 32 N74-20811

- Modulator for tone and binary signals --- phase of modulation of tone and binary signals on carrier waves in communication systems  
[NASA-CASE-GSC-11743-1] c 32 N75-24981  
Phase modulating with odd and even finite power series of a modulating signal  
[NASA-CASE-LAR-11607-1] c 32 N77-14292  
Swept group delay measurement  
[NASA-CASE-NPO-13909-1] c 33 N78-25319  
Quadrature demodulation  
[NASA-CASE-GSC-12137-1] c 33 N78-32338  
Closed Loop solar array-ion thruster system with power control circuitry  
[NASA-CASE-LEW-12780-1] c 20 N79-20179  
Baseband signal combiner for large aperture antenna array  
[NASA-CASE-NPO-14641-1] c 32 N81-29308  
Doppler radar having phase modulation of both transmitted and reflected return signals  
[NASA-CASE-MSC-18675-1] c 32 N84-22820  
Method and apparatus for receiving and tracking phase modulated signals  
[NASA-CASE-MSC-16170-2] c 32 N84-27952  
Integrating IR detector imaging systems  
[NASA-CASE-NPO-15805-1] c 74 N84-28590

## PHASE SHIFT

- Bi-polar phase detector and corrector for split phase PCM data signals Patent  
[NASA-CASE-XGS-01590] c 07 N71-12392  
Electromagnetic polarization systems and methods Patent  
[NASA-CASE-GSC-10021-1] c 09 N71-24595  
Method and apparatus for frequency-division multiplex communications by digital phase shift of carrier  
[NASA-CASE-NPO-11338] c 08 N72-25208  
Time domain phase measuring apparatus  
[NASA-CASE-GSC-12228-1] c 33 N79-10338  
Phase-angle controller for Stirling engines  
[NASA-CASE-NPO-14388-1] c 37 N81-17432  
JFET reflection oscillator  
[NASA-CASE-GSC-12555-1] c 33 N86-19515  
Double reference pulsed phase locked loop  
[NASA-CASE-LAR-13310-1] c 32 N87-14559  
Ground plane interference elimination by passive element  
[NASA-CASE-NPO-16632-1-CU] c 32 N87-15390  
Method and apparatus for measuring minority carrier lifetime in a direct band-gap semiconductor  
[NASA-CASE-NPO-16337-1-CU] c 33 N87-22894  
Doppler radar with multiphase modulation of transmitted and reflected signal  
[NASA-CASE-MSC-18808-1] c 32 N88-23923

## PHASE SHIFT CIRCUITS

- Gyrator type circuit Patent  
[NASA-CASE-XAC-10608-1] c 09 N71-12517  
Phase shift circuit apparatus  
[NASA-CASE-ARC-10269-1] c 10 N72-16172  
Continuously variable voltage controlled phase shifter  
[NASA-CASE-NPO-11129] c 09 N72-33204  
Induction motor control system with voltage controlled oscillator circuit  
[NASA-CASE-MFS-21465-1] c 10 N73-32145  
Low distortion automatic phase control circuit --- voltage controlled phase shifter  
[NASA-CASE-MFS-21671-1] c 33 N74-22885  
Pseudonoise code tracking loop  
[NASA-CASE-MSC-18035-1] c 32 N81-15179  
Fiber optic transmission line stabilization apparatus and method  
[NASA-CASE-NPO-15036-1] c 74 N82-19029

## PHASE SHIFT KEYING

- Decision feedback loop for tracking a polyphase modulated carrier  
[NASA-CASE-NPO-13103-1] c 32 N74-20811  
Differential phase shift keyed communication system  
[NASA-CASE-MSC-14065-1] c 32 N74-26654  
Differential phase shift keyed signal resolver  
[NASA-CASE-MSC-14066-1] c 33 N74-27705  
Unbalanced quadrature demodulator  
[NASA-CASE-MSC-14840-1] c 32 N77-24331  
Method and apparatus for quadrature-shift-key and linear phase modulation  
[NASA-CASE-NPO-14444-1] c 33 N81-15192  
Digital demodulator  
[NASA-CASE-LAR-12659-1] c 33 N82-26570  
Doppler-corrected differential detection system  
[NASA-CASE-NPO-16987-1-CU] c 32 N88-30001

## PHASE SWITCHING INTERFEROMETERS

- Radar antenna system for acquisition and tracking Patent  
[NASA-CASE-XMS-09610] c 07 N71-24625

## PHASE TRANSFORMATIONS

- Slug flow magnetohydrodynamic generator  
[NASA-CASE-XLE-02083] c 03 N69-39983  
Fluid dispensing apparatus and method Patent  
[NASA-CASE-XLE-01182] c 27 N71-15635



## PHASE VELOCITY

Ten degree Kelvin hydride refrigerator  
[NASA-CASE-NPO-16393-1-CU] c 31 N87-21159

## PHASE VELOCITY

Ultrasonic calibration device --- for producing changes in acoustic attenuation and phase velocity  
[NASA-CASE-LAR-11435-1] c 35 N76-15432

## PHASED ARRAYS

Phase control circuits using frequency multiplications for phased array antennas  
[NASA-CASE-ERC-10285] c 10 N73-16206  
Phased array antenna control  
[NASA-CASE-MS-C-14939-1] c 32 N79-11264  
Phase conjugation method and apparatus for an active retrodirective antenna array  
[NASA-CASE-NPO-13641-1] c 32 N79-24210  
Coaxial phased array antenna  
[NASA-CASE-MS-C-16800-1] c 32 N81-14187  
Spiral slotted phased antenna array  
[NASA-CASE-MS-C-18532-1] c 32 N82-27558  
Method and apparatus for self-calibration and phasing of array antenna  
[NASA-CASE-NPO-15920-1] c 33 N85-21493  
Ground plane interference elimination by passive element  
[NASA-CASE-NPO-16632-1-CU] c 32 N87-15390

## PHENOLIC RESINS

Bonding method in the manufacture of continuous regression rate sensor devices  
[NASA-CASE-LAR-10337-1] c 24 N75-30260  
Fire and heat resistant laminating resins based on maleimido substituted aromatic cyclotriphosphazene polymer  
[NASA-CASE-ARC-11428-2] c 27 N87-16909

## PHENOLS

Novel polymers and method of preparing same  
[NASA-CASE-NPO-10998-1] c 06 N73-32029  
Method and device for the detection of phenol and related compounds --- in an electrochemical cell  
[NASA-CASE-LEW-12513-1] c 25 N79-22235

## PHENYLS

The 1,1,1-triaryl-2,2,2-trifluoroethanes and process for their synthesis  
[NASA-CASE-ARC-11097-1] c 25 N82-24312

## PHONOCARDIOGRAPHY

Phonocardiogram simulator Patent  
[NASA-CASE-XKS-10804] c 05 N71-24606  
Vibrophonocardiograph Patent  
[NASA-CASE-XFR-07172] c 05 N71-27234

## PHOSPHATES

Thermal control coating Patent  
[NASA-CASE-XLA-01995] c 18 N71-23047

## PHOSPHAZENE

Process for the preparation of polycarbonylphosphazenes --- thermal insulation  
[NASA-CASE-ARC-11176-2] c 27 N81-27271  
Carboranyl cyclotriphosphazenes and their polymers --- thermal insulation  
[NASA-CASE-ARC-11176-1] c 27 N82-18389  
Carboranyl methylene-substituted phosphazenes and polymers thereof  
[NASA-CASE-ARC-11370-1] c 27 N84-22750  
Maleimido substituted aromatic cyclotriphosphazenes  
[NASA-CASE-ARC-11428-1] c 23 N86-19376  
Fire and heat resistant laminating resins based on maleimido substituted aromatic cyclotriphosphazene polymer  
[NASA-CASE-ARC-11428-2] c 27 N87-16909  
Aromatic cyclotriphosphazenes  
[NASA-CASE-ARC-11428-3] c 23 N88-24692

## PHOSPHINES

Heat resistant polymers of oxidized styrylphosphine  
[NASA-CASE-MS-C-14903-1] c 27 N78-32256  
Compound oxidized styrylphosphine --- flame resistant vinyl polymers  
[NASA-CASE-MS-C-14903-2] c 27 N80-10358  
Heat resistant polymers of oxidized styrylphosphine  
[NASA-CASE-MS-C-14903-3] c 27 N80-24438  
Phosphorus-containing imide resins  
[NASA-CASE-ARC-11368-1] c 27 N83-31854  
Elastomer-modified phosphorus-containing imide resins  
[NASA-CASE-ARC-11400-1] c 27 N84-14322  
Phosphorus-containing imide resins  
[NASA-CASE-ARC-11368-2] c 27 N85-21347

## PHOSPHONITRILES

Metal containing polymers from cyclic tetrameric phenylphosphonitrimides Patent  
[NASA-CASE-HQN-10364] c 06 N71-27363

## PHOSPHORS

High contrast cathode ray tube  
[NASA-CASE-ERC-10468] c 09 N72-20206  
Thin wire pointing method  
[NASA-CASE-NPO-15789-1] c 31 N83-19947  
Flat-panel, full-color, electroluminescent display  
[NASA-CASE-LAR-13407-1] c 33 N87-28831

## PHOSPHORUS

Photoelectrochemical cells including chalcogenophosphate photoelectrodes  
[NASA-CASE-LAR-12958-1] c 44 N84-23019  
Fire-resistant phosphorus containing polyimides and copolyimides  
[NASA-CASE-ARC-11522-2] c 27 N85-34280

## PHOSPHORUS COMPOUNDS

Phosphorus-containing bisimide resins  
[NASA-CASE-ARC-11321-1] c 27 N81-27272  
Polymer of phosphonylmethyl-2,4- and -2,6-diamino benzene and polyfunctional monomer  
[NASA-CASE-ARC-11506-2] c 23 N86-32525  
The 1-((diorganoxy phosphonyl) methyl)-2,4- and -2,6-diamino benzenes and their derivatives  
[NASA-CASE-ARC-11425-2] c 23 N87-28605

## PHOSPHORUS POLYMERS

Process for the preparation of polycarbonylphosphazenes --- thermal insulation  
[NASA-CASE-ARC-11176-2] c 27 N81-27271  
Carboranyl cyclotriphosphazenes and their polymers --- thermal insulation  
[NASA-CASE-ARC-11176-1] c 27 N82-18389  
Phosphorus-containing imide resins  
[NASA-CASE-ARC-11368-2] c 27 N85-21347

## PHOTOABSORPTION

Photomechanical transducer  
[NASA-CASE-NPO-14363-1] c 39 N81-25400

## PHOTOCATHODES

Photoelectric energy spectrometer Patent  
[NASA-CASE-XNP-04161] c 14 N71-15599  
III-V photocathode with nitrogen doping for increased quantum efficiency  
[NASA-CASE-NPO-12134-1] c 33 N76-31409

## PHOTOCHEMICAL REACTIONS

Apparatus for photon excited catalysis  
[NASA-CASE-NPO-13566-1] c 25 N77-32255  
Apparatus for extraction and separation of a preferentially photo-dissociated molecular isotope into positive and negative ions by means of an electric field  
[NASA-CASE-LEW-12465-1] c 25 N78-25148  
Ultra-violet process for producing flame resistant polyimides and products produced thereby --- protective clothing for high oxygen environments  
[NASA-CASE-MS-C-16074-1] c 27 N80-26446

## PHOTOCONDUCTIVE CELLS

Two-dimensional radiant energy array computers and computing devices  
[NASA-CASE-GSC-11839-1] c 60 N77-14751  
Plural output optometric sample cell and analysis system  
[NASA-CASE-NPO-10233-1] c 74 N78-33913  
Photocapacitive image converter  
[NASA-CASE-LAR-12513-1] c 44 N82-32841

## PHOTOCONDUCTIVITY

Photoetching of metal-oxide layers  
[NASA-CASE-ERC-10108] c 06 N72-21094

## PHOTOCONDUCTORS

Electronic divider and multiplier using photocells Patent  
[NASA-CASE-XFR-05637] c 09 N71-19480

## PHOTODIODES

Shock isolator for operating a diode laser on a closed-cycle refrigerator  
[NASA-CASE-GSC-12297-1] c 37 N79-28549  
Focal plane array optical proximity sensor  
[NASA-CASE-NPO-15155-1] c 74 N85-22139

## PHOTODISSOCIATION

Apparatus for extraction and separation of a preferentially photo-dissociated molecular isotope into positive and negative ions by means of an electric field  
[NASA-CASE-LEW-12465-1] c 25 N78-25148

## PHOTOELECTRIC CELLS

Sun tracker with rotatable plane-parallel plate and two photocells Patent  
[NASA-CASE-XGS-01159] c 21 N71-10678  
Method of and device for determining the characteristics and flux distribution of micrometeorites --- scanning puncture holes in sheet material with photoelectric cell  
[NASA-CASE-NPO-12127-1] c 91 N74-13130  
Noncontacting method for measuring angular deflection  
[NASA-CASE-LAR-12178-1] c 74 N80-21138  
Photoelectric detection system --- manufacturing automation  
[NASA-CASE-MFS-23776-1] c 33 N82-28545

## PHOTOELECTRIC EFFECT

Photoelectric energy spectrometer Patent  
[NASA-CASE-XNP-04161] c 14 N71-15599

## PHOTOELECTRIC EMISSION

High resolution threshold photoelectron spectroscopy by electron attachment  
[NASA-CASE-NPO-14078-1] c 72 N80-14877

## PHOTOELECTRIC MATERIALS

Light radiation direction indicator with a baffle of two parallel grids  
[NASA-CASE-XNP-03930] c 14 N69-24331  
Use of thin film light detector  
[NASA-CASE-NPO-11432-2] c 35 N74-15090  
Photoelectrochemical cells including chalcogenophosphate photoelectrodes  
[NASA-CASE-LAR-12958-1] c 44 N84-23019  
Increased voltage photovoltaic cell  
[NASA-CASE-NPO-16155-1] c 44 N85-30475

## PHOTOELECTRICITY

Photoelectrochemical cells including chalcogenophosphate photoelectrodes  
[NASA-CASE-LAR-12958-1] c 44 N84-23019

## PHOTOELECTROCHEMICAL DEVICES

Photoelectrochemical electrodes  
[NASA-CASE-NPO-15458-1] c 25 N84-12262  
Method for determining the point of zero zeta potential of semiconductor  
[NASA-CASE-LAR-12893-1] c 76 N85-30923

## PHOTOELECTRON SPECTROSCOPY

Photoelectron spectrometer with means for stabilizing sample surface potential  
[NASA-CASE-NPO-13772-1] c 35 N78-10429  
High resolution threshold photoelectron spectroscopy by electron attachment  
[NASA-CASE-NPO-14078-1] c 72 N80-14877  
Low intensity X-ray and gamma-ray spectrometer  
[NASA-CASE-GSC-12587-1] c 35 N82-32659

## PHOTOGRAPHIC EMULSIONS

Method for applying photographic resists to otherwise incompatible substrates  
[NASA-CASE-MS-C-18107-1] c 27 N81-25209  
Method for retarding dye fading during archival storage of developed color photographic film --- inert atmosphere  
[NASA-CASE-MFS-23250-1] c 35 N82-11432

## PHOTOGRAPHIC EQUIPMENT

Apparatus and method for protecting a photographic device Patent  
[NASA-CASE-NPO-10174] c 14 N71-18465  
Method of treating the surface of a glass member  
[NASA-CASE-GSC-12110-1] c 27 N77-32308  
System for forming a quadrified image comprising angularly related fields of view of a three dimensional object  
[NASA-CASE-NPO-14219-1] c 74 N81-17886

## PHOTOGRAPHIC FILM

Film feed camera having a detent means Patent  
[NASA-CASE-LAR-10686] c 14 N71-28935  
Exposure interlock for oscilloscope cameras  
[NASA-CASE-LAR-10319-1] c 14 N73-32322  
Optical noise suppression device and method --- laser light exposing film  
[NASA-CASE-MS-C-12640-1] c 74 N76-31998  
Selective image area control of X-ray film exposure density  
[NASA-CASE-NPO-13808-1] c 35 N78-15461  
Method for retarding dye fading during archival storage of developed color photographic film --- inert atmosphere  
[NASA-CASE-MFS-23250-1] c 35 N82-11432  
Method and apparatus for making an optical element having a dielectric film  
[NASA-CASE-ARC-11611-1] c 74 N87-28416

## PHOTOGRAPHIC MEASUREMENT

Means and method of measuring viscoelastic strain Patent  
[NASA-CASE-XNP-01153] c 32 N71-17645  
Impact measuring technique  
[NASA-CASE-LAR-10913] c 14 N72-16282  
TV fatigue crack monitoring system  
[NASA-CASE-LAR-11490-1] c 39 N78-16387

## PHOTOGRAPHIC PROCESSING

Method and apparatus for producing an image from a transparent object  
[NASA-CASE-GSC-11989-1] c 74 N77-28932  
Method of obtaining intensified image from developed photographic films and plates  
[NASA-CASE-MFS-23461-1] c 35 N79-10389

## PHOTOGRAPHIC PROCESSING EQUIPMENT

Drying apparatus for photographic sheet material  
[NASA-CASE-GSC-11074-1] c 14 N73-28489

## PHOTOGRAPHIC RECORDING

Method of obtaining permanent record of surface flow phenomena Patent  
[NASA-CASE-XLA-01353] c 14 N70-41366  
Focused image holography with extended sources Patent  
[NASA-CASE-ERC-10019] c 16 N71-15551  
Recording and reconstructing focused image holograms Patent  
[NASA-CASE-ERC-10017] c 16 N71-15567

- Method and means for recording and reconstructing holograms without use of a reference beam Patent  
[NASA-CASE-ERC-10020] c 16 N71-26154
- Multiple image storing system for high speed projectile holography  
[NASA-CASE-MFS-20596] c 14 N72-17324
- Phototropic composition of matter  
[NASA-CASE-XGS-03736] c 14 N72-22443
- Method for determining thermo-physical properties of specimens --- photographic recording of changes in thin film phase-change temperature indicating material in wind tunnel  
[NASA-CASE-LAR-11053-1] c 25 N74-18551
- PHOTOGRAPHY**  
System for forming a quadrified image comprising angularly related fields of view of a three dimensional object  
[NASA-CASE-NPO-14219-1] c 74 N81-17886
- Photorefractor ocular screening system  
[NASA-CASE-MFS-26011-1-SB] c 52 N87-24874
- PHOTOIONIZATION**  
A multichannel photoionization chamber for absorption analysis Patent  
[NASA-CASE-ERC-10044-1] c 14 N71-27090
- PHOTOLYSIS**  
Solar photolysis of water  
[NASA-CASE-NPO-13675-1] c 44 N77-32580
- Solar photolysis of water  
[NASA-CASE-NPO-14126-1] c 44 N79-11470
- PHOTOMAPPING**  
Window defect planar mapping technique  
[NASA-CASE-MSC-19442-1] c 74 N77-10899
- PHOTOMASKS**  
Method for applying photographic resists to otherwise incompatible substrates  
[NASA-CASE-MSC-18107-1] c 27 N81-25209
- PHOTOMECHANICAL EFFECT**  
Photomechanical transducer  
[NASA-CASE-NPO-14363-1] c 39 N81-25400
- PHOTOMETERS**  
Interferometer direction sensor Patent  
[NASA-CASE-NPO-10320] c 14 N71-17655
- Method and device for determining battery state of charge Patent  
[NASA-CASE-NPO-10194] c 03 N71-20407
- Light position locating system Patent  
[NASA-CASE-XNP-01059] c 23 N71-21821
- Fluid flow meter with comparator reference means Patent  
[NASA-CASE-XGS-01331] c 14 N71-22996
- Two color horizon sensor  
[NASA-CASE-ERC-10174] c 14 N72-25409
- Infrared detectors  
[NASA-CASE-LAR-10728-1] c 14 N73-12445
- Chromato-fluorographic drug detector --- device for detecting and recording fluorescent properties of materials  
[NASA-CASE-ARC-10633-1] c 25 N74-26947
- The 2 deg/90 deg laboratory scattering photometer --- particulate refractivity in hydrosols  
[NASA-CASE-GSC-12088-1] c 74 N78-13874
- Magneto-optic detection system with noise cancellation  
[NASA-CASE-NPO-11954-1] c 35 N78-29421
- PHOTOMICROGRAPHY**  
Stereo photomicrography system  
[NASA-CASE-LAR-10176-1] c 14 N72-20380
- Hand-held photomicroscope  
[NASA-CASE-ARC-10468-1] c 14 N73-33361
- Method of examining microcircuit patterns  
[NASA-CASE-NPO-16299-1] c 33 N87-14594
- PHOTOMULTIPLIER TUBES**  
Canopus detector including automotive gain control of photomultiplier tube Patent  
[NASA-CASE-XNP-03914] c 21 N71-10771
- Electronic divider and multiplier using photocells Patent  
[NASA-CASE-XFR-05637] c 09 N71-19480
- Coincidence apparatus for detecting particles  
[NASA-CASE-XLA-07813] c 14 N72-17328
- Method and apparatus for mapping the sensitivity of the face of a photodetector specifically a PMT  
[NASA-CASE-LAR-10320-1] c 09 N72-23172
- Light direction sensor  
[NASA-CASE-NPO-11201] c 14 N72-27409
- Photomultiplier circuit including means for rapidly reducing the sensitivity thereof --- and protection from radiation damage  
[NASA-CASE-ARC-10593-1] c 33 N74-27682
- PHOTON BEAMS**  
Apparatus for photon excited catalysis  
[NASA-CASE-NPO-13566-1] c 25 N77-32255
- PHOTON-ELECTRON INTERACTION**  
Means and method for calibrating a photon detector utilizing electron-photon coincidence  
[NASA-CASE-NPO-15644-1] c 35 N84-33767
- PHOTONS**  
Solar cell collector  
[NASA-CASE-LEW-12552-1] c 44 N78-25527
- Means and method for calibrating a photon detector utilizing electron-photon coincidence  
[NASA-CASE-NPO-15644-1] c 35 N84-33767
- Double photon excitation of high-Rydberg atoms as a long-lived submillimeter detector  
[NASA-CASE-NPO-16372-1] c 72 N86-33127
- PHOTOSENSITIVITY**  
Photosensitive device to detect bearing deviation Patent  
[NASA-CASE-XNP-00438] c 21 N70-35089
- Solar optical telescope dome control system Patent  
[NASA-CASE-MSC-10966] c 14 N71-19568
- Method and apparatus for mapping the sensitivity of the face of a photodetector specifically a PMT  
[NASA-CASE-LAR-10320-1] c 09 N72-23172
- Holography utilizing surface plasmon resonances  
[NASA-CASE-MFS-22040-1] c 35 N74-26946
- Apparatus for calibrating an image dissector tube  
[NASA-CASE-MFS-22208-1] c 33 N75-26244
- Photoelectrochemical cells including chalcogenophosphate photoelectrodes  
[NASA-CASE-LAR-12958-1] c 44 N84-23019
- Liquid crystal light valve structures  
[NASA-CASE-MSC-20036-1] c 76 N85-33826
- Dynamic range compression/expansion of light beams by photorefractive crystals  
[NASA-CASE-NPO-17140-1-CU] c 74 N89-14077
- PHOTOTRANSISTORS**  
Phototransistor imaging system  
[NASA-CASE-MFS-20809] c 23 N73-13660
- Phototransistor  
[NASA-CASE-MFS-20407] c 09 N73-19235
- Distributed proximity sensor system  
[NASA-CASE-NPO-17275-1-CU] c 37 N89-29750
- PHOTOTROPISM**  
Phototropic composition of matter  
[NASA-CASE-XGS-03736] c 14 N72-22443
- PHOTOVISCOELASTICITY**  
Means and method of measuring viscoelastic strain Patent  
[NASA-CASE-XNP-01153] c 32 N71-17645
- PHOTOVOLTAIC CELLS**  
Plurality of photosensitive cells on a pyramidal base for planetary trackers  
[NASA-CASE-XNP-04180] c 07 N69-39736
- Light sensitive digital aspect sensor Patent  
[NASA-CASE-XGS-00359] c 14 N70-34158
- Method of using photovoltaic cell using poly-N-vinylcarbazole complex Patent  
[NASA-CASE-NPO-10373] c 03 N71-18698
- Use of thin film light detector  
[NASA-CASE-NPO-11432-2] c 35 N74-15090
- Photovoltaic cell array  
[NASA-CASE-MFS-22458-1] c 44 N77-10635
- Solar cells having integral collector grids  
[NASA-CASE-LEW-12819-1] c 44 N79-11467
- Double-sided solar cell package  
[NASA-CASE-NPO-14199-1] c 44 N79-25482
- Method of construction of a multi-cell solar array  
[NASA-CASE-MFS-23540-1] c 44 N79-26475
- Solar cell with improved N-region contact and method of forming the same  
[NASA-CASE-NPO-14205-1] c 44 N79-31752
- Method of fabricating a photovoltaic module of a substantially transparent construction  
[NASA-CASE-NPO-14303-1] c 44 N80-18550
- Copper doped polycrystalline silicon solar cell  
[NASA-CASE-NPO-14670-1] c 44 N81-19558
- Efficiency of silicon solar cells containing chromium  
[NASA-CASE-NPO-15179-1] c 44 N82-26777
- Method of making a high voltage V-groove solar cell  
[NASA-CASE-LEW-13401-1] c 44 N82-29709
- High voltage planar multijunction solar cell  
[NASA-CASE-LEW-13400-1] c 44 N82-31764
- Heat transparent high intensity high efficiency solar cell  
[NASA-CASE-LEW-12892-1] c 44 N83-14692
- Miniature spectrally selective dosimeter  
[NASA-CASE-LAR-12469-1] c 35 N83-21311
- Cloud cover sensor  
[NASA-CASE-NPO-14936-1] c 47 N83-32232
- Process and apparatus for growing a crystal ribbon  
[NASA-CASE-NPO-15629-1] c 76 N84-35113
- Increased voltage photovoltaic cell  
[NASA-CASE-NPO-16155-1] c 44 N85-30475
- Thermionic photovoltaic energy converter  
[NASA-CASE-LEW-14077-1] c 44 N85-34441
- GaAs Schottky barrier photo-responsive device and method of fabrication  
[NASA-CASE-GSC-12816-1] c 76 N86-20150
- Method of making macrocrystalline or single crystal semiconductor material  
[NASA-CASE-NPO-15904-1] c 76 N86-28760
- PHOTOVOLTAIC CONVERSION**  
Photoelectrochemical cells including chalcogenophosphate photoelectrodes  
[NASA-CASE-LAR-12958-1] c 44 N84-23019
- PHOTOVOLTAIC EFFECT**  
System for improving signal-to-noise ratio of a communication signal Patent Application  
[NASA-CASE-MSC-12259-1] c 07 N70-12616
- Use of thin film light detector  
[NASA-CASE-NPO-11432-2] c 35 N74-15090
- Thermionic photovoltaic energy converter  
[NASA-CASE-LEW-14077-1] c 44 N85-34441
- PHthalATES**  
Stabilized unsaturated polyesters  
[NASA-CASE-NPO-16103-1] c 27 N85-29043
- PHthalOCYANIN**  
Metal phthalocyanine polymers  
[NASA-CASE-ARC-11405-1] c 27 N84-27884
- Phthalocyanine polymers  
[NASA-CASE-ARC-11413-1] c 27 N85-21348
- Metal (2,4,4',4'') phthalocyanine tetraamines as curing agents for epoxy resins  
[NASA-CASE-ARC-11424-1] c 27 N85-34281
- Metal phthalocyanine intermediates for the preparation of polymers  
[NASA-CASE-ARC-11405-2] c 27 N86-19455
- Process for preparing phthalocyanine polymer from imide containing bisphthalonitrile  
[NASA-CASE-ARC-11511-2] c 27 N87-21112
- PHYSICAL EXERCISE**  
Restraint system for ergometer  
[NASA-CASE-MFS-21046-1] c 14 N73-27377
- Tilting table for ergometer and for other biomedical devices  
[NASA-CASE-MFS-21010-1] c 05 N73-30078
- Manual actuator --- for spacecraft exercising machines  
[NASA-CASE-MFS-21481-1] c 37 N74-18127
- Therapeutic hand exerciser  
[NASA-CASE-LAR-11667-1] c 52 N76-19785
- PHYSICAL PROPERTIES**  
Polyurethanes of fluorine containing polycarbonates  
[NASA-CASE-MFS-10512] c 06 N73-30099
- System for monitoring physical characteristics of fluids  
[NASA-CASE-NPO-15400-1] c 34 N83-31993
- PHYSIOLOGICAL EFFECTS**  
Restraint torso for a pressurized suit  
[NASA-CASE-MSC-12397-1] c 05 N72-25119
- PHYSIOLOGICAL TESTS**  
Vibrophonocardiograph Patent  
[NASA-CASE-XFR-07172] c 05 N71-27234
- Medical subject monitoring systems --- multichannel monitoring systems  
[NASA-CASE-MSC-14180-1] c 52 N76-14757
- PHYSIOLOGY**  
Phonocardiograph transducer Patent  
[NASA-CASE-XMS-05365] c 14 N71-22993
- Method of detecting and counting bacteria  
[NASA-CASE-GSC-11917-2] c 51 N76-29891
- PIERCING**  
Pressurized cell micrometeoroid detector Patent  
[NASA-CASE-XLA-00936] c 14 N71-14996
- PIEZOELECTRIC CRYSTALS**  
Miniature stress transducer Patent  
[NASA-CASE-XNP-02983] c 14 N71-21091
- Ultra-stable oscillator with complementary transistors  
[NASA-CASE-GSC-11513-1] c 33 N74-20862
- CDS solid state phase insensitive ultrasonic transducer --- annealing dadium sulfide crystals  
[NASA-CASE-LAR-12304-1] c 35 N80-20559
- PIEZOELECTRIC TRANSDUCERS**  
Force transducer Patent  
[NASA-CASE-XAC-01101] c 14 N70-41957
- Microbalance including crystal oscillators for measuring contaminants in a gas system Patent  
[NASA-CASE-NPO-10144] c 14 N71-17701
- Phonocardiograph transducer Patent  
[NASA-CASE-XMS-05365] c 14 N71-22993
- Semiconductor transducer device  
[NASA-CASE-ERC-10087-2] c 14 N72-31446
- Length mode piezoelectric ultrasonic transducer for inspection of solid objects  
[NASA-CASE-MSC-19672-1] c 38 N79-14398
- Piezoelectric deicing device  
[NASA-CASE-LEW-13773-2] c 33 N86-20671
- PIEZOELECTRICITY**  
Missile stage separation indicator and stage initiator Patent  
[NASA-CASE-XLA-00791] c 03 N70-39930
- Piezoelectric pump Patent  
[NASA-CASE-XNP-05429] c 26 N71-21824
- Pressure sensitive transducers Patent  
[NASA-CASE-ERC-10087] c 14 N71-27334
- Piezoelectric composite materials  
[NASA-CASE-LEW-12582-1] c 76 N83-34796

## PIEZORESISTIVE TRANSDUCERS

- Miniature stress transducer Patent  
[NASA-CASE-XNP-02983] c 14 N71-21091  
Transverse piezoresistance and pinch effect  
electromechanical transducers Patent  
[NASA-CASE-ERC-10088] c 26 N71-25490

## PIGMENTS

- Stabilized zinc oxide coating compositions Patent  
[NASA-CASE-XMF-07770-2] c 18 N71-26772

## PILOT TRAINING

- Controlled visibility device for an aircraft Patent  
[NASA-CASE-XFR-04147] c 11 N71-10748  
Kinesthetic control simulator --- for pilot training  
[NASA-CASE-LAR-10276-1] c 09 N75-15662

## PILOTS (PERSONNEL)

- System for indicating direction of intruder aircraft  
[NASA-CASE-ERC-10226-1] c 14 N73-16483

## PINCH EFFECT

- Toggle mechanism for pinching metal tubes  
[NASA-CASE-GSC-12274-1] c 37 N79-28550

## PINHOLE CAMERAS

- Three-dimensional and tomographic imaging device for  
X-ray and gamma-ray emitting objects  
[NASA-CASE-GSC-12851-1] c 35 N85-30281

## PINS

- Fatigue-resistant shear pin  
[NASA-CASE-XLA-09122] c 15 N69-27505  
Turbo-machine blade vibration damper Patent  
[NASA-CASE-XLE-00155] c 28 N71-29154  
Safety-type locking pin  
[NASA-CASE-MFS-18495] c 15 N72-11385  
Self-locking double retention redundant full pin release  
[NASA-CASE-NPO-16233-1] c 37 N86-20801

## PINTLES

- Metal valve pintle with encapsulated elastomeric body  
Patent  
[NASA-CASE-MSC-12116-1] c 15 N71-17648

## PIPE FLOW

- Flat-plate heat pipe  
[NASA-CASE-GSC-11998-1] c 34 N77-32413  
Monogroove heat pipe design: Insulated liquid channel  
with bridging wick  
[NASA-CASE-MSC-20497-1] c 34 N85-29180  
Energy efficient continuous flow ash lockhopper  
[NASA-CASE-NPO-16985-1-CU] c 31 N88-24814

## PIPELINES

- Spherical shield Patent  
[NASA-CASE-XNP-01855] c 15 N71-28937

## PIPELINING (COMPUTERS)

- Pipelined digital SAR azimuth correlator using hybrid  
FFT-transversal filter  
[NASA-CASE-NPO-15519-1] c 32 N84-34651  
Neighborhood comparison operator  
[NASA-CASE-NPO-16464-1CU] c 60 N86-24224  
Real time pipelined system for forming the sum of  
products in the processing of video data  
[NASA-CASE-NPO-16462-1-CU] c 60 N88-24169  
Programmable pipelined image processor  
[NASA-CASE-NPO-16461-1CU] c 60 N89-26400

## PIPES (TUBES)

- Device for determining the accuracy of the flare on a  
flared tube  
[NASA-CASE-XKS-03495] c 14 N69-39785  
Piping arrangement through a double chamber  
structure  
[NASA-CASE-XNP-08882] c 15 N69-39935  
Foldable conduit Patent  
[NASA-CASE-XLE-00620] c 32 N70-41579  
Thermobulb mount Patent  
[NASA-CASE-NPO-10158] c 33 N71-16356  
Method and apparatus for precision sizing and joining  
of large diameter tubes Patent  
[NASA-CASE-XMF-05114] c 15 N71-17650  
Sealed separable connection Patent  
[NASA-CASE-NPO-10064] c 15 N71-17693  
Electrical switching device Patent  
[NASA-CASE-NPO-10037] c 09 N71-19610  
Tube dimpling tool Patent  
[NASA-CASE-XMS-06876] c 15 N71-21536  
Plasma device feed system Patent  
[NASA-CASE-XLE-02902] c 25 N71-21694  
Spin forming tubular elbows Patent  
[NASA-CASE-XMF-01083] c 15 N71-22723  
Portable milling tool Patent  
[NASA-CASE-XMF-03511] c 15 N71-22799  
Internal flare angle gauge Patent  
[NASA-CASE-XMF-04415] c 14 N71-24693  
Method and apparatus for precision sizing and joining  
of large diameter tubes Patent  
[NASA-CASE-XMF-05114-3] c 15 N71-24865  
Weld preparation machine Patent  
[NASA-CASE-XKS-07953] c 15 N71-26134  
Method and apparatus for precision sizing and joining  
of large diameter tubes Patent  
[NASA-CASE-XMF-05114-2] c 15 N71-26148

- Collapsible antenna boom and transmission line  
Patent  
[NASA-CASE-MFS-20068] c 07 N71-27191

- Tube fabricating process  
[NASA-CASE-LAR-10203-1] c 15 N72-16330  
Torsional disconnect unit  
[NASA-CASE-NPO-10704] c 15 N72-20445  
Open type urine receptacle  
[NASA-CASE-MSC-12324-1] c 05 N72-22093  
Method for measuring cutaneous sensory perception  
[NASA-CASE-MSC-13609-1] c 05 N72-25122  
Low mass truss structure  
[NASA-CASE-LAR-10546-1] c 11 N72-25287  
Honeycomb panels formed of minimal surface periodic  
tubule layers  
[NASA-CASE-ERC-10364] c 18 N72-25540  
Honeycomb core structures of minimal surface tubule  
sections  
[NASA-CASE-ERC-10363] c 18 N72-25541  
Method for distillation of liquids  
[NASA-CASE-XNP-08124-2] c 06 N73-13129  
Cable restraint  
[NASA-CASE-LAR-10129-1] c 15 N73-25512  
Method of fabricating a twisted composite  
superconductor  
[NASA-CASE-LEW-11015] c 26 N73-32571  
Open tube guideway for high speed air cushioned  
vehicles  
[NASA-CASE-LAR-10256-1] c 85 N74-34672  
Method for fabricating a mass spectrometer inlet leak  
[NASA-CASE-GSC-12077-1] c 35 N77-24455  
Precision heat forming of tetrafluoroethylene tubing  
[NASA-CASE-MSC-18430-1] c 37 N82-24491  
Open ended tubing cutters  
[NASA-CASE-MSC-18538-1] c 37 N82-26672  
Method of making an ion beam sputter-etched  
ventricular catheter for hydrocephalus shunt  
[NASA-CASE-LEW-13107-2] c 52 N84-23095  
Tubing and cable cutting tool  
[NASA-CASE-LAR-12786-1] c 37 N84-28085  
Fluid leak indicator  
[NASA-CASE-MSC-20783-1] c 35 N86-20756  
Method of repairing hidden leaks in tubes  
[NASA-CASE-MFS-19796-1] c 37 N86-32736  
Self-contained, single-use hose and tubing cleaning  
module  
[NASA-CASE-MSC-20857-1] c 37 N87-17035  
Seamless metal-clad fiber-reinforced organic matrix  
composite structures and process for their manufacture  
[NASA-CASE-LAR-13562-1] c 24 N87-18613  
Liquid seeding atomizer  
[NASA-CASE-ARC-11631-1] c 34 N87-21255  
Tube coupling device  
[NASA-CASE-MFS-25964-2] c 37 N87-22977  
Tapered, tubular polyester fabric  
[NASA-CASE-MSC-21082-1] c 27 N87-29672  
Tool and process for miniature explosive joining of  
tubes  
[NASA-CASE-LAR-13662-1] c 37 N88-14359

## PISTON ENGINES

- Stirling cycle engine and refrigeration systems  
[NASA-CASE-NPO-13613-1] c 37 N76-29590  
Hot gas engine with dual crankshafts  
[NASA-CASE-NPO-14221-1] c 37 N81-25370  
Solar engine  
[NASA-CASE-LAR-12148-1] c 44 N82-24640  
Stirling cycle cryogenic cooler  
[US-PATENT-4,389,849] c 44 N83-28574

## PISTONS

- Automatic pump Patent  
[NASA-CASE-XNP-04731] c 15 N71-24042  
Firefly pump-metering system  
[NASA-CASE-GSC-10218-1] c 15 N72-21465  
Collapsible pistons  
[NASA-CASE-MSC-13789-1] c 11 N73-32152  
Airflow control system for supersonic inlets  
[NASA-CASE-LEW-11188-1] c 02 N74-20646  
Free-piston regenerative hot gas hydraulic engine  
[NASA-CASE-LEW-12274-1] c 37 N80-31790  
Power control for hot gas engines  
[NASA-CASE-NPO-14220-1] c 37 N81-14318  
Multiple plate hydrostatic viscous damper  
[NASA-CASE-LEW-12445-1] c 37 N81-22360  
Gas-to-hydraulic power converter  
[NASA-CASE-MSC-18794-1] c 44 N83-14693  
Centrifugal-reciprocating compressor  
[NASA-CASE-NPO-14597-2] c 37 N84-28081  
Lightweight piston  
[NASA-CASE-LAR-13150-1] c 24 N87-27742  
Composite piston  
[NASA-CASE-LAR-13435-1] c 37 N88-23981

## PITCH (INCLINATION)

- Reverse pitch fan with divided splitter  
[NASA-CASE-LEW-12760-1] c 07 N77-17059

- Velocity vector control system augmented with direct  
lift control  
[NASA-CASE-LAR-12268-1] c 08 N81-24106  
Pitch attitude stabilization system utilizing engine  
pressure ratio feedback signals  
[NASA-CASE-LAR-12562-1] c 08 N81-26152  
Swashplate control system  
[NASA-CASE-ARC-11633-1] c 08 N87-23631

## PITCHING MOMENTS

- High lift, low pitching moment airfoils  
[NASA-CASE-LAR-13215-1] c 02 N89-14224

## PIVOTS

- Tension measurement device Patent  
[NASA-CASE-XMS-04545] c 15 N71-22878  
Unidirectional flexural pivot  
[NASA-CASE-GSC-12622-1] c 37 N84-12492  
Joint for deployable structures  
[NASA-CASE-NPO-16038-1] c 37 N86-19605  
Thumb-actuated two-axis controller  
[NASA-CASE-ARC-11372-1] c 08 N86-27288

## PLANAR STRUCTURES

- Window defect planar mapping technique  
[NASA-CASE-MSC-19442-1] c 74 N77-10899  
Method and apparatus for preparing multiconductor  
cable with flat conductors  
[NASA-CASE-MFS-10946-1] c 31 N79-21226  
High voltage planar multijunction solar cell  
[NASA-CASE-LEW-13400-1] c 44 N82-31764

## PLANE WAVES

- Multiple reflection conical microwave antenna  
[NASA-CASE-NPO-11661] c 07 N73-14130

## PLANETARY ATMOSPHERES

- Method of planetary atmospheric investigation using a  
split-trajectory dual flyby mode Patent  
[NASA-CASE-XAC-08494] c 30 N71-15990  
Flow field simulation Patent  
[NASA-CASE-LAR-11138] c 12 N71-20436  
Ablation sensor Patent  
[NASA-CASE-XLA-01791] c 14 N71-22991

## PLANETARY GRAVITATION

- Impact simulator Patent  
[NASA-CASE-XLA-00493] c 11 N70-34786  
Means for visually indicating flight paths of vehicles  
between the Earth, Venus, and Mercury Patent  
[NASA-CASE-XNP-00708] c 14 N70-35394

## PLANETARY LANDING

- Parachute glider Patent  
[NASA-CASE-XLA-00898] c 02 N70-36804  
Omnidirectional multiple impact landing system Patent  
[NASA-CASE-XLA-09881] c 31 N71-16085

## PLANETARY ORBITS

- Flexible foam erectable space structures Patent  
[NASA-CASE-XLA-00686] c 31 N70-34135  
Erectable modular space station Patent  
[NASA-CASE-XLA-00678] c 31 N70-34296

## PLANETARY RADIATION

- Attitude sensor for space vehicles Patent  
[NASA-CASE-XLA-00793] c 21 N71-22880

## PLANETARY SURFACES

- Method and apparatus for mapping planets  
[NASA-CASE-NPO-11001] c 07 N72-21118

## PLANTS (BOTANY)

- Rotary plant growth accelerating apparatus ---  
weightlessness  
[NASA-CASE-ARC-10722-1] c 51 N75-25503  
Molten salt pyrolysis of latex --- synthetic hydrocarbon  
fuel production using the Guayule shrub  
[NASA-CASE-NPO-14315-1] c 27 N81-17261  
Enhancement of in vitro guayule propagation  
[NASA-CASE-NPO-15213-1] c 51 N83-17045

## PLASMA ACCELERATION

- Apparatus for increasing ion engine beam density/  
Patent  
[NASA-CASE-XLE-00519] c 28 N70-41576  
Coaxial high density, hypervelocity plasma generator and  
accelerator with ionizable metal disc  
[NASA-CASE-MFS-20589] c 25 N72-32683

## PLASMA ACCELERATORS

- Plasma accelerator Patent  
[NASA-CASE-XLA-00675] c 25 N70-33267  
Continuously operating induction plasma accelerator  
Patent  
[NASA-CASE-XLA-01354] c 25 N70-36946  
Crossed-field MHD plasma generator/ accelerator  
Patent  
[NASA-CASE-XLA-03374] c 25 N71-15562  
Self-repeating plasma generator having communicating  
annular and linear arc discharge passages Patent  
[NASA-CASE-XLA-03103] c 25 N71-21693  
Magnetically controlled plasma accelerator Patent  
[NASA-CASE-XLA-00327] c 25 N71-29184  
Two stage light gas-plasma projectile accelerator  
[NASA-CASE-MFS-22287-1] c 75 N76-14931

## PLASMA ARC WELDING

- ARC length control for plasma welding  
[NASA-CASE-MSC-20900-1] c 37 N88-30131

**PLASMA CONTROL**

- Superconductive magnetic-field-trapping device  
[NASA-CASE-XNP-01185] c 26 N73-28710
- Self-energized plasma compressor --- for compressing plasma discharged from coaxial plasma generator  
[NASA-CASE-MFS-22145-1] c 75 N75-13625

**PLASMA CYLINDERS**

- Plasma fluidic hybrid display Patent  
[NASA-CASE-ERC-10100] c 09 N71-33519

**PLASMA DENSITY**

- Focusing system for an ion source having apertured electrodes Patent  
[NASA-CASE-XNP-03332] c 09 N71-10618
- Measurement of plasma temperature and density using radiation absorption  
[NASA-CASE-ARC-10598-1] c 75 N74-30156
- Hollow cathode apparatus  
[NASA-CASE-NPO-15560-1] c 33 N85-21491

**PLASMA DIAGNOSTICS**

- Probes having ring and primary sensor at same potential to prevent collection of stray wall currents in ionized gases  
[NASA-CASE-XLE-00690] c 25 N69-39884
- Apparatus for measuring conductivity and velocity of plasma utilizing a plurality of sensing coils positioned in the plasma Patent  
[NASA-CASE-XAC-05695] c 25 N71-16073
- Measurement of plasma temperature and density using radiation absorption  
[NASA-CASE-ARC-10598-1] c 75 N74-30156
- Trochoidal analysis of scattered electrons in a merged electron-ion beam geometry  
[NASA-CASE-NPO-16789-1-CU] c 72 N89-29169

**PLASMA DYNAMICS**

- Apparatus for measuring conductivity and velocity of plasma utilizing a plurality of sensing coils positioned in the plasma Patent  
[NASA-CASE-XAC-05695] c 25 N71-16073
- Self-energized plasma compressor --- for compressing plasma discharged from coaxial plasma generator  
[NASA-CASE-MFS-22145-1] c 75 N75-13625

**PLASMA ENGINES**

- Plasma device feed system Patent  
[NASA-CASE-XLE-02902] c 25 N71-21694
- Hybrid plume plasma rocket  
[NASA-CASE-MSC-20476-2] c 20 N89-25279

**PLASMA GENERATORS**

- Method and apparatus for producing a plasma Patent  
[NASA-CASE-XLA-00147] c 25 N70-34661
- Crossed-field MHD plasma generator/ accelerator Patent  
[NASA-CASE-XLA-03374] c 25 N71-15562
- Coaxial high density, hypervelocity plasma generator and accelerator with ionizable metal disc  
[NASA-CASE-MFS-20589] c 25 N72-32688
- Self-energized plasma compressor --- for compressing plasma discharged from coaxial plasma generator  
[NASA-CASE-MFS-22145-1] c 75 N75-13625
- Self-energized plasma compressor  
[NASA-CASE-MFS-22145-2] c 75 N76-17951
- Continuous plasma laser --- method and apparatus for producing intense, coherent, monochromatic light from low temperature plasma  
[NASA-CASE-XNP-04167-3] c 36 N77-19416

**PLASMA GUNS**

- Method of making a diffusion bonded refractory coating Patent  
[NASA-CASE-XLE-01604-2] c 15 N71-15610

**PLASMA JETS**

- Method of preparing water purification membranes --- polymerization of allyl amine as thin films in plasma discharge  
[NASA-CASE-ARC-10643-1] c 25 N75-12087
- Combination automatic-starting electrical plasma torch and gas shutoff valve --- for satellite attitude control  
[NASA-CASE-XLE-10717] c 37 N75-29426
- Plasma cleaning device --- designed for high vacuum environments  
[NASA-CASE-MFS-22906-1] c 75 N78-27913

**PLASMA LAYERS**

- Electrostatic plasma modulator for space vehicle re-entry communication Patent  
[NASA-CASE-XLA-01400] c 07 N70-41331
- Means for communicating through a layer of ionized gases Patent  
[NASA-CASE-XLA-01127] c 07 N70-41372
- Reentry communication by material addition Patent  
[NASA-CASE-XLA-01552] c 07 N71-11284

**PLASMA POTENTIALS**

- Method and apparatus for neutralizing potentials induced on spacecraft surfaces  
[NASA-CASE-GSC-11963-1] c 33 N77-10429

**PLASMA PROBES**

- Probes having ring and primary sensor at same potential to prevent collection of stray wall currents in ionized gases  
[NASA-CASE-XLE-00690] c 25 N69-39884
- Small plasma probe Patent  
[NASA-CASE-XLE-02578] c 25 N71-20747

**PLASMA PROPULSION**

- Method of making dish ion thruster grids  
[NASA-CASE-LEW-11694-1] c 20 N75-18310
- Ring-cusp ion thruster with shell anode  
[NASA-CASE-LEW-13881-1] c 20 N85-21256
- Hybrid plume plasma rocket  
[NASA-CASE-MSC-20476-2] c 20 N89-25279

**PLASMA RADIATION**

- Means for measuring the electron density gradients of the plasma sheath formed around a space vehicle Patent  
[NASA-CASE-XLA-06232] c 25 N71-20563
- Continuous plasma light source  
[NASA-CASE-XNP-04167-2] c 25 N72-24753

**PLASMA SHEATHS**

- Apparatus for measuring electric field strength on the surface of a model vehicle Patent  
[NASA-CASE-XLE-02038] c 09 N71-16086
- Means for measuring the electron density gradients of the plasma sheath formed around a space vehicle Patent  
[NASA-CASE-XLA-06232] c 25 N71-20563

**PLASMA SPRAYING**

- Method of coating carbonaceous base to prevent oxidation destruction and coated base Patent  
[NASA-CASE-XLA-00302] c 15 N71-16077
- Fully plasma-sprayed compliant backed ceramic turbine seal  
[NASA-CASE-LEW-13268-2] c 37 N82-26674
- Fully plasma-sprayed compliant backed ceramic turbine seal  
[NASA-CASE-LEW-13268-1] c 27 N82-29453
- Thermal barrier coating system  
[NASA-CASE-LEW-14057-1] c 24 N85-35233

**PLASMA TEMPERATURE**

- Measurement of plasma temperature and density using radiation absorption  
[NASA-CASE-ARC-10598-1] c 75 N74-30156

**PLASMA-ELECTROMAGNETIC INTERACTION**

- Plasma igniter for internal combustion engine  
[NASA-CASE-NPO-13828-1] c 37 N79-11405

**PLASMAS (PHYSICS)**

- Apparatus for measuring conductivity and velocity of plasma utilizing a plurality of sensing coils positioned in the plasma Patent  
[NASA-CASE-XAC-05695] c 25 N71-16073
- Hollow cathode apparatus  
[NASA-CASE-NPO-15560-1] c 33 N85-21491

**PLASMONS**

- Inelastic tunnel diodes  
[NASA-CASE-LEW-13833-1] c 33 N85-21492
- Solar energy converter using surface plasma waves  
[NASA-CASE-LEW-13827-1] c 44 N85-21768

**PLASTIC COATINGS**

- Coating process  
[NASA-CASE-XNP-06508] c 18 N69-39895
- Apparatus and method for skin packaging articles  
[NASA-CASE-MFS-20855] c 15 N73-27405
- Silicon nitride coated, plastic covered solar cell  
[NASA-CASE-LEW-11496-1] c 44 N77-14580
- Oxygen post-treatment of plastic surface coated with plasma polymerized silicon-containing monomers  
[NASA-CASE-ARC-10915-2] c 27 N79-18052
- Advanced inorganic separators for alkaline batteries  
[NASA-CASE-LEW-13171-1] c 44 N82-29708
- Process for preparing highly optically transparent/colorless aromatic polyimide film  
[NASA-CASE-LAR-13351-1] c 27 N86-31727

**PLASTIC DEFORMATION**

- Light intensity strain analysis  
[NASA-CASE-LAR-10765-1] c 32 N73-20740
- Mechanical bonding of metal method  
[NASA-CASE-LEW-12941-1] c 26 N83-10170

**PLASTIC TAPES**

- Thermocouple tape  
[NASA-CASE-LEW-11072-1] c 14 N73-24472

**PLASTICIZERS**

- Inorganic-organic separators for alkaline batteries  
[NASA-CASE-LEW-12649-1] c 44 N78-25530
- Tackifier for addition polyimides containing monoethylphthalate  
[NASA-CASE-LAR-12642-1] c 27 N81-29229
- Method of bonding plasticized elastomer to metal and articles produced thereby  
[NASA-CASE-MFS-25181-1] c 27 N82-24340
- Advanced inorganic separators for alkaline batteries  
[NASA-CASE-LEW-13171-1] c 44 N82-29708

**PLASTICS**

- Method for forming plastic materials Patent  
[NASA-CASE-XMS-05516] c 15 N71-17803
- Method of making inflatable honeycomb Patent  
[NASA-CASE-XLA-03492] c 15 N71-22713
- Sealing member and combination thereof and method of producing said sealing member Patent  
[NASA-CASE-XMS-01625] c 15 N71-23022
- Dielectric molding apparatus Patent  
[NASA-CASE-LAR-10121-1] c 15 N71-26721
- Radar calibration sphere  
[NASA-CASE-XLA-11154] c 07 N72-21117
- Molding apparatus --- for thermosetting plastic compositions  
[NASA-CASE-LAR-10489-2] c 31 N74-32920
- Ultraviolet and thermally stable polymer compositions  
[NASA-CASE-ARC-10592-2] c 27 N76-32315

**PLATENS**

- Compression test apparatus  
[NASA-CASE-MSC-18723-1] c 35 N83-21312

**PLATES (STRUCTURAL MEMBERS)**

- Foil seal  
[NASA-CASE-XLE-05130] c 15 N69-21362
- Fifth wheel  
[NASA-CASE-FRC-10081-1] c 37 N77-14477
- Microwave dichroic plate  
[NASA-CASE-GSC-12171-1] c 33 N79-28416
- Floating nut retention system  
[NASA-CASE-MSC-16938-1] c 37 N80-23653
- Optimized bolted joint  
[NASA-CASE-LAR-13250-1] c 37 N86-27630
- Method and apparatus for making an optical element having a dielectric film  
[NASA-CASE-ARC-11611-1] c 74 N87-28416

**PLATFORMS**

- Expandable pallet for space station interface attachments  
[NASA-CASE-MSC-21117-2] c 18 N89-28554

**PLATING**

- Selective plating of etched circuits without removing previous plating Patent  
[NASA-CASE-XGS-03120] c 15 N71-24047
- Peen plating  
[NASA-CASE-GSC-11163-1] c 15 N73-32360
- Scanning nozzle plating system --- for etching or plating metals on substrates without masking  
[NASA-CASE-NPO-11758-1] c 31 N74-23065
- Method for depositing an oxide coating  
[NASA-CASE-LEW-13131-1] c 44 N83-10494

**PLATINUM**

- Electrolytic cell structure  
[NASA-CASE-LAR-11042-1] c 33 N75-27252
- Platinum resistance thermometer circuit  
[NASA-CASE-MSC-12327-1] c 35 N77-27368

**PLATINUM ALLOYS**

- Joining lead wires to thin platinum alloy films  
[NASA-CASE-LEW-13934-1] c 35 N83-35338

**PLAYBACKS**

- Method of and means for testing a tape record/playback system  
[NASA-CASE-MFS-22671-2] c 35 N77-17426
- Thermomagnetic recording and magnetic-optic playback system  
[NASA-CASE-NPO-10872-1] c 35 N79-16246

**PLENUM CHAMBERS**

- Air cushion lift pad Patent  
[NASA-CASE-MFS-14685] c 31 N71-15689
- Gas filter mounting structure  
[NASA-CASE-MSC-12297] c 14 N72-23457
- Micro-fluid exchange coupling apparatus  
[NASA-CASE-ARC-11114-1] c 51 N81-14605
- Sonic levitation apparatus  
[NASA-CASE-MFS-25828-1] c 71 N84-28568

**PLETHYSMOGRAPHY**

- Readout electrode assembly for measuring biological impedance  
[NASA-CASE-ARC-10816-1] c 35 N76-24525
- Apparatus for determining changes in limb volume  
[NASA-CASE-MSC-18759-1] c 52 N83-27578

**PLOTTERS**

- Automated equipotential plotter  
[NASA-CASE-NPO-11134] c 09 N72-21246
- Apparatus and method for determining the position of a radiant energy source  
[NASA-CASE-GSC-12147-1] c 32 N81-27341

**PLOTTING**

- Instrument for measuring potentials on two dimensional electric field plots Patent  
[NASA-CASE-XLA-08493] c 10 N71-19421

**PLUG NOZZLES**

- Cascade plug nozzle --- for jet noise reduction  
[NASA-CASE-LAR-11674-1] c 07 N76-18117
- Apparatus and method for jet noise suppression  
[NASA-CASE-LAR-11903-2] c 71 N84-14873

## PLUGS

- Rocket chamber leak test fixture  
[NASA-CASE-XFR-09479] c 14 N69-27503
- Fatigue-resistant shear pin  
[NASA-CASE-XLA-09122] c 15 N69-27505
- Gas regulator Patent  
[NASA-CASE-NPO-10298] c 12 N71-17661
- Heated porous plug microthruster  
[NASA-CASE-GSC-10640-1] c 28 N72-18766
- High temperature penetrator assembly with bayonet plug and ramp-activated lock  
[NASA-CASE-MSC-18526-1] c 37 N82-24494
- Rotor self-lubricating axial stop  
[NASA-CASE-MFS-28273-1] c 37 N88-23974
- Porous plug for reducing orifice induced pressure error in airfoils  
[NASA-CASE-LAR-13569-1] c 35 N89-12841

## PNEUMATIC CONTROL

- Pneumatic system for controlling and actuating pneumatic cyclic devices  
[NASA-CASE-XMS-04843] c 03 N69-21469
- Pneumatic mirror support system  
[NASA-CASE-XLA-03271] c 11 N69-24321
- Valve actuator Patent  
[NASA-CASE-XHQ-01208] c 15 N70-35409
- Quick release hook tape Patent  
[NASA-CASE-XMS-10660-1] c 15 N71-25975
- Foot pedal operated fluid type exercising device  
[NASA-CASE-MSC-11561-1] c 05 N73-32014
- Pneumatic load compensating or controlling system  
[NASA-CASE-ARC-10907-1] c 37 N75-32465

## PNEUMATIC EQUIPMENT

- High pressure air valve Patent  
[NASA-CASE-MSC-11010] c 15 N71-19485
- Inflatable support structure Patent  
[NASA-CASE-XLA-01731] c 32 N71-21045
- Apparatus for purging systems handling toxic, corrosive, noxious and other fluids Patent  
[NASA-CASE-XMS-01905] c 12 N71-21089
- Zero gravity apparatus Patent  
[NASA-CASE-XMF-06515] c 14 N71-23227
- Pneumatic amplifier Patent  
[NASA-CASE-MSC-12121-1] c 15 N71-27147
- Life raft stabilizer  
[NASA-CASE-MSC-12393-1] c 02 N73-26006
- Airlock  
[NASA-CASE-MFS-20922-1] c 18 N74-22136
- Pneumatic load compensating or controlling system  
[NASA-CASE-ARC-10907-1] c 37 N75-32465
- Gas-to-hydraulic power converter  
[NASA-CASE-MSC-18794-1] c 44 N83-14693
- System and method for moving a probe to follow movements of tissue  
[NASA-CASE-NPO-15197-1] c 52 N83-25346
- Apparatus for improving the fuel efficiency of a gas turbine engine  
[NASA-CASE-LEW-13142-1] c 07 N83-36029
- Inflatable device for installing strain gage bridges  
[NASA-CASE-FRC-11068-1] c 35 N84-12443
- Method for improving the fuel efficiency of a gas turbine engine  
[NASA-CASE-LEW-13142-2] c 07 N86-20389
- Space probe/satellite ejection apparatus for spacecraft  
[NASA-CASE-MFS-25429-1] c 18 N86-20469

## POINT SOURCES

- Electronic background suppression method and apparatus for a field scanning sensor  
[NASA-CASE-XGS-05211] c 07 N69-39980
- X-ray reflection collimator adapted to focus X-radiation directly on a detector Patent  
[NASA-CASE-XHQ-04106] c 14 N70-40240
- Apparatus and method for determining the position of a radiant energy source  
[NASA-CASE-GSC-12147-1] c 32 N81-27341

## POINTING CONTROL SYSTEMS

- Rotable accurate reflector system for telescopes Patent  
[NASA-CASE-NPO-10468] c 23 N71-33229
- All sky pointing attitude control system  
[NASA-CASE-ARC-10716-1] c 35 N77-20399
- Magnetic suspension and pointing system  
[NASA-CASE-LAR-11889-2] c 37 N78-27424
- Magnetic suspension and pointing system --- on a carrier vehicle  
[NASA-CASE-LAR-11889-1] c 35 N79-26372
- Solar tracking system  
[NASA-CASE-MFS-23999-1] c 44 N81-24520

## POINTS (MATHEMATICS)

- Method of and apparatus for generating an interstitial point in a data stream having an even number of data points  
[NASA-CASE-MFS-25319-1] c 60 N85-33701

## POLAR ORBITS

- Cartwheel satellite synchronization system Patent  
[NASA-CASE-XGS-05579] c 31 N71-15676

## POLARIMETERS

- Polarimeter for transient measurement Patent  
[NASA-CASE-XNP-08883] c 23 N71-16101
- Interferometer-polarimeter  
[NASA-CASE-NPO-11239] c 14 N73-12446

## POLARIMETRY

- Data volume reduction for imaging radar polarimetry  
[NASA-CASE-NPO-17184-1-CU] c 32 N88-26541

## POLARITY

- Positive dc to negative dc converter Patent  
[NASA-CASE-XMF-08217] c 03 N71-23239
- Peak polarity selector Patent  
[NASA-CASE-FRC-10010] c 10 N71-24862
- Precision rectifier with FET switching means Patent  
[NASA-CASE-ARC-10101-1] c 09 N71-33109

## POLARIZATION (WAVES)

- System for interference signal nulling by polarization adjustment  
[NASA-CASE-NPO-13140-1] c 32 N75-24982
- Multifrequency broadband polarized horn antenna  
[NASA-CASE-NPO-14588-1] c 32 N81-25278
- Faraday rotation measurement method and apparatus  
[NASA-CASE-NPO-14839-1] c 35 N82-15381

## POLARIZED ELECTROMAGNETIC RADIATION

- Antenna beam-shaping apparatus Patent  
[NASA-CASE-XNP-00611] c 09 N70-35219
- Parabolic reflector horn feed with spillover correction Patent  
[NASA-CASE-XNP-00540] c 09 N70-35382
- Antenna feed system for receiving circular polarization and transmitting linear polarization  
[NASA-CASE-NPO-14362-1] c 32 N80-16261
- Coaxial phased array antenna  
[NASA-CASE-MSC-16800-1] c 32 N81-14187
- Reciprocating linear motor  
[NASA-CASE-GSC-12773-2] c 33 N87-23904

## POLARIZED LIGHT

- Polarization compensator for optical communications  
[NASA-CASE-GSC-11782-1] c 74 N76-30053
- Visible and infrared polarization ratio spectroradiometer  
[NASA-CASE-LAR-12285-1] c 35 N80-28687

## POLARIZED RADIATION

- Microwave limb sounder --- measuring trace gases in the upper atmosphere  
[NASA-CASE-NPO-14544-1] c 46 N82-12685

## POLARIZERS

- Partial polarizer filter  
[NASA-CASE-GSC-12225-1] c 74 N79-14891
- Wind dynamic range video camera  
[NASA-CASE-MFS-25750-1] c 32 N86-20647

## POLES

- Radial and torsionally controlled magnetic bearing  
[NASA-CASE-GSC-12957-1] c 37 N87-17038

## POLISHING

- Conforming polisher for aspheric surface of revolution Patent  
[NASA-CASE-XGS-02884] c 15 N71-22705
- Method of forming a sharp edge on an optical device  
[NASA-CASE-GSC-12348-1] c 74 N80-24149

## POLLUTION CONTROL

- System for minimizing internal combustion engine pollution emission  
[NASA-CASE-NPO-13402-1] c 37 N76-18457
- Combustion engine --- for air pollution control  
[NASA-CASE-NPO-13671-1] c 37 N77-31497
- Supercritical fuel injection system  
[NASA-CASE-LEW-12990-1] c 07 N81-29129
- Apparatus and method for destructive removal of particles contained in flowing fluid  
[NASA-CASE-NPO-15426-1] c 35 N84-17555

## POLLUTION MONITORING

- Fluorescence detector for monitoring atmospheric pollutants  
[NASA-CASE-NPO-13231-1] c 45 N75-27585
- Stack plume visualization system  
[NASA-CASE-LAR-11675-1] c 45 N76-17656
- Indicator providing continuous indication of the presence of a specific pollutant in air  
[NASA-CASE-NPO-13474-1] c 45 N76-21742
- Method for detecting pollutants --- through chemical reactions and heat treatment  
[NASA-CASE-LAR-11405-1] c 45 N76-31714
- Automated syringe sampler --- remote sampling of air and water  
[NASA-CASE-LAR-12308-1] c 35 N81-29407

## POLYAMIDE RESINS

- Vitro-violet process for producing flame resistant polyamides and products produced thereby --- protective clothing for high oxygen environments  
[NASA-CASE-MSC-16074-1] c 27 N80-26446
- Thermoset-thermoplastic aromatic polyamide containing N-propargyl groups  
[NASA-CASE-LAR-12723-2] c 27 N84-22746
- Heat resistant protective hand covering  
[NASA-CASE-MSC-20261-1] c 54 N84-28484

Thermoset-thermoplastic aromatic polyamide containing

- N-propargyl groups  
[NASA-CASE-LAR-12723-1] c 27 N85-20123
- Process for preparing highly optically transparent/colorless aromatic polyimide film  
[NASA-CASE-LAR-13351-1] c 27 N86-31727
- Fire and heat resistant laminating resins based on maleimide and citraconimide substituted 1,2,4- and -2,6-diaminobenzenes  
[NASA-CASE-ARC-11533-1] c 27 N87-23751

## POLYBENZIMIDAZOLE

- Polymeric foams from cross-linkable poly-n-arylenebenzimidazoles  
[NASA-CASE-ARC-11008-1] c 27 N78-31232

## POLYBUTADIENE

- New polymers of perfluorobutadiene and method of manufacture Patent application  
[NASA-CASE-NPO-10863] c 06 N70-11251
- Method of polymerizing perfluorobutadiene Patent application  
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- Inhibited solid propellant composition containing beryllium hydride  
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- Method for the preparation of inorganic single crystal and polycrystalline electronic materials  
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- Sulfone-ester polymers containing pendent ethynyl groups  
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[NASA-CASE-ARC-11548-1] c 27 N87-25469  
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[NASA-CASE-LAR-13353-1] c 27 N86-29039  
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[NASA-CASE-XLA-03104] c 06 N71-11235  
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[NASA-CASE-XLA-08802] c 06 N71-11238  
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[NASA-CASE-XMF-08655] c 06 N71-11239  
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[NASA-CASE-LAR-13226-1] c 27 N85-34282

Polyarylene ethers with improved properties  
[NASA-CASE-LAR-13555-1] c 23 N86-32526

Oxidation protection coatings for polymers  
[NASA-CASE-LEW-14072-3] c 27 N87-23736

**POLYMETHYL METHACRYLATE**

Durable antistatic coating for polymethylmethacrylate  
[NASA-CASE-NPO-13867-1] c 27 N78-14164

Process for producing a well-adhered durable optical coating on an optical plastic substrate --- abrasion resistant polymethyl methacrylate lenses  
[NASA-CASE-ARC-11039-1] c 74 N78-32854

**POLYPHENYL ETHER**

Phenylene ethers with imide linking groups  
[NASA-CASE-LAR-12980-1] c 27 N84-22749

Low dielectric fluorinated poly(phenylene ether ketone) film and coating  
[NASA-CASE-LAR-13992-1-CU] c 23 N89-13496

**POLYPHENYLS**

Polyphenylquinoxalines containing pendant phenylethynyl and ethynyl groups --- for thermoplastic resins  
[NASA-CASE-LAR-12838-1] c 27 N83-34040

Polyphenylene ethers with imide linking groups  
[NASA-CASE-LAR-12980-1] c 27 N84-22749

Polyphenylquinoxalines via aromatic nucleophilic displacement  
[NASA-CASE-LAR-13988-1] c 23 N89-11814

Low dielectric fluorinated poly(phenylene ether ketone) film and coating  
[NASA-CASE-LAR-13992-1-CU] c 23 N89-13496

Polyphenylquinoxalines containing alkylendioxy groups  
[NASA-CASE-LAR-13601-1-CU] c 27 N89-14337

**POLYQUINOXALINES**

Polyphenylquinoxalines containing alkylendioxy groups  
[NASA-CASE-LAR-13601-1-CU] c 27 N89-14337

**POLYSACCHARIDES**

Aldehyde-containing urea-absorbing polysaccharides  
[NASA-CASE-NPO-13620-1] c 27 N77-30236

**POLYTETRAFLUOROETHYLENE**

Method and apparatus for bonding a plastics sleeve onto a metallic body Patent  
[NASA-CASE-XLA-01262] c 15 N71-21404

Diffusely reflecting paints including polytetrafluoroethylene and method of manufacture  
[NASA-CASE-GSC-12883-1] c 27 N85-29044

**POLYURETHANE FOAM**

Flexible foam erectable space structures Patent  
[NASA-CASE-XLA-00686] c 31 N70-34135

Modified polyurethane foams for fuel-fire Patent  
[NASA-CASE-ARC-10098-1] c 06 N71-24739

Flexible fire retardant polyisocyanate modified neoprene foam --- for thermal protective devices  
[NASA-CASE-ARC-10180-1] c 27 N74-12814

Fiber modified polyurethane foam for ballistic protection  
[NASA-CASE-ARC-10714-1] c 27 N76-15310

Mixing insert for foam dispensing apparatus  
[NASA-CASE-MFS-20607-1] c 37 N76-19436

Segmented tubular cushion springs and spring assembly  
[NASA-CASE-ARC-11349-1] c 37 N86-20797

**POLYURETHANE RESINS**

Hydroxy terminated perfluoro ethers Patent  
[NASA-CASE-NPO-10768] c 06 N71-27254

Polyurethane resins from hydroxy terminated perfluoro ethers  
[NASA-CASE-NPO-10768-2] c 06 N72-27144

Highly fluorinated polyurethanes  
[NASA-CASE-NPO-10767-2] c 06 N72-27151

Polyurethanes of fluorine containing polycarbonates  
[NASA-CASE-MFS-10512] c 06 N73-30099

Polyurethanes from fluoroalkyl propyleneglycol polyethers  
[NASA-CASE-MFS-10506] c 06 N73-30100

Fluorine containing polyurethane  
[NASA-CASE-MFS-10509] c 06 N73-30103



- Highly fluorinated polyurethanes  
[NASA-CASE-NPO-10767-1] c 06 N73-33076
- Flame retardant spandex type polyurethanes  
[NASA-CASE-MSC-13331-2] c 27 N78-17213
- POLYVINYL ALCOHOL**
- In situ self cross-linking of polyvinyl alcohol battery separators  
[NASA-CASE-LEW-12972-1] c 44 N79-25481
- Method of cross-linking polyvinyl alcohol and other water soluble resins  
[NASA-CASE-LEW-13103-1] c 27 N80-32516
- In-situ cross linking of polyvinyl alcohol --- application to battery separator films  
[NASA-CASE-LEW-13135-2] c 27 N81-24257
- Polyvinyl alcohol battery separator containing inert filler --- alkaline batteries  
[NASA-CASE-LEW-13556-1] c 44 N81-27615
- Cross-linked polyvinyl alcohol and method of making same  
[NASA-CASE-LEW-13101-2] c 23 N81-29160
- Polyvinyl alcohol cross-linked with two aldehydes  
[NASA-CASE-LEW-13504-1] c 25 N83-13188
- PONDS**
- Stable density stratification solar pond  
[NASA-CASE-NPO-15419-2] c 44 N85-30474
- PORCELAIN**
- Refractory porcelain enamel passive control coating for high temperature alloys  
[NASA-CASE-MFS-22324-1] c 27 N75-27160
- POROSITY**
- Process for making sheets with parallel pores of uniform size  
[NASA-CASE-GSC-10984-1] c 37 N75-26371
- Krypton based adsorption type cryogenic refrigerator  
[NASA-CASE-NPO-17334-1-CU] c 31 N88-23917
- Method for maintaining precise suction strip porosities  
[NASA-CASE-LAR-13638-1] c 31 N88-29051
- Porous plug for reducing orifice induced pressure error in airfoils  
[NASA-CASE-LAR-13569-1] c 35 N89-12841
- POROUS MATERIALS**
- Method of producing refractory bodies having controlled porosity Patent  
[NASA-CASE-LEW-10393-1] c 17 N71-15468
- Multilayer porous ionizer Patent  
[NASA-CASE-XNP-04338] c 17 N71-23046
- Fluid lubricant system Patent  
[NASA-CASE-XNP-03972] c 15 N71-23048
- Method and device for detecting voids in low density material Patent  
[NASA-CASE-MFS-20044] c 14 N71-28993
- Fabrication of controlled-porosity metals Patent  
[NASA-CASE-XNP-04339] c 17 N71-29137
- Compressible biomedical electrode  
[NASA-CASE-MSC-13648] c 05 N72-27103
- Porous electrode comprising a bonded stack of pieces of corrugated metal foil  
[NASA-CASE-GSC-11368-1] c 09 N73-32108
- Method of making porous conductive supports for electrodes --- by electroforming and stacking nickel foils  
[NASA-CASE-GSC-11367-1] c 44 N74-19692
- Fluid valve assembly  
[NASA-CASE-MSC-12731-1] c 37 N78-25426
- Heat exchanger and method of making --- bonding rocket chambers with a porous metal matrix  
[NASA-CASE-LEW-12441-1] c 34 N79-13289
- Composite seal for turbomachinery  
[NASA-CASE-LEW-12131-3] c 37 N82-19540
- Densification of porous refractory substrates --- space shuttle orbiter tiles  
[NASA-CASE-MSC-18737-1] c 24 N83-13171
- Method of repairing surface damage to porous refractory substrates --- space shuttle orbiter tiles  
[NASA-CASE-MSC-18736-1] c 24 N83-13172
- Advanced inorganic separators for alkaline batteries and method of making the same  
[NASA-CASE-LEW-13171-2] c 44 N83-32176
- Water-absorbing capacitor system for measuring relative humidity  
[NASA-CASE-NPO-16544-1-CU] c 35 N87-22953
- POROUS PLATES**
- Method of producing porous tungsten ionizers for ion rocket engines Patent  
[NASA-CASE-XLE-00455] c 28 N70-38197
- PORPHYRINS**
- Method and apparatus for eliminating luminol interference material  
[NASA-CASE-MSC-16260-1] c 51 N80-16714
- PORTABLE EQUIPMENT**
- Split welding chamber Patent  
[NASA-CASE-LEW-11531] c 15 N71-14932
- Portable superclean air column device Patent  
[NASA-CASE-XMF-03212] c 15 N71-22721
- Weld preparation machine Patent  
[NASA-CASE-XKS-07953] c 15 N71-26134
- Method and apparatus for precision sizing and joining of large diameter tubes Patent  
[NASA-CASE-XMF-05114-2] c 15 N71-26148
- Cryogenic cooling system Patent  
[NASA-CASE-NPO-10467] c 23 N71-26654
- Boring bar drive mechanism Patent  
[NASA-CASE-XLA-03661] c 15 N71-33518
- One hand backpack harness  
[NASA-CASE-LAR-10102-1] c 05 N72-23085
- Bacterial contamination monitor  
[NASA-CASE-GSC-10879-1] c 14 N72-25413
- Self-recording portable soil penetrometer  
[NASA-CASE-MFS-20774] c 14 N73-19420
- Hand-held photomicroscope  
[NASA-CASE-ARC-10468-1] c 14 N73-33361
- System for enhancing tool-exchange capabilities of a portable wrench  
[NASA-CASE-MFS-22283-1] c 37 N75-33395
- Method of peening and portable peening gun  
[NASA-CASE-MFS-23047-1] c 37 N76-18454
- Portable electrophoresis apparatus using minimum electrolyte  
[NASA-CASE-NPO-13274-1] c 25 N79-10163
- Portable heatable container  
[NASA-CASE-NPO-14237-1] c 44 N80-20808
- Portable device for use in starting air-start-units for aircraft and having cable lead testing capability  
[NASA-CASE-FRC-10113-1] c 33 N80-26599
- Portable appliance security apparatus  
[NASA-CASE-GSC-12399-1] c 33 N81-25299
- Dual-beam skin friction interferometer  
[NASA-CASE-ARC-11354-1] c 74 N83-21949
- Two-dimensional scanner apparatus --- flaw detector in small flat plates  
[NASA-CASE-MFS-25687-1] c 35 N84-22928
- Portable reflectance spectrometer  
[NASA-CASE-NPO-13556-1] c 35 N84-33766
- Portable pallet weighing apparatus  
[NASA-CASE-GSC-12789-1] c 35 N85-20294
- Portable remote laser sensor for methane leak detection  
[NASA-CASE-NPO-15790-1] c 36 N85-21631
- Portable 90 degree proof loading device  
[NASA-CASE-MSC-20250-1] c 35 N86-19581
- Acoustic guide for noise-transmission testing of aircraft  
[NASA-CASE-LAR-13111-1-CU] c 71 N87-21652
- PORTABLE LIFE SUPPORT SYSTEMS**
- Portable breathing system --- a breathing apparatus using a rebreathing system of heat exchangers for carbon dioxide removal  
[NASA-CASE-MSC-16182-1] c 54 N80-10799
- PORTS (OPENINGS)**
- Evacuation port seal Patent  
[NASA-CASE-XMF-03290] c 15 N71-23256
- Safety shield for vacuum/pressure chamber viewing port  
[NASA-CASE-GSC-12513-1] c 31 N81-19343
- POSITION (LOCATION)**
- Position location system and method Patent  
[NASA-CASE-GSC-10087-2] c 21 N71-13958
- Position location and data collection system and method Patent  
[NASA-CASE-GSC-10083-1] c 30 N71-16090
- Emergency escape system Patent  
[NASA-CASE-XKS-07814] c 15 N71-27067
- Position location system and method  
[NASA-CASE-GSC-10087-3] c 07 N72-12080
- Location identification system  
[NASA-CASE-ERC-10324] c 07 N72-25173
- Cosmic dust or other similar outer space particles impact location detector  
[NASA-CASE-GSC-11291-1] c 25 N72-33696
- Collimator of multiple plates with axially aligned identical random arrays of apertures  
[NASA-CASE-MFS-20546-2] c 14 N73-30389
- Measuring probe position recorder  
[NASA-CASE-LAR-10806-1] c 35 N74-32877
- Vehicle locating system utilizing AM broadcasting station carriers  
[NASA-CASE-NPO-13217-1] c 32 N75-26194
- Impact position detector for outer space particles  
[NASA-CASE-GSC-11829-1] c 35 N75-27331
- Aircraft-mounted crash-activated transmitter device  
[NASA-CASE-MFS-16609-3] c 03 N76-32140
- Twin-capacitive shaft angle encoder with analog output signal  
[NASA-CASE-ARC-10897-1] c 33 N77-31404
- X-ray position detector  
[NASA-CASE-NPO-12087-1] c 74 N81-19898
- Adjustable indicating device for load position  
[NASA-CASE-MFS-28008-1] c 35 N85-20300
- Remote object configuration/orientation determination  
[NASA-CASE-NPO-17436-1-CU] c 35 N89-13764
- Controlled sample orientation and rotation in an acoustic levitator  
[NASA-CASE-NPO-17086-1-CU] c 35 N89-14422
- POSITION INDICATORS**
- Scanning aspect sensor employing an apertured disc and a commutator  
[NASA-CASE-XGS-08266] c 14 N69-27432
- Angular measurement system Patent  
[NASA-CASE-XMF-00447] c 14 N70-33179
- Position sensing device employing misaligned magnetic field generating and detecting apparatus Patent  
[NASA-CASE-XGS-07514] c 23 N71-16099
- Angular position and velocity sensing apparatus Patent  
[NASA-CASE-XGS-05680] c 14 N71-17585
- Extended area semiconductor radiation detectors and a novel readout arrangement Patent  
[NASA-CASE-XGS-03230] c 14 N71-23401
- Doppler compensation by shifting transmitted object frequency within limits  
[NASA-CASE-GSC-10087-4] c 07 N73-20174
- Meteoroid impact position locator aid for manned space station  
[NASA-CASE-LAR-10629-1] c 35 N75-33367
- Position determination systems --- using orbital antenna scan of celestial bodies  
[NASA-CASE-MSC-12593-1] c 17 N76-21250
- Solar cell angular position transducer  
[NASA-CASE-LAR-11999-1] c 44 N80-18552
- Synchronization tracking in pulse position modulation receiver  
[NASA-CASE-NPO-16256-1] c 32 N87-21207
- Aircraft control position indicator  
[NASA-CASE-LAR-12984-1] c 06 N87-22678
- Legislated emergency locating transmitters and emergency position indicating radio beacons  
[NASA-CASE-GSC-12892-1] c 32 N89-14374
- POSITION SENSING**
- Position sensing device employing misaligned magnetic field generating and detecting apparatus Patent  
[NASA-CASE-XGS-07514] c 23 N71-16099
- POSITIONING**
- Instrument support with precise lateral adjustment Patent  
[NASA-CASE-XMF-00480] c 14 N70-39898
- Portable alignment tool Patent  
[NASA-CASE-XMF-01452] c 15 N70-41371
- Optical alignment system Patent  
[NASA-CASE-XNP-02029] c 14 N70-41955
- Null device for hand controller Patent  
[NASA-CASE-XLA-01808] c 15 N71-20740
- Rotating raster generator  
[NASA-CASE-FRC-10071-1] c 32 N74-20813
- Low noise lead screw positioner  
[NASA-CASE-NPO-15617-1] c 35 N87-21304
- POSITIONING DEVICES (MACHINERY)**
- Swivel support for gas bearings Patent  
[NASA-CASE-XMF-07808] c 15 N71-23812
- Caterpillar micro positioner  
[NASA-CASE-GSC-10780-1] c 14 N72-16283
- Positioning mechanism  
[NASA-CASE-NPO-10679] c 15 N72-21462
- Test stand system for vacuum chambers  
[NASA-CASE-MFS-21362] c 11 N73-20267
- Method and apparatus for optically monitoring the angular position of a rotating mirror  
[NASA-CASE-GSC-11353-1] c 74 N74-21304
- Automatic focus control for facsimile cameras  
[NASA-CASE-LAR-11213-1] c 35 N75-15014
- Reference apparatus for medical ultrasonic transducer  
[NASA-CASE-ARC-10753-1] c 54 N75-27760
- Controlled caging and uncaging mechanism  
[NASA-CASE-GSC-11063-1] c 37 N77-27400
- Workpiece positioning vise  
[NASA-CASE-GSC-12762-1] c 37 N84-28083
- Load positioning system with gravity compensation  
[NASA-CASE-ARC-11525-1] c 37 N86-27629
- Gripping device  
[NASA-CASE-MSC-21365-1] c 37 N89-12865
- POSITIVE FEEDBACK**
- Complementary regenerative switch Patent  
[NASA-CASE-XGS-02751] c 09 N71-23015
- POTABLE WATER**
- Recovery of potable water from human wastes in below-G conditions Patent  
[NASA-CASE-XLA-03213] c 05 N71-11207
- Compact solar still Patent  
[NASA-CASE-XMS-04533] c 15 N71-23086
- Specialized halogen generator for purification of water Patent  
[NASA-CASE-XLA-08913] c 14 N71-28933
- Potable water dispenser  
[NASA-CASE-MFS-21115-1] c 54 N74-12779
- Metering gun for dispensing precisely measured charges of fluid  
[NASA-CASE-MFS-21163-1] c 54 N74-17853

## POTASSIUM SILICATES

- Iodine generator for reclaimed water purification  
[NASA-CASE-MSC-14632-1] c 54 N78-14784  
Degassifying and mixing apparatus for liquids --- potable water for spacecraft  
[NASA-CASE-MSC-18936-1] c 35 N83-29652

## POTASSIUM SILICATES

- Fire resistant coating composition Patent  
[NASA-CASE-GSC-10072] c 18 N71-14014

## POTENTIOMETERS

- Angle detector  
[NASA-CASE-ARC-11036-1] c 35 N78-32395

## POTENTIOMETERS (INSTRUMENTS)

- Two-axis controller Patent  
[NASA-CASE-XFR-04104] c 03 N70-42073  
Control device Patent  
[NASA-CASE-XAC-10019] c 15 N71-23809  
Line following servosystem Patent  
[NASA-CASE-XAC-00001] c 15 N71-28952  
Indirect microbial detection  
[NASA-CASE-LAR-12520-1] c 51 N81-28698  
Rotary control lock  
[NASA-CASE-NPO-17453-1-CU] c 37 N89-13787

## POTTING COMPOUNDS

- Method and apparatus for shock protection Patent  
[NASA-CASE-XLA-00482] c 15 N70-36409  
Flexible, repairable, pottable material for electrical connectors Patent  
[NASA-CASE-XGS-05180] c 18 N71-25881  
Thermally conductive polymers  
[NASA-CASE-GSC-11304-1] c 06 N72-21105

## POWDER (PARTICLES)

- Method for forming pyrrone molding powders and products of said method  
[NASA-CASE-LAR-10423-1] c 23 N82-29358  
Powder fed sheared dispersal particle generator  
[NASA-CASE-LAR-12785-1] c 37 N84-16561

## POWDER METALLURGY

- Process of casting heavy slips Patent  
[NASA-CASE-XLE-00106] c 15 N71-16076  
Fabrication of controlled-porosity metals Patent  
[NASA-CASE-XNP-04339] c 17 N71-29137  
Method of making dry electrodes  
[NASA-CASE-FRC-10029-2] c 05 N72-25121  
Method for producing dispersion strengthened alloys by converting metal to a halide, comminuting, reducing the metal halide to the metal and sintering  
[NASA-CASE-LEW-10450-1] c 15 N72-25448  
Method of forming superalloys  
[NASA-CASE-LEW-10805-1] c 15 N73-13465  
Method of heat treating a formed powder product material  
[NASA-CASE-LEW-10805-3] c 26 N74-10521  
Method of forming articles of manufacture from superalloy powders  
[NASA-CASE-LEW-10805-2] c 37 N74-13179  
Cermets composition and method of fabrication --- heat resistant alloys and powders  
[NASA-CASE-NPO-13120-1] c 27 N76-15311  
Oxidation resistant slurry coating for carbon-based materials  
[NASA-CASE-LEW-13923-1] c 26 N85-35267  
Method of coating a substrate with a rapidly solidified metal  
[NASA-CASE-GSC-12880-1] c 26 N86-32550

## POWDERED ALUMINUM

- Aluminum ion-containing polyimide adhesives  
[NASA-CASE-LAR-12640-1] c 27 N82-11206

## POWER AMPLIFIERS

- Ac power amplifier Patent Application  
[NASA-CASE-LAR-10218-1] c 09 N70-34559  
Power supply Patent  
[NASA-CASE-XMS-02159] c 10 N71-22961  
Broadband stable power multiplier Patent  
[NASA-CASE-XNP-10854] c 10 N71-26331  
Signal path series step biased multidevice high efficiency amplifier Patent  
[NASA-CASE-GSC-10668-1] c 07 N71-28430  
Isolated output system for a class D switching-mode amplifier  
[NASA-CASE-MFS-21616-1] c 33 N75-30429

## POWER CONDITIONING

- Module failure isolation circuit for paralleled inverters --- preventing system failure during power conditioning for spacecraft applications  
[NASA-CASE-NPO-14000-1] c 33 N79-24254  
Self-reconfiguring solar cell system  
[NASA-CASE-LEW-12586-1] c 44 N80-14472  
Inelastic tunnel diodes  
[NASA-CASE-LEW-13833-1] c 33 N85-21492  
Power supply conditioning circuit  
[NASA-CASE-NPO-17233-1-CU] c 33 N88-29095

## POWER CONVERTERS

- Gas-to-hydraulic power converter  
[NASA-CASE-MSC-18794-1] c 44 N83-14693

## POWER EFFICIENCY

- Low power drain semi-conductor circuit  
[NASA-CASE-XGS-04999] c 09 N69-24317  
Excitation and detection circuitry for a flux responsive magnetic head  
[NASA-CASE-XNP-04183] c 09 N69-24329  
Apparatus for increasing ion engine beam density Patent  
[NASA-CASE-XLE-00519] c 28 N70-41576  
Gaseous control system for nuclear reactors  
[NASA-CASE-XLE-04599] c 22 N72-20597  
Remote platform power conserving system  
[NASA-CASE-GSC-11182-1] c 15 N75-13007  
Family of airfoil shapes for rotating blades --- for increased power efficiency and blade stability  
[NASA-CASE-LAR-12843-1] c 02 N84-11136  
Increased voltage photovoltaic cell  
[NASA-CASE-NPO-16155-1] c 44 N85-30475  
Wingtip vortex propeller  
[NASA-CASE-LAR-13019-1] c 07 N85-35194  
Linearized traveling wave amplifier with hard limiter characteristics  
[NASA-CASE-LEW-13981-2] c 33 N86-21742  
Low power consumption current transducer  
[NASA-CASE-NPO-16888-1-CU] c 33 N89-29681

## POWER FACTOR CONTROLLERS

- Triac failure detector  
[NASA-CASE-MFS-25607-1] c 33 N83-34190  
Control system for an induction motor with energy recovery  
[NASA-CASE-MFS-25477-1] c 33 N84-14424  
Motor power control circuit for ac induction motors  
[NASA-CASE-MFS-25323-1] c 33 N84-22886  
Solar powered actuator with continuously variable auxiliary power control  
[NASA-CASE-MFS-25637-1] c 44 N85-21769  
Power control for ac motor  
[NASA-CASE-MFS-25861-1] c 33 N85-22877

## POWER GAIN

- Serrodyne frequency converter re-entrant amplifier system Patent  
[NASA-CASE-XGS-01022] c 07 N71-16088  
CRT blanking and brightness control circuit  
[NASA-CASE-KSC-10647-1] c 10 N72-31273

## POWER LIMITERS

- Monostable multivibrator  
[NASA-CASE-GSC-10082-1] c 10 N72-20221

## POWER LINES

- Electrical connector for flat cables Patent  
[NASA-CASE-XMF-00324] c 09 N70-34596  
Motor run-up system --- power lines  
[NASA-CASE-NPO-13374-1] c 33 N75-19524  
Apparatus including a plurality of spaced transformers for locating short circuits in cables  
[NASA-CASE-KSC-10899-1] c 33 N79-18193  
Shielded conductor cable system  
[NASA-CASE-MSC-12745-1] c 33 N81-27397  
Electrical power generating system  
[NASA-CASE-MFS-25302-1] c 33 N83-28319  
Rotatable electric cable connecting system  
[NASA-CASE-GSC-12899-1] c 33 N86-20669

## POWER REACTORS

- Low power consumption current transducer  
[NASA-CASE-NPO-16888-1-CU] c 33 N89-29681

## POWER SERIES

- Computing apparatus Patent  
[NASA-CASE-XGS-04765] c 08 N71-18693  
Phase modulating with odd and even finite power series of a modulating signal  
[NASA-CASE-LAR-11607-1] c 32 N77-14292

## POWER SPECTRA

- Method and apparatus for high resolution spectral analysis  
[NASA-CASE-NPO-10748] c 08 N72-20177  
Instrument for determining coincidence and elapse time between independent sources of random sequential events  
[NASA-CASE-LAR-12531-1] c 35 N83-29651

## POWER SUPPLIES

- Tape recorder Patent  
[NASA-CASE-XGS-08259] c 14 N71-23698  
Current dependent filter inductance  
[NASA-CASE-ERC-10139] c 09 N72-17154  
Power supply for carbon dioxide lasers  
[NASA-CASE-GSC-11222-1] c 16 N73-32391  
High voltage distributor  
[NASA-CASE-GSC-11849-1] c 33 N76-16332  
Method and apparatus for precision control of radiometer  
[NASA-CASE-NPO-15398-1] c 35 N84-22931

## POWER SUPPLY CIRCUITS

- Regulated dc to dc converter  
[NASA-CASE-XGS-03429] c 03 N69-21330  
Power control circuit  
[NASA-CASE-XNP-02713] c 10 N69-39888

Electronic amplifier with power supply switching

- Patent  
[NASA-CASE-XMS-00945] c 09 N71-10798  
Heat pipe thermionic diode power system Patent  
[NASA-CASE-XMF-05843] c 03 N71-11055  
Pulsed energy power system Patent  
[NASA-CASE-MSC-13112] c 03 N71-11057  
Data processor having multiple sections activated at different times by selective power coupling to the sections Patent  
[NASA-CASE-XGS-04767] c 08 N71-12494  
Microwave power receiving antenna Patent  
[NASA-CASE-MFS-20333] c 09 N71-13486  
Regulated power supply Patent  
[NASA-CASE-XMS-01991] c 09 N71-21449  
Power supply Patent  
[NASA-CASE-XMS-02159] c 10 N71-22961  
Polarity sensitive circuit Patent  
[NASA-CASE-XNP-00952] c 10 N71-23271  
Power supply circuit Patent  
[NASA-CASE-XMS-00913] c 10 N71-23543  
Drive circuit for minimizing power consumption in inductive load Patent  
[NASA-CASE-NPO-10716] c 09 N71-24892  
Unsaturating saturable core transformer Patent  
[NASA-CASE-ERC-10125] c 09 N71-24893  
Voltage dropout sensor Patent  
[NASA-CASE-KSC-10020] c 10 N71-27338  
Maximum power point tracker Patent  
[NASA-CASE-GSC-10376-1] c 14 N71-27407  
High power microwave power divider Patent  
[NASA-CASE-NPO-11031] c 07 N71-33606  
Ripple indicator  
[NASA-CASE-KSC-10162] c 09 N72-11225  
A dc to ac to dc converter having transistor synchronous rectifiers  
[NASA-CASE-GSC-11126-1] c 09 N72-25253  
LC-oscillator with automatic stabilized amplitude via bias current control --- power supply circuit for transducers  
[NASA-CASE-MFS-21698-1] c 33 N74-26732  
Integrable power gyrator --- with Z-matrix design using parallel transistors  
[NASA-CASE-MFS-22342-1] c 33 N75-30428  
The dc-to-dc converters employing staggered-phase power switches with two-loop control  
[NASA-CASE-NPO-13512-1] c 33 N77-10428  
Control for nuclear thermionic power source  
[NASA-CASE-NPO-13114-2] c 73 N78-28913  
Closed Loop solar array-ion thruster system with power control circuitry  
[NASA-CASE-LEW-12780-1] c 20 N79-20179  
Three phase power factor controller  
[NASA-CASE-MFS-25535-1] c 33 N81-12330  
Power factor control system for ac induction motors  
[NASA-CASE-MFS-23988-1] c 33 N81-27395  
Triac failure detector  
[NASA-CASE-MFS-25607-1] c 33 N83-34190  
Arc lamp power supply using a voltage multiplier  
[NASA-CASE-LAR-13202-1] c 33 N88-23942

## PREBURNERS

- Turbomachinery shaft insert  
[NASA-CASE-MFS-28345-2] c 37 N89-28842

## PRECSSION

- Dynamic precession damper for spin stabilized vehicles Patent  
[NASA-CASE-XLA-01989] c 21 N70-34295

## PRECIPITATION (CHEMISTRY)

- Production of pure metals  
[NASA-CASE-LEW-10906-1] c 25 N74-30502

## PRECIPITATORS

- Acoustic agglomeration methods and apparatus  
[NASA-CASE-NPO-15466-1] c 71 N85-22104

## PRECISION

- Precision stepping drive Patent  
[NASA-CASE-MFS-14772] c 15 N71-17692  
Method and apparatus for precision sizing and joining of large diameter tubes Patent  
[NASA-CASE-XMF-05114-2] c 15 N71-26148

## PREDICTIONS

- Digital phase-lock loop having an estimator and predictor of error  
[NASA-CASE-NPO-17196-1-CU] c 32 N88-29076

## PREFLIGHT OPERATIONS

- Automatic balancing device Patent  
[NASA-CASE-LAR-10774] c 10 N71-13545

## PREFORMS

- Method of preparing fiber reinforced ceramic material  
[NASA-CASE-LEW-14392-1] c 27 N87-28656

## PRELAUNCH TESTS

- Parasitic probe antenna Patent  
[NASA-CASE-XKS-09348] c 09 N71-13521  
Electronic checkout system for space vehicles Patent  
[NASA-CASE-XKS-08012-2] c 31 N71-15566

**PREPOLYMERS**

- Novel polycarboxylic prepolymeric materials and polymers thereof Patent  
[NASA-CASE-NPO-10596] c 06 N71-25929
- Curable liquid hydrocarbon prepolymers containing hydroxyl groups and process for producing same  
[NASA-CASE-NPO-13137-1] c 27 N80-32514
- Prepolymer dianhydrides  
[NASA-CASE-NPO-13899-1] c 27 N80-32515
- Structural wood panels with improved fire resistance  
[NASA-CASE-ARC-11174-1] c 24 N81-13999
- Method for forming pyrrone molding powders and products of said method  
[NASA-CASE-LAR-10423-1] c 23 N82-29358
- Elastomer toughened polyimide adhesives  
[NASA-CASE-LAR-12775-1] c 27 N83-28240
- Polyphenylquinoxalines containing pendant phenylethynyl and ethynyl groups --- for thermoplastic resins  
[NASA-CASE-LAR-12838-1] c 27 N83-34040

**PREPREGS**

- Tackifier for addition polyimides containing monoethylphthalate  
[NASA-CASE-LAR-12642-1] c 27 N81-29229

**PRESSURE**

- Strain gage mounting assembly  
[NASA-CASE-NPO-13701-1] c 35 N76-14430

**PRESSURE CHAMBERS**

- Electric arc driven wind tunnel Patent  
[NASA-CASE-XMF-00411] c 11 N70-36913
- Whole body measurement systems --- for weightlessness simulation  
[NASA-CASE-MSC-13972-1] c 52 N74-10975
- Accumulator  
[NASA-CASE-MFS-19287-1] c 34 N77-30399
- Safety shield for vacuum/pressure chamber viewing port  
[NASA-CASE-GSC-12513-1] c 31 N81-19343
- Weightlessness simulation system and process  
[NASA-CASE-ARC-11646-1] c 14 N87-25344

**PRESSURE DISTRIBUTION**

- Instrument for use in performing a controlled Valsalva maneuver Patent  
[NASA-CASE-XMS-01615] c 05 N70-41329
- Prevention of pressure build-up in electrochemical cells Patent  
[NASA-CASE-XGS-01419] c 03 N70-41864
- Accumulator  
[NASA-CASE-MFS-19287-1] c 34 N77-30399
- Thermal barrier pressure seal --- shielding junctions between spacecraft control surfaces and structures  
[NASA-CASE-MSC-18134-1] c 37 N81-15363
- Continuous self-locking spiral wound seal --- for maintaining pressure between chambers in cryogenic wind tunnels  
[NASA-CASE-LAR-12315-1] c 37 N82-24490
- Ultrasonic transducer with Gaussian radial pressure distribution  
[NASA-CASE-LAR-12967-1] c 35 N84-22932

**PRESSURE DRAG**

- Multi-body aircraft with an all-movable center fuselage actively controlling fuselage pressure drag  
[NASA-CASE-LAR-13511-1] c 05 N88-23765

**PRESSURE DROP**

- Leak detector  
[NASA-CASE-MFS-21761-1] c 35 N75-15931

**PRESSURE EFFECTS**

- System for stabilizing cable phase delay utilizing a coaxial cable under pressure  
[NASA-CASE-NPO-13138-1] c 33 N74-17927
- Evacuated, displacement compression mold --- of tubular bodies from thermosetting plastics  
[NASA-CASE-LAR-10782-2] c 31 N75-13111
- Internally supported flexible duct joint --- device for conducting fluids in high pressure systems  
[NASA-CASE-MFS-19193-1] c 37 N75-19686
- Fluid pressure balanced seal  
[NASA-CASE-XGS-01286-1] c 37 N79-33469
- Real time pressure signal system for a rotary engine  
[NASA-CASE-LEW-13622-1] c 07 N84-22559
- Optical pressure sealing coupling apparatus  
[NASA-CASE-MFS-29348-1] c 74 N89-25689

**PRESSURE GAGES**

- Differential pressure cell Patent  
[NASA-CASE-XAC-00042] c 14 N70-34816
- Blood pressure measuring system for separating and separately recording dc signal and an ac signal Patent  
[NASA-CASE-XMS-06061] c 05 N71-23317
- Apparatus for testing a pressure responsive instrument Patent  
[NASA-CASE-XMF-04134] c 14 N71-23755
- Device for measuring pressure Patent  
[NASA-CASE-XAC-04458] c 14 N71-24232
- Ultrahigh vacuum gauge having two collector electrodes  
[NASA-CASE-LAR-02743] c 14 N73-32324

- Gas ion laser construction for electrically isolating the pressure gauge thereof  
[NASA-CASE-MFS-22597] c 36 N78-17366

**PRESSURE GRADIENTS**

- Positive displacement flowmeter Patent  
[NASA-CASE-XMF-02822] c 14 N70-41994
- Dual laser optical system and method for studying fluid flow  
[NASA-CASE-MFS-25315-1] c 36 N83-29680

**PRESSURE HEADS**

- Head for high speed spinner having a vacuum chuck --- holding silicon dioxide chips for etching  
[NASA-CASE-NPO-15227-1] c 37 N81-33482

**PRESSURE MEASUREMENT**

- Inertia diaphragm pressure transducer Patent  
[NASA-CASE-XAC-02981] c 14 N71-21072
- Linear differential pressure sensor Patent  
[NASA-CASE-XMF-01974] c 14 N71-22752
- Device for measuring pressure Patent  
[NASA-CASE-XAC-04458] c 14 N71-24232
- Device for measuring light scattering wherein the measuring beam is successively reflected between a pair of parallel reflectors Patent  
[NASA-CASE-XER-11203] c 14 N71-28994
- Sensing probe  
[NASA-CASE-LEW-10281-1] c 14 N72-17327
- Gauge calibration by diffusion  
[NASA-CASE-XGS-07752] c 14 N73-30390
- Apparatus for absolute pressure measurement  
[NASA-CASE-LAR-10000] c 14 N73-30394
- Wind tunnel model and method  
[NASA-CASE-LAR-10812-1] c 09 N74-17955
- Indicated mean-effective pressure instrument  
[NASA-CASE-LEW-12661-1] c 35 N79-14345
- High-temperature microphone system --- for measuring pressure fluctuations in gases at high temperature  
[NASA-CASE-LAR-12375-1] c 32 N79-24203
- Static pressure orifice system testing method and apparatus  
[NASA-CASE-LAR-12269-1] c 35 N80-18358
- Detection of the transitional layer between laminar and turbulent flow areas on a wing surface --- using an accelerometer to measure pressure levels during wind tunnel tests  
[NASA-CASE-LAR-12261-1] c 02 N80-20224
- Non-invasive method and apparatus for measuring pressure within a pliable vessel  
[NASA-CASE-ARC-11264-2] c 52 N83-29991
- Electronic scanning pressure measuring system and transducer package  
[NASA-CASE-ARC-11361-1] c 35 N84-22934
- Method of and apparatus for measuring temperature and pressure --- atmospheric sounding  
[NASA-CASE-GSC-12558-1] c 36 N85-21639
- Device for quick changeover between wind tunnel force and pressure testing  
[NASA-CASE-LAR-13512-1] c 35 N87-28884
- Porous plug for reducing orifice induced pressure error in airfoils  
[NASA-CASE-LAR-13569-1] c 35 N89-12841
- Pressure measuring probe  
[NASA-CASE-LAR-13853-1] c 35 N89-14423

**PRESSURE REDUCTION**

- Relief valve  
[NASA-CASE-XMS-05894-1] c 15 N69-21924
- Sealed battery gas manifold construction Patent  
[NASA-CASE-XNP-03378] c 03 N71-11051
- Depressurization of arc lamps  
[NASA-CASE-NPO-10790-1] c 33 N77-21316
- Method of purifying metallurgical grade silicon employing reduced pressure atmospheric control  
[NASA-CASE-NPO-14474-1] c 26 N80-14229
- Pressure letdown method and device for coal conversion systems  
[NASA-CASE-NPO-15100-1] c 44 N84-14583
- Method of making an ion beam sputter-etched ventricular catheter for hydrocephalus shunt  
[NASA-CASE-LEW-13107-2] c 52 N84-23095
- Method for growth of crystals by pressure reduction of supercritical or subcritical solution  
[NASA-CASE-NPO-15772-1] c 76 N85-29800

**PRESSURE REGULATORS**

- Pressure regulating system Patent  
[NASA-CASE-XNP-00450] c 15 N70-38603
- Resuscitation apparatus Patent  
[NASA-CASE-XMS-01115] c 05 N70-39922
- High pressure regulator valve Patent  
[NASA-CASE-XNP-00710] c 15 N71-10778
- Space suit pressure stabilizer Patent  
[NASA-CASE-XLA-05332] c 05 N71-11194
- Portable environmental control system Patent  
[NASA-CASE-XMS-09632-1] c 05 N71-11203
- Anti-backlash circuit for hydraulic drive system Patent  
[NASA-CASE-XNP-01020] c 03 N71-12260
- High impact pressure regulator Patent  
[NASA-CASE-NPO-10175] c 14 N71-18625

- Underwater space suit pressure control regulator  
[NASA-CASE-MFS-20332] c 05 N72-20097
- Underwater space suit pressure control regulator  
[NASA-CASE-MFS-20332-2] c 05 N73-25125
- Combined pressure regulator and shutoff valve  
[NASA-CASE-NPO-13201-1] c 37 N75-15050
- Pressure modulating valve  
[NASA-CASE-MSC-14905-1] c 37 N77-28487
- Flow compensating pressure regulator  
[NASA-CASE-LEW-12718-1] c 34 N78-25351
- Flow diverter valve and flow diversion method  
[NASA-CASE-HQN-00573-1] c 37 N79-33468
- Intra-ocular pressure normalization technique and equipment  
[NASA-CASE-LEW-12955-1] c 52 N80-14684
- Intra-ocular pressure normalization technique and equipment  
[NASA-CASE-LEW-12723-1] c 52 N80-18690
- Pressure control valve --- inflating flexible bladders  
[NASA-CASE-ARC-11251-1] c 37 N81-17433
- Prosthetic urinary sphincter  
[NASA-CASE-MFS-23717-1] c 52 N81-25660
- Ion beam sputter-etched ventricular catheter for hydrocephalus shunt  
[NASA-CASE-LEW-13107-1] c 52 N83-21785
- Vibration isolation and pressure compensation apparatus for sensitive instrumentation  
[NASA-CASE-LAR-12728-1] c 35 N83-32026
- Apparatus and method for jet noise suppression  
[NASA-CASE-LAR-11903-2] c 71 N84-14873

**PRESSURE SENSORS**

- Pressure variable capacitor  
[NASA-CASE-XNP-09752] c 14 N69-21541
- Aerodynamic measuring device Patent  
[NASA-CASE-XLA-00481] c 14 N70-36824
- Check valve assembly for a probe Patent  
[NASA-CASE-XLA-00128] c 15 N70-37925
- Dynamic sensor Patent  
[NASA-CASE-XAC-02877] c 14 N70-41681
- Inertia diaphragm pressure transducer Patent  
[NASA-CASE-XAC-02981] c 14 N71-21072
- Linear differential pressure sensor Patent  
[NASA-CASE-XMF-01974] c 14 N71-22752
- Pressure transducer calibrator Patent  
[NASA-CASE-XNP-01660] c 14 N71-23036
- Instrument for measuring the dynamic behavior of liquids Patent  
[NASA-CASE-XLA-05541] c 12 N71-26387
- Pressure sensitive transducers Patent  
[NASA-CASE-ERC-10087] c 14 N71-27334
- Method of making pressurized panel Patent  
[NASA-CASE-XLA-08916] c 15 N71-29018
- Sensing probe  
[NASA-CASE-LEW-10281-1] c 14 N72-17327
- Pressure transducer  
[NASA-CASE-NPO-10832] c 14 N72-21405
- Pressure operated electrical switch responsive to a pressure decrease after a pressure increase  
[NASA-CASE-LAR-10137-1] c 09 N72-22204
- Wide range dynamic pressure sensor  
[NASA-CASE-ARC-10263-1] c 14 N72-22438
- Differential pressure control  
[NASA-CASE-MFS-14216] c 14 N73-13418
- Pressurized panel  
[NASA-CASE-XLA-08916-2] c 14 N73-28487
- System for calibrating pressure transducer  
[NASA-CASE-LAR-10910-1] c 35 N74-13132
- Stagnation pressure probe --- for measuring pressure of supersonic gas streams  
[NASA-CASE-LAR-11139-1] c 35 N74-32878
- Circuit for detecting initial systole and diastolic notch --- for monitoring arterial pressure  
[NASA-CASE-LEW-11581-1] c 54 N75-13531
- Leak detector  
[NASA-CASE-MFS-21761-1] c 35 N75-15931
- Measurement of gas production of microorganisms --- using pressure sensors  
[NASA-CASE-LAR-11326-1] c 35 N75-33368
- Static pressure probe  
[NASA-CASE-LAR-11552-1] c 35 N76-14429
- Trielectrode capacitive pressure transducer  
[NASA-CASE-ARC-10711-2] c 33 N76-21390
- Catheter tip force transducer for cardiovascular research  
[NASA-CASE-NPO-13643-1] c 52 N76-29896
- Miniature biaxial strain transducer  
[NASA-CASE-LAR-11648-1] c 35 N77-14407
- Pressure transducer --- using a monomeric charge transfer complex sensor  
[NASA-CASE-NPO-11150] c 35 N78-17359
- Electronically scanned pressure sensor module with in situ calibration capability  
[NASA-CASE-LAR-12230-1] c 35 N79-14347

## PRESSURE SUITS

- System for use in conducting wake investigation for a wing in flight --- differential pressure measurements for drag investigations  
[NASA-CASE-FRC-11024-1] c 02 N80-28300
- Automatic compression adjusting mechanism for internal combustion engines  
[NASA-CASE-MSC-18807-1] c 37 N83-36483
- Self-correcting electronically scanned pressure sensor  
[NASA-CASE-LAR-12686-1] c 35 N84-14491
- Electronic scanning pressure measuring system and transducer package  
[NASA-CASE-ARC-11361-1] c 35 N84-22934
- Heat pipe cooled probe  
[NASA-CASE-LAR-12588-1] c 34 N85-21568
- Miniature remote dead weight calibrator  
[NASA-CASE-LAR-13564-1] c 35 N87-25558
- Porous plug for reducing orifice induced pressure error in airfoils  
[NASA-CASE-LAR-13569-1] c 35 N89-12841
- Circumferential pressure probe  
[NASA-CASE-LAR-13775-1] c 35 N89-14408
- Pressure measuring probe  
[NASA-CASE-LAR-13853-1] c 35 N89-14423
- PRESSURE SUITS**
- Pressure suit tie-down mechanism Patent  
[NASA-CASE-XMS-00784] c 05 N71-12335
- Pressure garment joint Patent  
[NASA-CASE-XMS-09636] c 05 N71-12344
- Omnidirectional joint Patent  
[NASA-CASE-XMS-09635] c 05 N71-24623
- Foreshortened convolute section for a pressurized suit Patent  
[NASA-CASE-XMS-09637-1] c 05 N71-24730
- Method of forming a root cord restrained convolute section  
[NASA-CASE-MSC-12398] c 05 N72-20098
- Restraint torso for a pressurized suit  
[NASA-CASE-MSC-12397-1] c 05 N72-25119
- Flexible joint for pressurizable garment  
[NASA-CASE-MSC-11072] c 54 N74-32546
- Walking boot assembly  
[NASA-CASE-ARC-11101-1] c 54 N78-17675
- Pressure suit joint analyzer  
[NASA-CASE-ARC-11314-1] c 54 N82-26987
- Method and apparatus for simulating gravitational forces on a living organism  
[NASA-CASE-MSC-20202-1] c 54 N84-16803
- PRESSURE SWITCHES**
- Reinforcing means for diaphragms Patent  
[NASA-CASE-XNP-01962] c 32 N70-41370
- Calibrating pressure switch  
[NASA-CASE-XMF-04494-1] c 33 N79-33392
- PRESSURE VESSELS**
- Liquid rocket system Patent  
[NASA-CASE-XNP-00610] c 28 N70-36910
- Thin-walled pressure vessel Patent  
[NASA-CASE-XLE-04677] c 15 N71-10577
- Gas regulator Patent  
[NASA-CASE-NPO-10298] c 12 N71-17661
- Controlled glass bead peening Patent  
[NASA-CASE-XLA-07390] c 15 N71-18616
- Heater-mixer for stored fluids  
[NASA-CASE-ARC-10442-1] c 35 N74-15093
- Method and apparatus for nondestructive testing of pressure vessels  
[NASA-CASE-NPO-12142-1] c 38 N76-28563
- Gas compression apparatus  
[NASA-CASE-MSC-14757-1] c 35 N78-10428
- Pressure control valve --- inflating flexible bladders  
[NASA-CASE-ARC-11251-1] c 37 N81-17433
- Space Shuttle with rail system and aft thrust structure securing solid rocket boosters to external tank  
[NASA-CASE-MFS-25853-1] c 16 N84-27784
- Oxygen recombination in individual pressure vessel nickel-hydrogen batteries  
[NASA-CASE-LEW-13822-1] c 44 N86-25874
- Cellular thermosetting fluoropolymers and process for making them  
[NASA-CASE-GSC-13008-1] c 27 N88-23894
- PRESSURE WELDING**
- Diffusion welding --- heat treatment of nickel alloys following single step vacuum welding process  
[NASA-CASE-LEW-11388-2] c 37 N74-21055
- PRESSURIZING**
- Restraining mechanism  
[NASA-CASE-MSC-13054] c 54 N78-17677
- PRESTRESSING**
- Prestressed refractory structure Patent  
[NASA-CASE-XNP-02888] c 18 N71-21068
- Method of manufacture of bonded fiber flywheel --- fiberglass-epoxy  
[NASA-CASE-MFS-23674-1] c 24 N81-29163
- Apparatus for accurately preloading auger attachment means for frangible protective material  
[NASA-CASE-MSC-18791-1] c 37 N83-36482

- Preloadable vector sensitive latch  
[NASA-CASE-MSC-20910-1] c 37 N87-25582
- Preloaded brake disc  
[NASA-CASE-MSC-21132-1] c 37 N88-29181
- PRETREATMENT**
- Pretreatment method for anti-wettable materials  
[NASA-CASE-XMS-03537] c 15 N69-21471
- Apparatus for accurately preloading auger attachment means for frangible protective material  
[NASA-CASE-MSC-18791-1] c 37 N83-36482
- PRINTED CIRCUITS**
- Electrical feed-through connection for printed circuit boards and printed cable  
[NASA-CASE-XMF-01483] c 14 N69-27431
- Printed cable connector Patent  
[NASA-CASE-XMF-00369] c 09 N70-36494
- Printed circuit board with bellows rivet connection Patent  
[NASA-CASE-XNP-05082] c 15 N70-41960
- Electrical spot terminal assembly Patent  
[NASA-CASE-NPO-10034] c 15 N71-17685
- Method of coating circuit paths on printed circuit boards with solder Patent  
[NASA-CASE-XMF-01599] c 09 N71-20705
- Device for handling printed circuit cards Patent  
[NASA-CASE-MFS-20453] c 15 N71-29133
- Polyimide resin-fiberglass cloth laminates for printed circuit boards  
[NASA-CASE-MFS-20408] c 18 N73-12604
- Circuit board package with wedge shaped covers  
[NASA-CASE-MFS-21919-1] c 10 N73-25243
- Device for configuring multiple leads --- method for connecting electric leads to printed circuit board  
[NASA-CASE-MFS-22133-1] c 33 N74-26977
- Connector --- for connecting circuits on different layers of multilayer printed circuit boards  
[NASA-CASE-LAR-11709-1] c 37 N76-27567
- Controlled caging and uncaging mechanism  
[NASA-CASE-GSC-11063-1] c 37 N77-27400
- Solar array strip and a method for forming the same  
[NASA-CASE-NPO-13652-1] c 44 N79-17314
- PRINTING**
- Application of semiconductor diffusants to solar cells by screen printing  
[NASA-CASE-LEW-12775-1] c 44 N79-11468
- Multicolor printing plate joining  
[NASA-CASE-LEW-13598-1] c 35 N84-22930
- Screen printed interdigitated back contact solar cell  
[NASA-CASE-LEW-13414-1] c 44 N85-20530
- PRINTOUTS**
- Device for handling printed circuit cards Patent  
[NASA-CASE-MFS-20453] c 15 N71-29133
- PRISMS**
- Interferometric rotation sensor  
[NASA-CASE-ARC-10278-1] c 14 N73-25463
- Method and apparatus for splitting a beam of energy --- optical communication  
[NASA-CASE-GSC-12083-1] c 73 N78-32848
- Multiprism collimator  
[NASA-CASE-GSC-12608-1] c 74 N83-10900
- Rhomboid prism pair for rotating the plane of parallel light beams  
[NASA-CASE-ARC-11311-1] c 74 N83-13978
- Laser Resonator  
[NASA-CASE-GSC-12565-1] c 36 N84-14509
- PROBABILITY THEORY**
- System and method for character recognition  
[NASA-CASE-NPO-11337-1] c 74 N81-19896
- PROBES**
- Method and apparatus for securing to a spacecraft Patent  
[NASA-CASE-MFS-11133] c 31 N71-16222
- Droplet monitoring probe  
[NASA-CASE-NPO-10985] c 14 N73-20478
- System and method for moving a probe to follow movements of tissue  
[NASA-CASE-NPO-15197-1] c 52 N83-25346
- Heat pipe cooled probe  
[NASA-CASE-LAR-12588-1] c 34 N85-21568
- Precision tunable resonant microwave cavity  
[NASA-CASE-LEW-13935-1] c 33 N87-21234
- PROCESS CONTROL (INDUSTRY)**
- Photoelectric detection system --- manufacturing automation  
[NASA-CASE-MFS-23776-1] c 33 N82-28545
- Chemical approach for controlling nadimide cure temperature and rate with maleimide  
[NASA-CASE-LEW-13770-3] c 27 N85-21350
- Chemical approach for controlling nadimide cure temperature and rate with maleimide  
[NASA-CASE-LEW-13770-4] c 27 N85-21351
- Procedure to prepare transparent silica gels  
[NASA-CASE-LAR-13476-1-CU] c 76 N87-29360
- PROCESSING**
- Low gravity exothermic heating/cooling apparatus  
[NASA-CASE-MSC-25707-1] c 35 N85-29214

## PRODUCT DEVELOPMENT

- Technique of duplicating fragile core  
[NASA-CASE-XLA-07829] c 15 N72-16329
- Tube fabricating process  
[NASA-CASE-LAR-10203-1] c 15 N72-16330
- Process for making diamonds  
[NASA-CASE-MFS-20698-2] c 15 N73-19457
- High power laser apparatus and system  
[NASA-CASE-XLE-2529-2] c 36 N75-27364
- Induced junction solar cell and method of fabrication  
[NASA-CASE-NPO-13786-1] c 44 N80-29835
- Process for preparation of large-particle-size monodisperse latexes  
[NASA-CASE-MFS-25000-1] c 25 N81-19242
- Ion-exchange hollow fibers  
[NASA-CASE-NPO-13309-1] c 25 N81-19244
- Precision heat forming of tetrafluoroethylene tubing  
[NASA-CASE-MSC-18430-1] c 37 N82-24491
- Fiber optic crossbar switch for automatically patching optical signals  
[NASA-CASE-KSC-11104-1] c 74 N83-29032
- Phosphorus-containing imide resins  
[NASA-CASE-ARC-11368-1] c 27 N83-31854
- PRODUCTION ENGINEERING**
- Indexed keyed connection Patent  
[NASA-CASE-XMS-02532] c 15 N70-41808
- Method and apparatus for making curved reflectors Patent  
[NASA-CASE-XLE-08917] c 15 N71-15597
- Method of making self lubricating fluoride- metal composite materials Patent  
[NASA-CASE-XLE-08511-2] c 18 N71-16105
- Method of making impurity-type semiconductor electrical contacts Patent  
[NASA-CASE-XMF-01016] c 26 N71-17818
- Method of making inflatable honeycomb Patent  
[NASA-CASE-XLA-03492] c 15 N71-22713
- Multilayer porous ionizer Patent  
[NASA-CASE-XNP-04338] c 17 N71-23046
- Ion engine casing construction and method of making same Patent  
[NASA-CASE-XNP-06942] c 28 N71-23293
- Flexible conductive disc electrode Patent  
[NASA-CASE-FRC-10029] c 09 N71-24618
- Star tracking reticles  
[NASA-CASE-GSC-11188-1] c 14 N73-32320
- Process for making sheets with parallel pores of uniform size  
[NASA-CASE-GSC-10984-1] c 37 N75-26371
- Solar cell collector and method for producing same  
[NASA-CASE-LEW-12552-2] c 44 N79-11472
- Multilevel metallization method for fabricating a metal oxide semiconductor device  
[NASA-CASE-MFS-23541-1] c 76 N79-14906
- Solar array strip and a method for forming the same  
[NASA-CASE-NPO-13652-1] c 44 N79-17314
- Method of fabricating a photovoltaic module of a substantially transparent construction  
[NASA-CASE-NPO-14303-1] c 44 N80-18550
- Apparatus for use in the production of ribbon-shaped crystals from a silicon melt  
[NASA-CASE-NPO-14297-1] c 33 N81-19389
- Method and apparatus for producing concentric hollow spheres --- inertial confinement fusion targets  
[NASA-CASE-NPO-14596-1] c 31 N81-33319
- Apparatus for sequentially transporting containers  
[NASA-CASE-MFS-23846-1] c 37 N82-32731
- Solar cell having improved back surface reflector  
[NASA-CASE-LEW-13620-1] c 44 N83-13579
- Method of increasing minority carrier lifetime in silicon web or the like  
[NASA-CASE-NPO-15530-1] c 76 N83-35888
- Method for sequentially processing a multi-level interconnect circuit in a vacuum chamber  
[NASA-CASE-MFS-256704-1] c 33 N84-22884
- PROJECTILES**
- Self-obturing, gas operated launcher  
[NASA-CASE-NPO-11013] c 11 N72-22247
- Two stage light gas-plasma projectile accelerator  
[NASA-CASE-MFS-22287-1] c 75 N76-14931
- PROJECTION**
- Projection system for display of parallax and perspective  
[NASA-CASE-MFS-23194-1] c 35 N78-17357
- PROJECTIVE GEOMETRY**
- Projection system for display of parallax and perspective  
[NASA-CASE-MFS-23194-1] c 35 N78-17357
- PROJECTORS**
- Optical projector system Patent  
[NASA-CASE-XNP-03853] c 23 N71-21882
- System and method for obtaining wide screen Schlieren photographs  
[NASA-CASE-NPO-14174-1] c 74 N79-20856
- Large TV display system  
[NASA-CASE-NPO-16932-1CU] c 33 N87-15413

**PROPAGATION MODES**

Dual waveguide mode source having control means for adjusting the relative amplitude of two modes Patent  
[NASA-CASE-XNP-03134] c 07 N71-10676

**PROPAGATION VELOCITY**

Double reference pulsed phase locked loop  
[NASA-CASE-LAR-13310-1] c 32 N87-14559

**PROPYL GROUPS**

Thermoset-thermoplastic aromatic polyamide containing N-propargyl groups  
[NASA-CASE-LAR-12723-2] c 27 N84-22746  
Thermoset-thermoplastic aromatic polyamide containing N-propargyl groups  
[NASA-CASE-LAR-12723-1] c 27 N85-20123

**PROPELLANT ACTUATED INSTRUMENTS**

Pressure limiting propellant actuating system  
[NASA-CASE-MSC-18179-1] c 20 N80-18097

**PROPELLANT ADDITIVES**

Inhibited solid propellant composition containing beryllium hydride  
[NASA-CASE-NPO-10866-1] c 28 N79-14228

**PROPELLANT BINDERS**

Method of forming difunctional polyisobutylene  
[NASA-CASE-NPO-10893] c 27 N73-22710  
Recovery of aluminum from composite propellants  
[NASA-CASE-NPO-14110-1] c 28 N81-15119

**PROPELLANT CASTING**

Casting propellant in rocket engine  
[NASA-CASE-LAR-11995-1] c 28 N77-10213  
Solid propellant rocket motor and method of making same  
[NASA-CASE-XLA-01349] c 20 N77-17143

**PROPELLANT CHEMISTRY**

Nitramine propellants --- gun propellant burning rate  
[NASA-CASE-NPO-14103-1] c 28 N78-31255

**PROPELLANT COMBUSTION**

Spherically-shaped rocket motor Patent  
[NASA-CASE-XHQ-01897] c 28 N70-35381  
Control of transverse instability in rocket combustors Patent  
[NASA-CASE-XLE-04603] c 33 N71-21507

**PROPELLANT DECOMPOSITION**

Decomposition unit Patent  
[NASA-CASE-XMS-00583] c 28 N70-38504

**PROPELLANT GRAINS**

Propellant grain for rocket motors Patent  
[NASA-CASE-XGS-03556] c 27 N70-35534

**PROPELLANT TANKS**

Liquid rocket system Patent  
[NASA-CASE-XNP-00610] c 28 N70-36910  
Slosh suppressing device and method Patent  
[NASA-CASE-XMF-00658] c 12 N70-38997  
Measuring device Patent  
[NASA-CASE-XMS-01546] c 14 N70-40233  
Zero gravity starting means for liquid propellant motors Patent  
[NASA-CASE-XNP-01390] c 28 N70-41275  
Tank construction for space vehicles Patent  
[NASA-CASE-XMF-01899] c 31 N70-41948  
Method and apparatus for detection and location of microleaks Patent  
[NASA-CASE-XMF-02307] c 14 N71-10779  
Method of making a filament-wound container Patent  
[NASA-CASE-XLE-03803-2] c 15 N71-17651  
Slosh alleviator Patent  
[NASA-CASE-XLA-05749] c 15 N71-19569  
Booster tank system Patent  
[NASA-CASE-MSC-12390] c 27 N71-29155  
Space vehicle system  
[NASA-CASE-MSC-12561-1] c 18 N76-17185  
Passive propellant system  
[NASA-CASE-MFS-23642-2] c 20 N78-27176  
Space Shuttle with rail system and aft thrust structure securing solid rocket boosters to external tank  
[NASA-CASE-MFS-25853-1] c 16 N84-27784  
Three stage rocket vehicle with parallel staging  
[NASA-CASE-MFS-25878-1] c 18 N84-27787

**PROPELLANT TRANSFER**

Fluid coupling Patent  
[NASA-CASE-XLE-00397] c 15 N70-36492  
Apparatus for transferring cryogenic liquids Patent  
[NASA-CASE-XLE-00345] c 15 N70-38020  
Method for continuous variation of propellant flow and thrust in propulsive devices Patent  
[NASA-CASE-XLE-00177] c 28 N70-40367  
Fluid dispensing apparatus and method Patent  
[NASA-CASE-XLE-01182] c 27 N71-15635  
Electrostatic ion rocket engine Patent  
[NASA-CASE-XLE-02066] c 28 N71-15661  
Control of transverse instability in rocket combustors Patent  
[NASA-CASE-XLE-04603] c 33 N71-21507  
Vapor liquid separator Patent  
[NASA-CASE-XMF-04042] c 15 N71-23023  
Filler valve Patent  
[NASA-CASE-XNP-01747] c 15 N71-23024

Propellant feed isolator Patent  
[NASA-CASE-LEW-10210-1] c 28 N71-26781  
Spherical shield Patent  
[NASA-CASE-XNP-01855] c 15 N71-28937  
Passive propellant system  
[NASA-CASE-MFS-23642-2] c 20 N78-27176  
Three stage rocket vehicle with parallel staging  
[NASA-CASE-MFS-25878-1] c 18 N84-27787

**PROPELLER BLADES**

Propeller blade loading control Patent  
[NASA-CASE-XAC-00139] c 02 N70-34856

**PROPELLER EFFICIENCY**

Over-the-wing propeller  
[NASA-CASE-LAR-13134-2] c 07 N87-16828

**PROPELLERS**

Heads up display  
[NASA-CASE-LAR-12630-1] c 06 N84-27733  
Wingtip vortex propeller  
[NASA-CASE-LAR-13019-1] c 07 N85-35194  
High lift, low pitching moment airfoils  
[NASA-CASE-LAR-13215-1] c 02 N89-14224

**PROPORTIONAL CONTROL**

Proportional controller Patent  
[NASA-CASE-XAC-03392] c 03 N70-41954

**PROPULSION SYSTEM CONFIGURATIONS**

Electro-thermal rocket Patent  
[NASA-CASE-XLE-00267] c 28 N70-33356  
Propellant grain for rocket motors Patent  
[NASA-CASE-XGS-03556] c 27 N70-35534  
Composite powerplant and shroud therefor Patent  
[NASA-CASE-XLA-01043] c 28 N71-10780  
Annular slit colloid thruster Patent  
[NASA-CASE-GSC-10709-1] c 28 N71-25213  
Propellant tank pressurization system Patent  
[NASA-CASE-XNP-00650] c 27 N71-28929  
Apparatus for endoscopic examination --- analysis of the propulsion system configuration and transmitter  
[NASA-CASE-NPO-14092-1] c 52 N80-16725  
Aerospace vehicle  
[NASA-CASE-LAR-13155-1] c 05 N86-19310  
Propulsion apparatus and method using boil-off gas from a cryogenic liquid  
[NASA-CASE-MFS-25946-1] c 20 N86-26368  
Over-the-wing propeller  
[NASA-CASE-LAR-13134-2] c 07 N87-16828

**PROPULSION SYSTEM PERFORMANCE**

Variable mixer propulsion cycle  
[NASA-CASE-LEW-12917-1] c 07 N78-18067

**PROPYLENE**

Stabilized unsaturated polyesters  
[NASA-CASE-NPO-16103-1] c 27 N85-29043

**PROSTHETIC DEVICES**

Tactile sensing means for prosthetic limbs  
[NASA-CASE-MFS-16570-1] c 05 N73-32013  
Orthotic arm joint --- for use in mechanical arms  
[NASA-CASE-MFS-21611-1] c 54 N75-12616  
Actuator device for artificial leg  
[NASA-CASE-MFS-23225-1] c 52 N77-14735  
Aldehyde-containing urea-absorbing polysaccharides  
[NASA-CASE-NPO-13620-1] c 27 N77-30236  
Rotational joint assembly for the prosthetic leg  
[NASA-CASE-KSC-11004-1] c 54 N77-30749  
Mechanical energy storage device for hip disarticulation  
[NASA-CASE-ARC-10916-1] c 52 N78-10686  
Method of adhering bone to a rigid substrate using a graphite fiber reinforced bone cement  
[NASA-CASE-NPO-13764-1] c 27 N78-17215  
Compact artificial hand  
[NASA-CASE-NPO-13906-1] c 54 N79-24652  
Prosthesis coupling  
[NASA-CASE-KSC-11069-1] c 52 N79-26772  
Prosthetic urinary sphincter  
[NASA-CASE-MFS-23717-1] c 52 N81-25660  
Texturing polymer surfaces by transfer casting --- cardiovascular prosthesis  
[NASA-CASE-LEW-13120-1] c 27 N82-28440  
Prosthetic occlusive device for an internal passageway  
[NASA-CASE-MFS-25740-1] c 52 N84-11744

**PROTECTION**

Apparatus and method for protecting a photographic device Patent  
[NASA-CASE-NPO-10174] c 14 N71-18465  
Fiber modified polyurethane foam for ballistic protection  
[NASA-CASE-ARC-10714-1] c 27 N76-15310  
Lightning discharge protection rod  
[NASA-CASE-LAR-13470-1] c 03 N88-14083

**PROTECTIVE CLOTHING**

Process for conditioning tanned sharkskin and articles made therefrom Patent  
[NASA-CASE-XMS-09691-1] c 18 N71-15545  
Biological isolation garment Patent  
[NASA-CASE-MSC-12206-1] c 05 N71-17599

Garments for controlling the temperature of the body Patent  
[NASA-CASE-XMS-10269] c 05 N71-24147  
Foreshortened convolute section for a pressurized suit Patent  
[NASA-CASE-XMS-09637-1] c 05 N71-24730  
Protective suit having an audio transceiver Patent  
[NASA-CASE-KSC-10164] c 07 N71-33108  
Protective garment ventilation system  
[NASA-CASE-XMS-04928] c 54 N78-17679  
Vitra-violet process for producing flame resistant polyamides and products produced thereby --- protective clothing for high oxygen environments  
[NASA-CASE-MSC-16074-1] c 27 N80-26446  
Heat resistant protective hand covering  
[NASA-CASE-MSC-20261-2] c 54 N84-23113  
Hazards protection for space suits and spacecraft  
[NASA-CASE-MSC-21366-1] c 54 N89-12206

**PROTECTIVE COATINGS**

Coating process  
[NASA-CASE-XNP-06508] c 18 N69-39895  
Alkali-metal silicate protective coating  
[NASA-CASE-XGS-04119] c 18 N69-39979  
Process for applying a protective coating for salt bath brazing Patent  
[NASA-CASE-XLE-00046] c 15 N70-33311  
Method and apparatus for shock protection Patent  
[NASA-CASE-XLA-00482] c 15 N70-36409  
Thermal control of space vehicles Patent  
[NASA-CASE-XLA-01291] c 33 N70-36617  
Process for preparing sterile solid propellants Patent  
[NASA-CASE-XNP-01749] c 27 N70-41897  
Fire resistant coating composition Patent  
[NASA-CASE-GSC-10072] c 18 N71-14014  
Bacteriostatic conformal coating and methods of application Patent  
[NASA-CASE-GSC-10007] c 18 N71-16046  
Method of coating carbonaceous base to prevent oxidation destruction and coated base Patent  
[NASA-CASE-XLA-00284] c 15 N71-16075  
Method of coating carbonaceous base to prevent oxidation destruction and coated base Patent  
[NASA-CASE-XLA-00302] c 15 N71-16077  
Aerodynamic protection for space flight vehicles Patent  
[NASA-CASE-XNP-02507] c 31 N71-17679  
Heat protection apparatus Patent  
[NASA-CASE-XLA-00892] c 33 N71-17897  
Bismuth-lead coatings for gas bearings used in atmospheric environments and vacuum chambers Patent  
[NASA-CASE-XGS-02011] c 15 N71-20739  
Alkali metal silicate protective coating Patent  
[NASA-CASE-XGS-04799] c 18 N71-24183  
Process for reducing secondary electron emission Patent  
[NASA-CASE-XNP-09469] c 24 N71-25555  
Solid state thermal control polymer coating Patent  
[NASA-CASE-XLA-01745] c 33 N71-28903  
Method of coating through-holes Patent  
[NASA-CASE-XMF-05999] c 15 N71-29032  
Potassium silicate zinc coatings  
[NASA-CASE-GSC-10361-1] c 18 N72-23581  
Method of coating solar cell with borosilicate glass and resultant product  
[NASA-CASE-GSC-11514-1] c 03 N72-24037  
Semiconductor surface protection material  
[NASA-CASE-ERC-10339-1] c 18 N73-30532  
Nonflammable coating compositions --- for use in high oxygen environments  
[NASA-CASE-MFS-20486-2] c 27 N74-17283  
Fused silicide coatings containing discrete particles for protecting niobium alloys --- used in space shuttle thermal protection systems and turbine engine components  
[NASA-CASE-LEW-11179-1] c 27 N76-16229  
High temperature oxidation resistant cermet compositions  
[NASA-CASE-NPO-13666-1] c 27 N77-13217  
Leading edge protection for composite blades  
[NASA-CASE-LEW-12550-1] c 24 N77-19170  
Intumescent coatings containing 4,4'-dinitrosulfanilide  
[NASA-CASE-ARC-11042-1] c 24 N78-14096  
Sprayable low density ablator and application process  
[NASA-CASE-MFS-23506-1] c 24 N78-24290  
Reaction cured glass and glass coatings  
[NASA-CASE-ARC-11051-1] c 27 N78-32260  
Infusible silazane polymer and process for producing same --- protective coatings  
[NASA-CASE-XMF-02526-1] c 27 N79-21190  
Fire protection covering for small diameter missiles  
[NASA-CASE-ARC-11104-1] c 15 N79-26100  
Improved refractory coatings --- sputtered coatings on substrates that form stable nitrides  
[NASA-CASE-LEW-23169-2] c 26 N81-16209  
Corrosion resistant thermal barrier coating --- protecting gas turbines and other engine parts  
[NASA-CASE-LEW-13088-1] c 26 N81-25188

Heat sealable, flame and abrasion resistant coated fabric --- clothing and containers for space exploration  
[NASA-CASE-MSC-18382-1] c 27 N82-16238  
Method of protecting a surface with a silicon-slurry/aluminide coating --- coatings for gas turbine engine blades and vanes  
[NASA-CASE-LEW-13343-1] c 27 N82-28441  
Curved film cooling admission tube  
[NASA-CASE-LEW-13174-1] c 34 N83-27144  
Silicon-slurry/aluminide coating --- protecting gas turbine engine vanes and blades  
[NASA-CASE-LEW-13343] c 26 N83-31795  
Covering solid, film cooled surfaces with a duplex thermal barrier coating  
[NASA-CASE-LEW-13450-1] c 31 N83-35177  
Heat sealable, flame and abrasion resistant coated fabric  
[NASA-CASE-MSC-18382-2] c 27 N84-14324  
Method and apparatus for coating substrates using a laser  
[NASA-CASE-LEW-13526-1] c 36 N84-22944  
Coating with overlay metallic-cermet alloy systems  
[NASA-CASE-LEW-13639-2] c 26 N84-27855  
Overlay metallic-cermet alloy coating systems  
[NASA-CASE-LEW-13639-1] c 26 N84-33555  
Corrosion resistant coating  
[NASA-CASE-NPO-15928-1] c 26 N85-29005  
Spray applicator for spraying coatings and other fluids in space  
[NASA-CASE-MSC-18852-1] c 37 N85-29283  
Oxidation protection coatings for polymers  
[NASA-CASE-LEW-14072-1] c 27 N86-19458  
Process for preparing essentially colorless polyimide film containing phenoxy-linked diamines  
[NASA-CASE-LAR-13353-1] c 27 N86-29039  
Apparatus for producing oxidation protection coatings for polymers  
[NASA-CASE-LEW-14072-2] c 27 N86-32569  
Nickel base coating alloy  
[NASA-CASE-LEW-13834-1] c 26 N87-14482  
Oxidation protection coatings for polymers  
[NASA-CASE-LEW-14072-3] c 27 N87-23736  
Oxygen diffusion barrier coating  
[NASA-CASE-LAR-13474-1-SB] c 26 N87-25455

**PROTECTORS**  
Load cell protection device Patent  
[NASA-CASE-XMS-06782] c 32 N71-15974  
Omnidirectional multiple impact landing system Patent  
[NASA-CASE-XLA-09881] c 31 N71-16085  
Protective telescoping shield for solar concentrator  
[NASA-CASE-NPO-16236-1] c 44 N86-27706

**PROTEINS**  
Protein sterilization method of firefly luciferase using reduced pressure and molecular sieves  
[NASA-CASE-GSC-10225-1] c 06 N73-27086  
Hanging drop crystal growth apparatus and method  
[NASA-CASE-MFS-28206-1-SB] c 76 N88-25356  
Crystal growth apparatus  
[NASA-CASE-MFS-28182-1] c 76 N88-25357

**PROTOCOL (COMPUTERS)**  
Multicomputer communication system  
[NASA-CASE-NPO-15433-1] c 32 N85-21428

**PROTON FLUX DENSITY**  
Flame detector operable in presence of proton radiation  
[NASA-CASE-MFS-21577-1] c 19 N74-29410

**PROXIMITY**  
Focal plane array optical proximity sensor  
[NASA-CASE-NPO-15155-1] c 74 N85-22139  
Distributed proximity sensor system  
[NASA-CASE-NPO-17275-1-CU] c 37 N89-29750

**PSEUDONOISE**  
Rapid sync acquisition system Patent  
[NASA-CASE-NPO-10214] c 10 N71-26577  
Pseudonoise sequence generators with three tap linear feedback shift registers  
[NASA-CASE-NPO-11406] c 08 N73-12175  
Two carrier communication system with single transmitter  
[NASA-CASE-NPO-11548] c 07 N73-26118  
Pseudo-noise test set for communication system evaluation --- test signals  
[NASA-CASE-MFS-22671-1] c 35 N75-21582  
Pseudonoise code tracking loop  
[NASA-CASE-MSC-18035-1] c 32 N81-15179

**PULLEYS**  
Tension measurement device Patent  
[NASA-CASE-XMS-04545] c 15 N71-22878  
Tensile strength testing device Patent  
[NASA-CASE-XNP-05634] c 15 N71-24834

**PULLING**  
Dual motion valve with single motion input  
[NASA-CASE-MFS-28058-1] c 37 N87-21332

**PULMONARY CIRCULATION**  
Resuscitation apparatus Patent  
[NASA-CASE-XMS-01115] c 05 N70-39922

**PULMONARY FUNCTIONS**

Instrument for use in performing a controlled Valsalva maneuver Patent  
[NASA-CASE-XMS-01615] c 05 N70-41329

**PULSE AMPLITUDE**  
System for monitoring signal amplitude ranges  
[NASA-CASE-XMS-04061-1] c 09 N69-39885  
Analog to digital converter Patent  
[NASA-CASE-XLA-00670] c 08 N71-12501  
Pulse amplitude and width detector Patent  
[NASA-CASE-XMF-06519] c 09 N71-12519  
Analog-to-digital converter  
[NASA-CASE-XNP-00477] c 08 N73-28045  
Electro-mechanical sine/cosine generator  
[NASA-CASE-LAR-11389-1] c 33 N77-26387  
Speech analyzer  
[NASA-CASE-GSC-11898-1] c 32 N77-30309  
Power factor control system for ac induction motors  
[NASA-CASE-MFS-23988-1] c 33 N81-27395  
Video processor for air traffic control beacon system  
[NASA-CASE-KSC-11155-1] c 04 N86-19304

**PULSE AMPLITUDE MODULATION**  
Signal ratio system utilizing voltage controlled oscillators Patent  
[NASA-CASE-XMF-04367] c 09 N71-23545  
Pulse switching for high energy lasers  
[NASA-CASE-NPO-14556-1] c 33 N82-24418

**PULSE CODE MODULATION**  
Adaptive compression of communication signals Patent  
[NASA-CASE-XLA-03076] c 07 N71-11266  
Bi-polar phase detector and corrector for split phase PCM data signals Patent  
[NASA-CASE-XGS-01590] c 07 N71-12392  
System for recording and reproducing pulse code modulated data Patent  
[NASA-CASE-XGS-01021] c 08 N71-21042  
Frequency shift keying apparatus Patent  
[NASA-CASE-XGS-01537] c 07 N71-23405  
Data compression system  
[NASA-CASE-NPO-11243] c 07 N72-20154  
Method and apparatus for frequency-division multiplex communications by digital phase shift of carrier  
[NASA-CASE-NPO-11338] c 08 N72-25208  
Apparatus for deriving synchronizing pulses from pulses in a single channel PCM communications system  
[NASA-CASE-NPO-11302-1] c 07 N73-13149  
Method and apparatus for a single channel digital communications system --- synchronization of received PCM signal by digital correlation with reference signal  
[NASA-CASE-NPO-11302-2] c 32 N74-10132  
Multifunction audio digitizer --- producing direct delta and pulse code modulation  
[NASA-CASE-MSC-13855-1] c 35 N74-17885  
Pulse code modulated signal synchronizer  
[NASA-CASE-MSC-12462-1] c 32 N74-20809  
Pulse code modulated signal synchronizer  
[NASA-CASE-MSC-12494-1] c 32 N74-20810  
Digital transmitter for data bus communications system  
[NASA-CASE-MSC-14558-1] c 32 N75-21486  
Compact-bi-phase pulse coded modulation decoder  
[NASA-CASE-KSC-10834-1] c 33 N76-14371  
Low distortion receiver for bi-level baseband PCM waveforms  
[NASA-CASE-MSC-14557-1] c 32 N76-16249  
Differential pulse code modulation  
[NASA-CASE-MSC-12506-1] c 32 N77-12239  
Digital demodulator  
[NASA-CASE-LAR-12659-1] c 33 N82-26570  
Method and apparatus for operating on companded PCM voice data  
[NASA-CASE-KSC-11285-1] c 32 N86-27513

**PULSE COMMUNICATION**  
Phase-shift data transmission system having a pseudo-noise SYNC code modulated with the data in a single channel Patent  
[NASA-CASE-XNP-00911] c 08 N70-41961  
Differential pulse code modulation  
[NASA-CASE-MSC-12506-1] c 32 N77-12239  
Memory-based frame synchronizer --- for digital communication systems  
[NASA-CASE-GSC-12430-1] c 60 N82-16747  
Method and apparatus for operating on companded PCM voice data  
[NASA-CASE-KSC-11285-1] c 32 N86-27513

**PULSE DURATION**  
Frequency to analog converter Patent  
[NASA-CASE-XNP-07040] c 08 N71-12500  
Pulse amplitude and width detector Patent  
[NASA-CASE-XMF-06519] c 09 N71-12519  
Variable pulse width multiplier Patent  
[NASA-CASE-XLA-02850] c 09 N71-20447  
Pulse width inverter Patent  
[NASA-CASE-MFS-10068] c 10 N71-25139

Multivibrator circuit with means to prevent false triggering from supply voltage fluctuations Patent  
[NASA-CASE-ARC-10137-1] c 09 N71-28468  
Pulse stretcher for narrow pulses  
[NASA-CASE-MSC-14130-1] c 33 N74-32711

**PULSE DURATION MODULATION**  
Pulse-width modulation multiplier Patent  
[NASA-CASE-XER-09213] c 07 N71-12390  
Variable duration pulse integrator Patent  
[NASA-CASE-XLA-01219] c 10 N71-23084  
Transistor servo system including a unique differential amplifier circuit Patent  
[NASA-CASE-XMF-05195] c 10 N71-24861  
Control apparatus for applying pulses of selectively predetermined duration to a sequence of loads Patent  
[NASA-CASE-XGS-04224] c 10 N71-26418  
Monostable multivibrator with complementary NOR gates Patent  
[NASA-CASE-MSC-13492-1] c 10 N71-28860  
Load current sensor for a series pulse width modulated power supply  
[NASA-CASE-GSC-10656-1] c 09 N72-25249  
Buck/boost regulator  
[NASA-CASE-GSC-12360-1] c 33 N81-19392

**PULSE FREQUENCY MODULATION**  
Apparatus for measuring current flow Patent  
[NASA-CASE-XGS-02439] c 14 N71-19431  
Digitally controlled frequency synthesizer Patent  
[NASA-CASE-XGS-02317] c 09 N71-23525  
Noninterruptible digital counting system Patent  
[NASA-CASE-XNP-09759] c 08 N71-24891  
Frequency modulation demodulator threshold extension device Patent  
[NASA-CASE-MSC-12165-1] c 07 N71-33696  
Versatile LDV burst simulator  
[NASA-CASE-LAR-11859-1] c 35 N79-14349

**PULSE GENERATORS**  
High voltage pulse generator Patent  
[NASA-CASE-MSC-12178-1] c 09 N71-13518  
Flipflop interrogator and bi-polar current driver Patent  
[NASA-CASE-XGS-03058] c 10 N71-19547  
Pulse modulator providing fast rise and fall times Patent  
[NASA-CASE-XMS-04919] c 09 N71-23270  
Passive synchronized spike generator with high input impedance and low output impedance and capacitor power supply Patent  
[NASA-CASE-XGS-03632] c 09 N71-23311  
Resettable monostable pulse generator Patent  
[NASA-CASE-GSC-11139] c 09 N71-27016  
Pulse generating circuit employing switch means on ends of delay line for alternately charging and discharging same Patent  
[NASA-CASE-XNP-00745] c 10 N71-28960  
Pulse coupling circuit  
[NASA-CASE-LEW-10433-1] c 09 N72-22197  
Method and apparatus for nondestructive testing --- using high frequency arc discharges  
[NASA-CASE-MFS-21233-1] c 38 N74-15395  
Random pulse generator  
[NASA-CASE-MSC-14131-1] c 33 N75-19515  
Active lamp pulse driver circuit --- optical pumping of laser media  
[NASA-CASE-GSC-12566-1] c 33 N83-34189  
Synchronization tracking in pulse position modulation receiver  
[NASA-CASE-NPO-16256-1] c 32 N87-21207

**PULSE HEATING**  
Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NASA-CASE-NPO-15494-1] c 35 N82-25484

**PULSE MODULATION**  
Synchronization tracking in pulse position modulation receiver  
[NASA-CASE-NPO-16256-1] c 32 N87-21207

**PULSE RATE**  
Counter Patent  
[NASA-CASE-XNP-06234] c 10 N71-27137  
Peak holding circuit for extremely narrow pulses  
[NASA-CASE-MSC-14129-1] c 33 N75-18479

**PULSED LASERS**  
Repetitively pulsed, wavelength selective laser Patent  
[NASA-CASE-ERC-10178] c 16 N71-24832  
Dually mode locked Nd:YAG laser  
[NASA-CASE-GSC-11746-1] c 36 N75-19654  
Isotope separation using metallic vapor lasers  
[NASA-CASE-NPO-13550-1] c 36 N77-26477  
Double-beam optical method and apparatus for measuring thermal diffusivity and other molecular dynamic processes in utilizing the transient thermal lens effect  
[NASA-CASE-NPO-14657-1] c 74 N81-17887  
Pulse switching for high energy lasers  
[NASA-CASE-NPO-14556-1] c 33 N82-24418  
Coherently pulsed laser source  
[NASA-CASE-NPO-15111-1] c 36 N82-29589



- Active lamp pulse driver circuit --- optical pumping of laser media  
[NASA-CASE-GSC-12566-1] c 33 N83-34189
- Ranging system which compares an object reflected component of a light beam to a reference component of the light beam  
[NASA-CASE-NPO-15865-1] c 74 N85-34629
- PULSED RADIATION**  
Cyclically operable optical shutter  
[NASA-CASE-NPO-10758] c 14 N73-14427
- Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NASA 1.71:NPO-15494-2] c 35 N85-34373
- Acoustic radiation stress measurement  
[NASA-CASE-LAR-13440-1] c 71 N87-21653
- PULSES**  
High pulse rate high resolution optical radar system  
[NASA-CASE-NPO-11426] c 07 N73-26119
- PULTRUSION**  
Pultrusion die assembly  
[NASA-CASE-LAR-13719-1] c 37 N89-12867
- PUMP SEALS**  
Fluid impervious barrier including liquid metal alloy and method of making same Patent  
[NASA-CASE-XNP-08881] c 17 N71-28747
- Spiral groove seal --- for hydraulic rotating shaft  
[NASA-CASE-LEW-10326-3] c 37 N74-10474
- PUMPS**  
Piezoelectric pump Patent  
[NASA-CASE-XNP-05429] c 26 N71-21824
- Vapor liquid separator Patent  
[NASA-CASE-XMF-04042] c 15 N71-23023
- Automatic pump Patent  
[NASA-CASE-XNP-04731] c 15 N71-24042
- Hydraulic transformer Patent  
[NASA-CASE-MFS-20830] c 15 N71-30028
- Firefly pump-metering system  
[NASA-CASE-GSC-10218-1] c 15 N72-21465
- Magnetocaloric pump --- for cryogenic fluids  
[NASA-CASE-LEW-11672-1] c 37 N74-27904
- Continuous coal processing method  
[NASA-CASE-NPO-13758-2] c 31 N81-15154
- Gas-to-hydraulic power converter  
[NASA-CASE-MSC-18794-1] c 44 N83-14693
- Variable speed drive  
[NASA-CASE-GSC-12643-1] c 37 N83-26078
- Reciprocating magnetic refrigerator employing tandem porous matrices within a reciprocating displacer  
[NASA-CASE-NPO-16257-1] c 31 N85-29082
- Remotely operable peristaltic pump  
[NASA-CASE-MFS-28059-1] c 37 N86-32738
- Multi-path peristaltic pump  
[NASA-CASE-MSC-20907-1] c 37 N87-18818
- Pumped two-phase heat transfer loop  
[NASA-CASE-MSC-20841-1] c 34 N87-22950
- Pumped two-phase heat transfer loop  
[NASA-CASE-MSC-20841-2] c 34 N88-23958
- Polymeric heat pipe wick  
[NASA-CASE-GSC-13019-1] c 34 N88-29133
- PUNCHED CARDS**  
File card marker Patent  
[NASA-CASE-XLA-02705] c 08 N71-15908
- Device for handling printed circuit cards Patent  
[NASA-CASE-MFS-20453] c 15 N71-29133
- PUNCHES**  
Convoluting device for forming convolutions and the like Patent  
[NASA-CASE-XNP-05297] c 15 N71-23811
- PURGING**  
Techniques for insulating cryogenic fuel containers Patent  
[NASA-CASE-XLA-01967] c 31 N70-42015
- High pressure gas filter system Patent  
[NASA-CASE-MFS-12806] c 14 N71-17588
- Apparatus for purging systems handling toxic, corrosive, noxious and other fluids Patent  
[NASA-CASE-XMS-01905] c 12 N71-21089
- Purge device for thrust engines Patent  
[NASA-CASE-XMS-04826] c 28 N71-28849
- Purging means and method for Xenon arc lamps  
[NASA-CASE-NPO-11978] c 31 N78-17238
- PURIFICATION**  
High pressure helium purifier Patent  
[NASA-CASE-XMF-06888] c 15 N71-24044
- Method and apparatus for distillation of liquids Patent  
[NASA-CASE-XNP-08124] c 15 N71-27184
- Targets for producing high purity I-123  
[NASA-CASE-LEW-10518-3] c 25 N78-27226
- Process for purification of waste water produced by a Kraft process pulp and paper mill  
[NASA-CASE-NPO-13847-2] c 85 N79-17747
- Method of purifying metallurgical grade silicon employing reduced pressure atmospheric control  
[NASA-CASE-NPO-14474-1] c 26 N80-14229
- Membrane consisting of polyquaternary amine ion exchange polymer network interpenetrating the chains of thermoplastic matrix polymer  
[NASA-CASE-NPO-14001-1] c 27 N81-14076
- Electromigration process for the purification of molten silicon during crystal growth  
[NASA-CASE-NPO-14831-1] c 76 N82-30105
- Nebulization reflux concentrator  
[NASA-CASE-LAR-13254-1CU] c 35 N86-29174
- PURITY**  
Process for preparation of dianilinosilanes Patent  
[NASA-CASE-XMF-06409] c 06 N71-23230
- Low defect, high purity crystalline layers grown by selective deposition  
[NASA-CASE-NPO-15813-1] c 76 N85-30922
- Quasi-containerless glass formation method and apparatus  
[NASA-CASE-MFS-28090-1] c 27 N87-21111
- PUSH-PULL AMPLIFIERS**  
Frequency modulated oscillator  
[NASA-CASE-MFS-23181-1] c 33 N77-17351
- Low current linearization of magnetic amplifier for dc transducer  
[NASA-CASE-NPO-14617-1] c 33 N81-24338
- Push-pull converter with energy saving circuit for protecting switching transistors from peak power stress  
[NASA-CASE-NPO-14316-1] c 33 N81-33404
- PUSHING**  
Dual motion valve with single motion input  
[NASA-CASE-MFS-28058-1] c 37 N87-21332
- PYLONS**  
Decoupler pylon: wing/store flutter suppressor  
[NASA-CASE-LAR-12468-1] c 08 N82-32373
- Compression pylon  
[NASA-CASE-LAR-13777-1] c 05 N88-29789
- PYRIDINES**  
Nuclear alkylated pyridine aldehyde polymers and conductive compositions thereof  
[NASA-CASE-NPO-10557] c 27 N78-17214
- Copolymers of vinyl styrylpyridines or vinyl stilbazoles with bismaleimide  
[NASA-CASE-ARC-11429-1-CU] c 27 N86-20560
- Vinyl stilbazoles  
[NASA-CASE-ARC-11429-3CU] c 27 N87-16908
- Structural panels  
[NASA-CASE-ARC-11429-2-CU] c 27 N87-22845
- PYROELECTRICITY**  
Pyroelectric detector arrays  
[NASA-CASE-LAR-12363-1] c 35 N82-31659
- Pyroelectric detector arrays  
[NASA-CASE-LAR-12363-2] c 33 N83-24763
- PYROGEN**  
Molded composite pyrogen igniter for rocket motors --- solid propellant ignition  
[NASA-CASE-LAR-12018-1] c 20 N78-24275
- PYROLYSIS**  
Molten salt pyrolysis of latex --- synthetic hydrocarbon fuel production using the Guayule shrub  
[NASA-CASE-NPO-14315-1] c 27 N81-17261
- Thermal reactor --- liquid silicon production from silane gas  
[NASA-CASE-NPO-14369-1] c 44 N83-10501
- Solar heated oil shale pyrolysis process  
[NASA-CASE-NPO-16392-1] c 25 N86-25428
- Ceramic honeycomb structures and the method thereof  
[NASA-CASE-ARC-11652-1] c 27 N87-23737
- PYROLYTIC GRAPHITE**  
Multislit film cooled pyrolytic graphite rocket nozzle Patent  
[NASA-CASE-XNP-04389] c 28 N71-20942
- Ion sputter textured graphite --- anode collector plates in electron tube devices  
[NASA-CASE-LEW-12919-1] c 24 N83-10117
- Ion sputter textured graphite electrode plates  
[NASA-CASE-LEW-12919-2] c 70 N84-28565
- PYROLYTIC MATERIALS**  
Ablation structures Patent  
[NASA-CASE-XMS-01816] c 33 N71-15623
- PYROMETERS**  
Ablation sensor  
[NASA-CASE-XLA-01781] c 14 N69-39975
- Noncontact temperature pattern measuring device  
[NASA-CASE-NPO-17024-1-CU] c 35 N88-24943
- PYROTECHNICS**  
Disconnect unit  
[NASA-CASE-NPO-11330] c 33 N73-26958
- Fully redundant mechanical release actuator  
[NASA-CASE-LAR-13198-1] c 37 N87-23983
- PYRRONES (TRADEMARK)**  
Method for forming pyrrone molding powders and products of said method  
[NASA-CASE-LAR-10423-1] c 23 N82-29358
- Q**
- Q SWITCHED LASERS**  
Optically detonated explosive device  
[NASA-CASE-NPO-11743-1] c 28 N74-27425
- Spatial filter for Q-switched lasers  
[NASA-CASE-LEW-12164-1] c 36 N77-32478
- Laser Resonator  
[NASA-CASE-GSC-12565-1] c 36 N84-14509
- Method and circuit for controlling the evolution time interval of a laser output pulse  
[NASA-CASE-LAR-13772-1] c 36 N89-28816
- Method and circuit for shaping laser output pulses  
[NASA-CASE-LAR-14203-1] c 36 N89-28817
- Q VALUES**  
Active RC networks  
[NASA-CASE-ARC-10042-2] c 10 N72-11256
- QUADRANTS**  
Remote object configuration/orientation determination  
[NASA-CASE-NPO-17436-1-CU] c 35 N89-13764
- QUADRATIC PROGRAMMING**  
Quadrature demodulation  
[NASA-CASE-GSC-12137-1] c 33 N78-32338
- QUADRATURES**  
Automatic quadrature control and measuring system --- using optical coupling circuitry  
[NASA-CASE-MFS-21660-1] c 35 N74-21017
- QUALITATIVE ANALYSIS**  
Ultraviolet atomic emission detector  
[NASA-CASE-HQN-10756-1] c 14 N72-25428
- Analysis of volatile organic compounds --- trace amounts of organic volatiles in gas samples  
[NASA-CASE-MSC-14428-1] c 23 N77-17161
- Fluid sample collection and distribution system --- qualitative analysis of aqueous samples from several points  
[NASA-CASE-MSC-16841-1] c 34 N79-24285
- QUANTITATIVE ANALYSIS**  
Fluid phase analyzer Patent  
[NASA-CASE-NPO-10691] c 14 N71-26199
- Apparatus for detecting the amount of material in a resonant cavity container Patent  
[NASA-CASE-XNP-02500] c 18 N71-27397
- Ultraviolet atomic emission detector  
[NASA-CASE-HQN-10756-1] c 14 N72-25428
- Nondispersive gas analyzing method and apparatus wherein radiation is serially passed through a reference and unknown gas  
[NASA-CASE-ARC-10308-1] c 06 N72-31141
- Analysis of volatile organic compounds --- trace amounts of organic volatiles in gas samples  
[NASA-CASE-MSC-14428-1] c 23 N77-17161
- Electrophotolysis oxidation system for measurement of organic concentration in water  
[NASA-CASE-MSC-16497-1] c 25 N82-12166
- Method for detecting coliform organisms  
[NASA-CASE-ARC-11322-1] c 51 N83-28849
- QUANTUM THEORY**  
III-V photocathode with nitrogen doping for increased quantum efficiency  
[NASA-CASE-NPO-12134-1] c 33 N76-31409
- QUANTUM WELLS**  
Long wavelength infrared detector  
[NASA-CASE-NPO-17543-1-CU] c 74 N89-30044
- QUARTZ**  
Ultraviolet filter  
[NASA-CASE-XNP-02340] c 23 N69-24332
- Method for attaching a fused-quartz mirror to a conductive metal substrate  
[NASA-CASE-MFS-23405-1] c 26 N77-29260
- Quartz ball valve  
[NASA-CASE-NPO-14473-1] c 37 N80-23654
- Ampoule sealing apparatus and process --- for housing a semiconductor growth charge under vacuum  
[NASA-CASE-LAR-12847-1] c 33 N83-16633
- QUARTZ LAMPS**  
High intensity heat and light unit Patent  
[NASA-CASE-XLA-00141] c 09 N70-33312
- Light shield and cooling apparatus --- high intensity ultraviolet lamp  
[NASA-CASE-LAR-10089-1] c 34 N74-23066
- QUINOXALINES**  
Polyphenylquinoxalines containing pendant phenylethynyl and ethynyl groups --- for thermoplastic resins  
[NASA-CASE-LAR-12838-1] c 27 N83-34040
- Polyphenylquinoxalines via aromatic nucleophilic displacement  
[NASA-CASE-LAR-13988-1] c 23 N89-11814
- R**
- RACKS (FRAMES)**  
Test stand system for vacuum chambers  
[NASA-CASE-MFS-21362] c 11 N73-20267



## RADAR ANTENNAS

- Thrust-isolating mounting --- characteristics of support for loads mounted in spacecraft  
[NASA-CASE-MFS-21680-1] c 18 N74-27397
- Automated syringe sampler --- remote sampling of air and water  
[NASA-CASE-LAR-12308-1] c 35 N81-29407
- Laboratory glassware rack for seismic safety  
[NASA-CASE-ARC-11422-1] c 35 N86-20751

## RADAR ANTENNAS

- Radar antenna system for acquisition and tracking Patent  
[NASA-CASE-XMS-09610] c 07 N71-24625
- Variable beamwidth antenna --- with multiple beam, variable feed system  
[NASA-CASE-GSC-11862-1] c 32 N76-18295
- Highly efficient antenna system using a corrugated horn and scanning hyperbolic reflector  
[NASA-CASE-NPO-13568-1] c 32 N76-21365
- Baseband signal combiner for large aperture antenna array  
[NASA-CASE-NPO-14641-1] c 32 N81-29308

## RADAR ATTENUATION

- FM/CW radar system  
[NASA-CASE-MFS-22234-1] c 32 N79-10264

## RADAR BEACONS

- Video processor for air traffic control beacon system  
[NASA-CASE-KSC-11155-1] c 04 N86-19304

## RADAR BEAMS

- Method and apparatus for measuring frequency and phase difference  
[NASA-CASE-MSC-20865-1] c 32 N87-18692

## RADAR CROSS SECTIONS

- Method and apparatus for sensor fusion  
[NASA-CASE-MSC-21334-1] c 32 N89-25360
- Almond test body --- for microwave anechoic chambers  
[NASA-CASE-LAR-13747-1-CU] c 32 N89-28672

## RADAR DATA

- Charge-coupled device data processor for an airborne imaging radar system  
[NASA-CASE-NPO-13587-1] c 32 N77-32342

## RADAR DETECTION

- Method and apparatus for measuring frequency and phase difference  
[NASA-CASE-MSC-20865-1] c 32 N87-18692

## RADAR ECHOES

- Charge-coupled device data processor for an airborne imaging radar system  
[NASA-CASE-NPO-13587-1] c 32 N77-32342

## RADAR EQUIPMENT

- Method and apparatus for mapping planets  
[NASA-CASE-NPO-11001] c 07 N72-21118
- FM/CW radar system  
[NASA-CASE-MFS-22234-1] c 32 N79-10264

## RADAR IMAGERY

- Method of locating persons in distress --- by using radar imagery from radar reflectors  
[NASA-CASE-LAR-11390-1] c 32 N77-21267
- Multibeam single frequency synthetic aperture radar processor for imaging separate range swaths  
[NASA-CASE-NPO-14525-1] c 32 N79-19195
- Radar target for remotely sensing hydrological phenomena  
[NASA-CASE-LAR-12344-1] c 43 N80-18498
- Real-time multiple-look synthetic aperture radar processor for spacecraft applications  
[NASA-CASE-NPO-14054-1] c 32 N82-12297
- Clutter free synthetic aperture radar correlator  
[NASA-CASE-NPO-14035-1] c 32 N83-19968
- Multibeam single frequency synthetic aperture radar processor for imaging separate range swaths  
[NASA-CASE-NPO-14525-2] c 32 N83-31918
- Method and apparatus for contour mapping using synthetic aperture radar  
[NASA-CASE-NPO-15939-1] c 43 N86-19711

## RADAR MEASUREMENT

- Thickness measurement system  
[NASA-CASE-MFS-23721-1] c 31 N79-28370

## RADAR RANGE

- Radar ranging receiver Patent  
[NASA-CASE-XNP-00748] c 07 N70-36911

## RADAR RECEIVERS

- Polarization diversity monopulse tracking receiver Patent  
[NASA-CASE-XGS-03501] c 09 N71-20864

## RADAR RECEPTION

- Radar ranging receiver Patent  
[NASA-CASE-XNP-00748] c 07 N70-36911

## RADAR REFLECTORS

- Inflatable radar reflector unit Patent  
[NASA-CASE-XMS-00893] c 07 N70-40063
- Method of locating persons in distress --- by using radar imagery from radar reflectors  
[NASA-CASE-LAR-11390-1] c 32 N77-21267

## RADAR TARGETS

- Radar target for remotely sensing hydrological phenomena  
[NASA-CASE-LAR-12344-1] c 43 N80-18498
- Synthetic aperture radar target simulator  
[NASA-CASE-NPO-15024-1] c 32 N84-27951

## RADAR TRACKING

- Tracking antenna system Patent  
[NASA-CASE-GSC-10553-1] c 07 N71-19854
- Polarization diversity monopulse tracking receiver Patent  
[NASA-CASE-XGS-03501] c 09 N71-20864
- Monopulse tracking system Patent  
[NASA-CASE-XGS-01155] c 10 N71-21483
- Radar calibration sphere  
[NASA-CASE-XLA-11154] c 07 N72-21117
- Echo tracker/range finder for radars and sonars  
[NASA-CASE-NPO-14361-1] c 32 N82-23376

## RADAR TRANSMITTERS

- High pulse rate high resolution optical radar system  
[NASA-CASE-NPO-11426] c 07 N73-26119

## RADIAL DISTRIBUTION

- Ultrasonic transducer with Gaussian radial pressure distribution  
[NASA-CASE-LAR-12967-1] c 35 N84-22932

## RADIAL FLOW

- Radial heat flux transformer  
[NASA-CASE-NPO-10828] c 33 N72-17948
- Axially and radially controllable magnetic bearing  
[NASA-CASE-GSC-11551-1] c 37 N76-18459

## RADIANCE

- Shock-layer radiation measurement  
[NASA-CASE-XAC-02970] c 14 N69-39896

## RADIANT COOLING

- Direct radiation cooling of the collector of linear beam tubes  
[NASA-CASE-XNP-09227] c 15 N69-24319
- Process for applying black coating to metals Patent  
[NASA-CASE-XLA-06199] c 15 N71-24875
- Method for attaching a fused-quartz mirror to a conductive metal substrate  
[NASA-CASE-MFS-23405-1] c 26 N77-29260
- Radiative cooler --- spacecraft radiators  
[NASA-CASE-NPO-15465-1] c 34 N84-22903
- Liquid sheet radiator apparatus  
[NASA-CASE-LEW-14295-1] c 31 N89-14348

## RADIANT FLUX DENSITY

- High intensity radiant energy pulse source having means for opening shutter when light flux has reached a desired level  
[NASA-CASE-ARC-10178-1] c 09 N72-17152
- Microwave power transmission beam safety system  
[NASA-CASE-NPO-14224-1] c 33 N80-18287

## RADIANT HEATING

- High intensity heat and light unit Patent  
[NASA-CASE-XLA-00141] c 09 N70-33312
- High temperature heat source Patent  
[NASA-CASE-XLE-00490] c 33 N70-34545
- Radiant heater having formed filaments Patent  
[NASA-CASE-XLE-00387] c 33 N70-34812
- Ceramic insulation for radiant heating environments and method of preparing the same Patent  
[NASA-CASE-MFS-14253] c 33 N71-24858
- Portable linear-focused solar thermal energy collecting system  
[NASA-CASE-NPO-13734-1] c 44 N78-10554
- High thermal power density heat transfer --- thermionic converters  
[NASA-CASE-LEW-12950-1] c 34 N82-11399

## RADIATION

- Two color horizon sensor  
[NASA-CASE-ERC-10174] c 14 N72-25409
- Irradiance measuring device  
[NASA-CASE-NPO-11493] c 14 N73-12447
- Analog to digital converter for two-dimensional radiant energy array computers  
[NASA-CASE-GSC-11839-3] c 60 N77-32731
- Memory device for two-dimensional radiant energy array computers  
[NASA-CASE-GSC-11839-2] c 60 N78-10709

## RADIATION ABSORPTION

- NDIR gas analyzer based on absorption modulation ratios for known and unknown samples  
[NASA-CASE-ARC-10802-1] c 35 N75-30502
- Method for making an aluminum or copper substrate panel for selective absorption of solar energy  
[NASA-CASE-MFS-23518-1] c 44 N79-11469
- Broadband optical radiation detector  
[US-PATENT-4,262,198] c 74 N83-19597

## RADIATION COUNTERS

- Particle detection apparatus Patent  
[NASA-CASE-XLA-00135] c 14 N70-33322
- Method and apparatus for determining satellite orientation utilizing spatial energy sources Patent  
[NASA-CASE-XGS-00466] c 21 N70-34297

Particle beam measurement apparatus using beam kinetic energy to change the heat sensitive resistance of the detection probe Patent  
[NASA-CASE-XLE-00243] c 14 N70-38602

Baseline stabilization system for ionization detector Patent  
[NASA-CASE-XNP-03128] c 10 N70-41991

Method of forming thin window drifted silicon charged particle detector Patent  
[NASA-CASE-XLE-00808] c 24 N71-10560

Dosimeter for high levels of absorbed radiation Patent  
[NASA-CASE-XLA-03645] c 14 N71-20430

Coincidence apparatus for detecting particles  
[NASA-CASE-XLA-07813] c 14 N72-17328

Radiation and particle detector and amplifier  
[NASA-CASE-NPO-12128-1] c 14 N73-32317

Coaxial anode wire for gas radiation counters  
[NASA-CASE-GSC-11492-1] c 35 N74-26949

Particle parameter analyzing system --- x-y plotter circuits and display  
[NASA-CASE-XLE-06094] c 33 N78-17293

Method and means for helium/hydrogen ratio measurement by alpha scattering  
[NASA-CASE-NPO-14079-1] c 25 N80-20334

Ion mass spectrometer  
[NASA-CASE-NPO-15423-1] c 35 N84-28016

Radionuclide counting technique for measuring wind velocity and direction  
[NASA-CASE-LAR-12971-1] c 47 N84-28292

## RADIATION DAMAGE

Semiconductor material and method of making same Patent  
[NASA-CASE-XLE-02798] c 26 N71-23654

Recovery of radiation damaged solar cells through thermal annealing  
[NASA-CASE-XGS-04047-2] c 03 N72-11062

Photomultiplier circuit including means for rapidly reducing the sensitivity thereof --- and protection from radiation damage  
[NASA-CASE-ARC-10593-1] c 33 N74-27682

Lithium counterdoped silicon solar cell  
[NASA-CASE-LEW-14177-1] c 44 N86-32875

## RADIATION DETECTORS

Penetrating radiation system for detecting the amount of liquid in a tank Patent  
[NASA-CASE-MSC-12280] c 27 N71-16348

Light detection instrument Patent  
[NASA-CASE-XGS-05534] c 23 N71-16355

Attitude sensor for space vehicles Patent  
[NASA-CASE-XLA-00793] c 21 N71-22880

Extended area semiconductor radiation detectors and a novel readout arrangement Patent  
[NASA-CASE-XGS-03230] c 14 N71-23401

Non dispersive gas analyzing method and apparatus wherein radiation is serially passed through a reference and unknown gas  
[NASA-CASE-ARC-10308-1] c 06 N72-31141

Radiant source tracker independent of nonconstant irradiance  
[NASA-CASE-NPO-11686] c 14 N73-25462

Radiation and particle detector and amplifier  
[NASA-CASE-NPO-12128-1] c 14 N73-32317

Mossbauer spectrometer radiation detector  
[NASA-CASE-LAR-11155-1] c 35 N74-15091

High field CdS detector for infrared radiation  
[NASA-CASE-LAR-11027-1] c 35 N74-16088

Flame detector operable in presence of proton radiation  
[NASA-CASE-MFS-21577-1] c 19 N74-29410

Wide angle sun sensor --- consisting of cylinder, insulation and pair of detectors  
[NASA-CASE-NPO-13327-1] c 35 N75-21910

Detector absorptivity measuring method and apparatus  
[NASA-CASE-LAR-10907-1] c 35 N76-21951

Wedge immersed thermistor bolometers  
[NASA-CASE-XGS-01245-1] c 35 N79-33449

X-ray position detector  
[NASA-CASE-NPO-12087-1] c 74 N81-19898

Broadband optical radiation detector  
[US-PATENT-4,262,198] c 74 N83-13597

Miniature spectrally selective dosimeter  
[NASA-CASE-LAR-12469-1] c 35 N83-21311

Method and apparatus for precision control of radiometer  
[NASA-CASE-NPO-15398-1] c 35 N84-22931

Double photon excitation of high-Rydberg atoms as a long-lived submillimeter detector  
[NASA-CASE-NPO-16372-1] c 72 N86-33127

Apparatus and procedure to detect a liquid-solid interface during crystal growth in a bridgman furnace  
[NASA-CASE-LAR-13597-1-CU] c 25 N87-23713

Long wavelength infrared detector  
[NASA-CASE-NPO-17543-1-CU] c 74 N89-30044

**RADIATION DISTRIBUTION**

Space simulator Patent  
[NASA-CASE-XNP-00459] c 11 N70-38675

**RADIATION DOSAGE**

Dosimeter for high levels of absorbed radiation Patent  
[NASA-CASE-XLA-03645] c 14 N71-20430  
Method for analyzing radiation sensitivity of integrated circuits  
[NASA-CASE-NPO-14350-1] c 33 N80-14332  
Miniature spectrally selective dosimeter  
[NASA-CASE-LAR-12469-1] c 35 N83-21311

**RADIATION EFFECTS**

Method of temperature compensating semiconductor strain gages Patent  
[NASA-CASE-XLA-04555-1] c 14 N71-25892

**RADIATION HARDENING**

Radiation hardening of MOS devices by boron --- for stabilizing gate threshold potential of field effect device  
[NASA-CASE-GSC-11425-1] c 76 N74-20329

**RADIATION HAZARDS**

Miniature spectrally selective dosimeter  
[NASA-CASE-LAR-12469-1] c 35 N83-21311

**RADIATION MEASUREMENT**

Irradiance measuring device  
[NASA-CASE-NPO-11493] c 14 N73-12447

**RADIATION MEASURING INSTRUMENTS**

Scanning aspect sensor employing an apertured disc and a commutator  
[NASA-CASE-XGS-08266] c 14 N69-27432  
Infrared scanner Patent  
[NASA-CASE-XLA-00120] c 21 N70-33181  
Instrument for the quantitative measurement of radiation at multiple wave lengths Patent  
[NASA-CASE-XLE-00011] c 14 N70-41946  
Method for improving the signal-to-noise ratio of the Wheatstone bridge type bolometer Patent  
[NASA-CASE-XLA-02810] c 14 N71-25901  
Irradiance measuring device  
[NASA-CASE-NPO-11493] c 14 N73-12447  
Phototransistor  
[NASA-CASE-MFS-20407] c 09 N73-19235  
Method and apparatus for measuring electromagnetic radiation  
[NASA-CASE-LEW-11159-1] c 14 N73-28488  
Compton scatter attenuation gamma ray spectrometer  
[NASA-CASE-MFS-21441-1] c 14 N73-30392  
Coaxial anode wire for gas radiation counters  
[NASA-CASE-GSC-11492-1] c 35 N74-26949  
Cloud cover sensor  
[NASA-CASE-NPO-14936-1] c 47 N83-32232

**RADIATION MEDICINE**

Method of producing I-123 --- by bombardment of cesium causing spallation  
[NASA-CASE-LEW-11390-2] c 25 N76-27383

**RADIATION PROTECTION**

Method and construction for protecting heat sensitive bodies from thermal radiation and convective heat Patent  
[NASA-CASE-XNP-01310] c 33 N71-28852  
Laser coolant and ultraviolet filter  
[NASA-CASE-MFS-20180] c 16 N72-12440  
Photomultiplier circuit including means for rapidly reducing the sensitivity thereof --- and protection from radiation damage  
[NASA-CASE-ARC-10593-1] c 33 N74-27682  
Sun shield  
[NASA-CASE-MSC-20162-1] c 37 N87-17036  
Hazards protection for space suits and spacecraft  
[NASA-CASE-MSC-21366-1] c 54 N89-12206

**RADIATION SHIELDING**

Ion thruster cathode Patent Application  
[NASA-CASE-LEW-10814-1] c 28 N70-35422  
Ionization vacuum gauge with all but the end of the ion collector shielded Patent  
[NASA-CASE-XLA-07424] c 14 N71-18482  
Sealed cabinetry Patent  
[NASA-CASE-MSC-12168-1] c 09 N71-18600  
Propellant feed isolator Patent  
[NASA-CASE-LEW-10210-1] c 28 N71-26781  
Zero gravity shadow shield aligner  
[NASA-CASE-KSC-10622-1] c 31 N72-21893  
Light shield and cooling apparatus --- high intensity ultraviolet lamp  
[NASA-CASE-LAR-10089-1] c 34 N74-23066

**RADIATION SOURCES**

Sight switch using an infrared source and sensor Patent  
[NASA-CASE-XMF-03934] c 09 N71-22985  
Apparatus for obtaining isotropic irradiation of a specimen  
[NASA-CASE-MFS-20095] c 24 N72-11595  
Radiant source tracker independent of nonconstant irradiance  
[NASA-CASE-NPO-11686] c 14 N73-25462

High powered arc electrodes --- producing solar simulator radiation  
[NASA-CASE-LEW-11162-1] c 33 N74-12913

Electric arc light source having undercut recessed anode  
[NASA-CASE-ARC-10266-1] c 33 N75-29318

**RADIATION SPECTRA**

Maksutov spectrograph Patent  
[NASA-CASE-XLA-10402] c 14 N71-29041

**RADIATION THERAPY**

Cervix-to-rectum measuring device in a radiation applicator for use in the treatment of cervical cancer  
[NASA-CASE-GSC-12081-2] c 52 N82-22875

**RADIATION TOLERANCE**

Alkali-metal silicate protective coating  
[NASA-CASE-XGS-04119] c 18 N69-39979  
Method of making a silicon semiconductor device Patent  
[NASA-CASE-XLE-02792] c 26 N71-10607

Radiation resistant silicon semiconductor devices Patent  
[NASA-CASE-XGS-07801] c 09 N71-12513

Radiation hardening of MOS devices by boron --- for stabilizing gate threshold potential  
[NASA-CASE-GSC-11425-2] c 76 N75-25730  
Method for analyzing radiation sensitivity of integrated circuits  
[NASA-CASE-NPO-14350-1] c 33 N80-14332

Lithium counterdoped silicon solar cell  
[NASA-CASE-LEW-14177-1] c 44 N86-32875

**RADIATIVE HEAT TRANSFER**

Heat flux sensor assembly  
[NASA-CASE-XMS-05909-1] c 14 N69-27459  
Capillary radiator Patent  
[NASA-CASE-XLE-03307] c 33 N71-14035  
Transient heat transfer gauge Patent  
[NASA-CASE-XNP-09802] c 33 N71-15641  
Construction and method of arranging a plurality of ion engines to form a cluster Patent  
[NASA-CASE-XNP-02923] c 28 N71-23081  
Apparatus and method for heating a material in a transparent ampoule --- crystal growth  
[NASA-CASE-MFS-25436-1] c 27 N83-36220

**RADIATORS**

Self-adjusting multisegment, deployable, natural circulation radiator Patent  
[NASA-CASE-XHQ-03673] c 33 N71-29046

**RADIO ANTENNAS**

Parasitic probe antenna Patent  
[NASA-CASE-XKS-09348] c 09 N71-13521  
VHF/UHF parasitic probe antenna Patent  
[NASA-CASE-XKS-09340] c 07 N71-24614  
Unfurlable structure including coiled strips thrust launched upon tension release Patent  
[NASA-CASE-HQN-00937] c 07 N71-28979  
Highly efficient antenna system using a corrugated horn and scanning hyperbolic reflector  
[NASA-CASE-NPO-13568-1] c 32 N76-21365  
Switched steerable multiple beam antenna system  
[NASA-CASE-MSC-20873-1-SB] c 32 N89-11961  
Antenna surface contour control system  
[NASA-CASE-LAR-13798-1] c 32 N89-25363

**RADIO ASTRONOMY**

Millimeter wave radiometer for radio astronomy Patent  
[NASA-CASE-XNP-09832] c 30 N71-23723

**RADIO BEACONS**

RF beam center location method and apparatus for power transmission system  
[NASA-CASE-NPO-13821-1] c 44 N78-28594  
Legislated emergency locating transmitters and emergency position indicating radio beacons  
[NASA-CASE-GSC-12892-1] c 32 N89-14374

**RADIO COMMUNICATION**

System for synchronizing synthesizers of communication systems  
[NASA-CASE-GSC-12148-1] c 32 N79-20296  
Antimultipath communication by injecting tone into null in signal spectrum  
[NASA-CASE-NPO-16414-1-CU] c 32 N87-25511

**RADIO CONTROL**

RF controlled solid state switch  
[NASA-CASE-ARC-10136-1] c 09 N72-22202  
Timing control system  
[NASA-CASE-NPO-16882-1-CU] c 33 N88-24863

**RADIO EQUIPMENT**

System for synchronizing synthesizers of communication systems  
[NASA-CASE-GSC-12148-1] c 32 N79-20296

**RADIO FREQUENCIES**

Helical coaxial resonator RF filter  
[NASA-CASE-XGS-02816] c 07 N69-24323  
Automatic gain control system  
[NASA-CASE-XMS-05307] c 09 N69-24330  
Radio frequency shielded enclosure Patent  
[NASA-CASE-XMF-09422] c 07 N71-19436

Automatic frequency discriminators and control for a phase-lock loop providing frequency preset capabilities Patent  
[NASA-CASE-XMF-08665] c 10 N71-19467

Sidereal frequency generator Patent  
[NASA-CASE-XGS-02610] c 14 N71-23174

Radio frequency coaxial high pass filter Patent  
[NASA-CASE-XGS-01418] c 09 N71-23573

Variable frequency nuclear magnetic resonance spectrometer Patent  
[NASA-CASE-XNP-09830] c 14 N71-26266

Signal path series step biased multidevice high efficiency amplifier Patent  
[NASA-CASE-GSC-10668-1] c 07 N71-28430

Method and apparatus for sputtering utilizing an apertured electrode and a pulsed substrate bias  
[NASA-CASE-LEW-10920-1] c 17 N73-24569

RF-source resistance meters  
[NASA-CASE-NPO-11291-1] c 14 N73-30388

Multichannel logarithmic RF level detector  
[NASA-CASE-LAR-11021-1] c 32 N76-14321

Ion and electron detector for use in an ICR spectrometer  
[NASA-CASE-NPO-13479-1] c 35 N77-10492

Radio frequency arraying method for receivers  
[NASA-CASE-NPO-14328-1] c 32 N80-18253

Precise RF timing signal distribution to remote stations --- fiber optics  
[NASA-CASE-NPO-14749-1] c 32 N81-14186

Hyperthermia heating apparatus --- cancer therapy  
[NASA-CASE-NPO-14549-2] c 52 N82-33996

High stability buffered phase comparator  
[NASA-CASE-GSC-12645-1] c 33 N84-16454

Linearized travelling wave amplifier with hard limiter characteristics  
[NASA-CASE-LEW-13981-2] c 33 N86-21742

Precision tunable resonant microwave cavity  
[NASA-CASE-LEW-13935-1] c 33 N87-21234

Antimultipath communication by injecting tone into null in signal spectrum  
[NASA-CASE-NPO-16414-1-CU] c 32 N87-25511

Radio Frequency (RF) strain monitor  
[NASA-CASE-LAR-13705-1] c 39 N88-25011

**RADIO FREQUENCY DISCHARGE**  
Electric discharge for treatment of trace contaminants  
[NASA-CASE-ARC-10975-1] c 33 N79-15245

**RADIO FREQUENCY HEATING**  
Gyrottron transmitting tube  
[NASA-CASE-LEW-13429-1] c 33 N83-31952

**RADIO FREQUENCY INTERFERENCE**  
Parametric microwave noise generator Patent  
[NASA-CASE-XER-11019] c 09 N71-23598

System for interference signal nulling by polarization adjustment  
[NASA-CASE-NPO-13140-1] c 32 N75-24982

Systems and methods for determining radio frequency interference  
[NASA-CASE-GSC-12150-1] c 32 N79-11265

Apparatus and method for determining the position of a radiant energy source  
[NASA-CASE-GSC-12147-1] c 32 N81-27341

Method and apparatus for measuring distance  
[NASA-CASE-MSC-20912-1] c 32 N88-26568

**RADIO FREQUENCY SHIELDING**  
Shielded cathode mode bulk effect devices  
[NASA-CASE-ERC-10119] c 26 N72-21701

Process for making RF shielded cable connector assemblies and the products formed thereby  
[NASA-CASE-GSC-11215-1] c 09 N73-28083

**RADIO INTERFEROMETERS**  
System for real-time crustal deformation monitoring  
[NASA-CASE-NPO-14124-1] c 46 N80-14603

**RADIO PROBING**  
Method and apparatus for calibrating the ionosphere and application to surveillance of geophysical events  
[NASA-CASE-NPO-15430-1] c 46 N85-21846

**RADIO RECEIVERS**  
Multiple input radio receiver Patent  
[NASA-CASE-XLA-00901] c 07 N71-10775

Optimum predetection diversity receiving system Patent  
[NASA-CASE-XGS-00740] c 07 N71-23098

Radio frequency arraying method for receivers  
[NASA-CASE-NPO-14328-1] c 32 N80-18253

Interferometric locating system  
[NASA-CASE-NPO-14173-1] c 04 N80-32359

**RADIO RELAY SYSTEMS**  
Satellite communication system Patent  
[NASA-CASE-XNP-02389] c 07 N71-28900

Systems and methods for determining radio frequency interference  
[NASA-CASE-GSC-12150-1] c 32 N79-11265

**RADIO SIGNALS**  
Passive communication satellite Patent  
[NASA-CASE-XLA-00210] c 30 N70-40309

Millimeter wave radiometer for radio astronomy Patent  
[NASA-CASE-XNP-09832] c 30 N71-23723

**RADIO SOURCES (ASTRONOMY)**  
Conical scan tracking system employing a large antenna  
[NASA-CASE-NPO-14009-1] c 32 N79-13214

**RADIO STARS**  
Sidereal frequency generator Patent  
[NASA-CASE-XGS-02610] c 14 N71-23174

**RADIO TELEMETRY**  
Digital telemetry system Patent  
[NASA-CASE-XGS-01812] c 07 N71-23001

**RADIO TELESCOPES**  
Antenna grout replacement system  
[NASA-CASE-NPO-15202-1] c 27 N83-34043

**RADIO TRANSMITTERS**  
Vehicle locating system utilizing AM broadcasting station carriers  
[NASA-CASE-NPO-13217-1] c 32 N75-26194  
Aircraft-mounted crash-activated transmitter device  
[NASA-CASE-MFS-16609-3] c 03 N76-32140  
Low-frequency radio navigation system  
[NASA-CASE-NPO-15264-1] c 04 N84-27713  
Antimultipath communication by injecting tone into null in signal spectrum  
[NASA-CASE-NPO-16414-1-CU] c 32 N87-25511

**RADIO WAVES**  
Shielded cathode mode bulk effect devices  
[NASA-CASE-ERC-10119] c 26 N72-21701

**RADIOACTIVE ISOTOPES**  
Thermally cascaded thermoelectric generator  
[NASA-CASE-NPO-10753] c 03 N72-26031  
Protected isotope heat source --- for atmospheric reentry protection and heat transmission to spacecraft  
[NASA-CASE-LEW-11227-1] c 73 N75-30876  
Radionuclide counting technique for measuring wind velocity and direction  
[NASA-CASE-LAR-12971-1] c 47 N84-28292

**RADIOBIOLOGY**  
Production of high purity I-123  
[NASA-CASE-LEW-10518-1] c 24 N72-33681

**RADIOGRAPHY**  
Determination of spot weld quality Patent  
[NASA-CASE-XNP-02588] c 15 N71-18613  
Method and system for in vivo measurement of bone tissue using a two level energy source  
[NASA-CASE-MSC-14276-1] c 52 N77-14737  
Medical clip  
[NASA-CASE-LAR-12650-1] c 52 N84-28388  
Process of making medical clip  
[NASA-CASE-LAR-12650-2] c 52 N84-28389  
X-ray determination of parts alignment  
[NASA-CASE-MSC-20418-1] c 74 N86-20126  
Method of radiographic inspection of wooden members  
[NASA-CASE-LAR-13724-1] c 38 N88-23983

**RADIOLOGY**  
Hyperthermia heating apparatus --- cancer therapy  
[NASA-CASE-NPO-14549-2] c 52 N82-33996

**RADIOLYSIS**  
Process for making anhydrous metal halides  
[NASA-CASE-LEW-11860-1] c 37 N76-18458

**RADIOMETERS**  
Compensating radiometer  
[NASA-CASE-XLA-04556] c 14 N69-27484  
Conically shaped cavity radiometer with a dual purpose cone winding Patent  
[NASA-CASE-XNP-09701] c 14 N71-26475  
Black body cavity radiometer Patent  
[NASA-CASE-NPO-10810] c 14 N71-27323  
Thermoelectric radiometer utilizing polymer film  
[NASA-CASE-ARC-10138-1] c 14 N72-24477  
Two color horizon sensor  
[NASA-CASE-ERC-10174] c 14 N72-25409  
Clear air turbulence detector  
[NASA-CASE-ERC-10081] c 14 N72-28437  
Method and apparatus for measuring solar activity and atmospheric radiation effects  
[NASA-CASE-ERC-10276] c 14 N73-26432  
Steady state thermal radiometers  
[NASA-CASE-MFS-21108-1] c 34 N74-27861  
Method and apparatus for precision control of radiometer  
[NASA-CASE-NPO-15398-1] c 35 N84-22931

**RADIOSONDES**  
Induction powered biological radiosonde  
[NASA-CASE-ARC-11120-1] c 52 N80-18691

**RAIN**  
Precipitation detector Patent  
[NASA-CASE-XLA-02619] c 10 N71-26334  
Environmental fog/rain visual display system for aircraft simulators  
[NASA-CASE-ARC-11158-1] c 09 N82-24212

**RAMJET ENGINES**  
Telescoping-spike supersonic inlet for aircraft engines Patent  
[NASA-CASE-XLE-00005] c 28 N70-39899  
Hypersonic airbreathing missile  
[NASA-CASE-LAR-12264-1] c 15 N78-32168

**RAMPS (STRUCTURES)**  
Automated multi-level vehicle parking system  
[NASA-CASE-NPO-13058-1] c 37 N77-22480

**RANDOM ACCESS MEMORY**  
Memory-based frame synchronizer --- for digital communication systems  
[NASA-CASE-GSC-12430-1] c 60 N82-16747  
Memory-based parallel data output controller  
[NASA-CASE-GSC-12447-2] c 60 N84-26491  
Hybrid analog-digital associative neural network  
[NASA-CASE-NPO-17058-1-CU] c 62 N87-25803

**RANDOM LOADS**  
Fatigue testing device Patent  
[NASA-CASE-XLA-02131] c 32 N70-42003

**RANDOM NOISE**  
Noise limiter Patent  
[NASA-CASE-NPO-10169] c 10 N71-24844  
Digital servo control of random sound test excitation --- in reverberant acoustic chamber  
[NASA-CASE-NPO-11623-1] c 71 N74-31148  
Random pulse generator  
[NASA-CASE-MSC-14131-1] c 33 N75-19515  
Pseudo noise code and data transmission method and apparatus  
[NASA-CASE-GSC-12017-1] c 32 N77-30308  
Low phase noise oscillator using two parallel connected amplifiers  
[NASA-CASE-GSC-13018-1] c 33 N87-21232

**RANGE (EXTREMES)**  
Logarithmic circuit with wide dynamic range  
[NASA-CASE-GSC-12145-1] c 33 N78-32339

**RANGE AND RANGE RATE TRACKING**  
Range and range rate system  
[NASA-CASE-MSC-20867-1] c 36 N88-24958

**RANGE FINDERS**  
Closed loop ranging system Patent  
[NASA-CASE-XNP-01501] c 21 N70-41930  
Digital demodulator-correlator  
[NASA-CASE-NPO-13982-1] c 32 N79-14267  
Echo tracker/range finder for radars and sonars  
[NASA-CASE-NPO-14361-1] c 32 N82-23376  
Ranging system which compares an object reflected component of a light beam to a reference component of the light beam  
[NASA-CASE-NPO-15865-1] c 74 N85-34629  
Optical distance measuring instrument  
[NASA-CASE-GSC-12761-1] c 74 N86-32266

**RANGEFINDING**  
Dynamic Doppler simulator Patent  
[NASA-CASE-XMS-05454-1] c 07 N71-12391  
Ranging system Patent  
[NASA-CASE-NPO-10066] c 09 N71-18598  
Binary coded sequential acquisition ranging system  
[NASA-CASE-NPO-11194] c 08 N72-25209  
Code regenerative clean-up loop transponder for a multi-type ranging system  
[NASA-CASE-NPO-11707] c 07 N73-25161  
Orbital and entry tracking accessory for globes --- to provide range requirements for reentry vehicles to any landing site  
[NASA-CASE-LAR-10626-1] c 19 N74-21015

**RARE EARTH COMPOUNDS**  
Didymium hydrate additive to nickel hydroxide electrodes Patent  
[NASA-CASE-XGS-03505] c 03 N71-10608  
High modulus rare earth and beryllium containing silicate glass compositions --- for glass reinforcing fibers  
[NASA-CASE-HQN-10595-1] c 27 N82-29455

**RARE GASES**  
Inert gas metallic vapor laser  
[NASA-CASE-NPO-13449-1] c 36 N75-32441  
Fluidized bed desulfurization  
[NASA-CASE-NPO-15924-1] c 25 N85-35253  
Low noise lead screw positioner  
[NASA-CASE-NPO-15617-1] c 35 N87-21304

**REFINED GASES**  
Magnetically controlled plasma accelerator Patent  
[NASA-CASE-XLA-00327] c 25 N71-29184

**RATES (PER TIME)**  
Rate data encoder  
[NASA-CASE-LAR-10128-1] c 08 N73-20217  
Ranging system which compares an object reflected component of a light beam to a reference component of the light beam  
[NASA-CASE-NPO-15865-1] c 74 N85-34629

**RC CIRCUITS**  
Pulse counting circuit which simultaneously indicates the occurrence of the nth pulse Patent  
[NASA-CASE-XMF-00906] c 09 N70-41655

RC rate generator for slow speed measurement Patent  
[NASA-CASE-XMF-02966] c 10 N71-24863  
Transient augmentation circuit for pulse amplifiers Patent  
[NASA-CASE-XNP-01068] c 10 N71-28739  
Active RC networks  
[NASA-CASE-ARC-10042-2] c 10 N72-11256  
RC networks and amplifiers employing the same  
[NASA-CASE-XAC-05462-2] c 10 N72-17171  
Active RC networks  
[NASA-CASE-ARC-10020] c 10 N72-17172  
Multiloop RC active filter apparatus having low parameter sensitivity with low amplifier gain  
[NASA-CASE-ARC-10192] c 09 N72-21245  
Temperature control system with a pulse width modulated bridge  
[NASA-CASE-NPO-11304] c 14 N73-26430  
Diode-quad bridge circuit means  
[NASA-CASE-ARC-10364-3] c 33 N75-19520

**REACTION BONDING**  
Fiber reinforced ceramic material  
[NASA-CASE-LEW-14392-2] c 27 N89-29538

**REACTION CONTROL**  
Voice operated controller Patent  
[NASA-CASE-XLA-04063] c 31 N71-33160

**REACTION KINETICS**  
Synthesis of polyformals  
[NASA-CASE-ARC-11244-1] c 23 N82-16174

**REACTION PRODUCTS**  
Process for crosslinking and extending conjugated diene-containing polymers  
[NASA-CASE-LAR-13452-1] c 27 N87-22848

**REACTION TIME**  
Pseudonoise code tracking loop  
[NASA-CASE-MSC-18035-1] c 32 N81-15179

**REACTION WHEELS**  
Reaction wheel scanner Patent  
[NASA-CASE-XGS-02629] c 14 N71-21082  
Gravity gradient attitude control system Patent  
[NASA-CASE-GSC-10555-1] c 21 N71-27324  
Emitted vibration measurement device and method  
[NASA-CASE-MFS-25981-1] c 35 N87-14670

**REACTIVITY**  
Gaseous control system for nuclear reactors  
[NASA-CASE-XLE-04599] c 22 N72-20597

**REACTOR CORES**  
Uninsulated in-core thermionic diode  
[NASA-CASE-NPO-10542] c 09 N72-27228

**REACTOR DESIGN**  
Non-equilibrium radiation nuclear reactor  
[NASA-CASE-HQN-10841-1] c 73 N78-19920  
Thermal reactor --- liquid silicon production from silane gas  
[NASA-CASE-NPO-14369-1] c 44 N83-10501

**REACTOR MATERIALS**  
Zirconium modified nickel-copper alloy  
[NASA-CASE-LEW-12245-1] c 26 N77-20201

**REACTOR PHYSICS**  
Non-equilibrium radiation nuclear reactor  
[NASA-CASE-HQN-10841-1] c 73 N78-19920

**READ-ONLY MEMORY DEVICES**  
Method and apparatus for operating on compacted PCM voice data  
[NASA-CASE-KSC-11285-1] c 32 N86-27513

**READERS**  
Braille reading system  
[NASA-CASE-LAR-13306-1] c 82 N87-29372

**READOUT**  
Flow angle sensor and read out system Patent  
[NASA-CASE-XLE-04503] c 14 N71-24864  
Plural position switch status and operativeness checker Patent  
[NASA-CASE-XLA-08799] c 10 N71-27272  
Magneto-optic detection system with noise cancellation  
[NASA-CASE-NPO-11954-1] c 35 N78-29421

**REAGENTS**  
Method of dispensing reagent chemicals in space  
[NASA-CASE-LAR-13607-1-CU] c 29 N88-29048

**REAL TIME OPERATION**  
Respiratory analysis system and method  
[NASA-CASE-MSC-13436-1] c 05 N73-32015  
Real time moving scene holographic camera system  
[NASA-CASE-MFS-21087-1] c 35 N74-17113  
Real time, large volume, moving scene holographic camera system  
[NASA-CASE-MFS-22537-1] c 35 N75-27328  
Carbon monoxide monitor --- using real time operation  
[NASA-CASE-MFS-22060-1] c 35 N75-29380  
Real time analysis of voiced sounds  
[NASA-CASE-NPO-13465-1] c 32 N76-31372  
Real time reflectometer --- measurement of specular reflectance  
[NASA-CASE-MFS-23118-1] c 35 N77-31465

- Contour detector and data acquisition system for the left ventricular outline  
[NASA-CASE-ARC-10985-1] c 52 N79-10724
- Azimuth correlator for real-time synthetic aperture radar image processing  
[NASA-CASE-NPO-14019-1] c 32 N79-14268
- System for real-time crustal deformation monitoring  
[NASA-CASE-NPO-14124-1] c 46 N80-14603
- X-ray position detector  
[NASA-CASE-NPO-12087-1] c 74 N81-19898
- Real-time multiple-look synthetic aperture radar processor for spacecraft applications  
[NASA-CASE-NPO-14054-1] c 32 N82-12297
- Pipelined digital SAR azimuth correlator using hybrid FFT-transversal filter  
[NASA-CASE-NPO-15519-1] c 32 N84-34651
- Optical stereo video signal processor  
[NASA-CASE-MFS-25752-1] c 74 N86-21348
- Real-time garbage collection for list processing  
[NASA-CASE-MSC-20964-1] c 60 N87-14863
- Real-time optical multiple object recognition and tracking system and method  
[NASA-CASE-NPO-17139-1-CU] c 74 N88-25301
- Real-time image difference detection using a polarization rotation spatial light modulator  
[NASA-CASE-NPO-17144-1-CU] c 74 N88-25305
- Remotely controllable real-time optical processor  
[NASA-CASE-NPO-16750-1-CU] c 74 N89-14078
- REATTACHED FLOW**  
Method and apparatus for detecting laminar flow separation and reattachment  
[NASA-CASE-LAR-13952-1-SB] c 34 N88-24910
- REBREATHING**  
Portable breathing system --- a breathing apparatus using a rebreathing system of heat exchangers for carbon dioxide removal  
[NASA-CASE-MSC-16182-1] c 54 N80-10799
- RECEIVERS**  
System for improving signal-to-noise ratio of a communication signal Patent Application  
[NASA-CASE-MSC-12259-1] c 07 N70-12616
- Receiver with an improved phase lock loop in a multichannel telemetry system with suppressed carrier  
[NASA-CASE-NPO-11593-1] c 07 N73-28012
- Automatic carrier acquisition system  
[NASA-CASE-NPO-11628-1] c 07 N73-30113
- Coherent receiver employing nonlinear coherence detection for carrier tracking  
[NASA-CASE-NPO-11921-1] c 32 N74-30523
- Low distortion receiver for bi-level baseband PCM waveforms  
[NASA-CASE-MSC-14557-1] c 32 N76-16249
- Wideband heterodyne receiver for laser communication system  
[NASA-CASE-GSC-12053-1] c 32 N77-28346
- Self-calibrating threshold detector  
[NASA-CASE-MSC-16370-1] c 35 N81-19427
- Method and apparatus for receiving and tracking phase modulated signals  
[NASA-CASE-MSC-16170-2] c 32 N84-27952
- Method of measuring sea surface water temperature with a satellite including wideband passive synthetic-aperture multichannel receiver  
[NASA-CASE-NPO-15651-1] c 43 N85-21723
- High dynamic global positioning system receiver  
[NASA-CASE-NPO-16171-1-CU] c 04 N86-27270
- RECIPROCACTION**  
Reciprocating magnetic refrigerator employing tandem porous matrices within a reciprocating displacer  
[NASA-CASE-NPO-16257-1] c 31 N85-29082
- Reciprocating linear motor  
[NASA-CASE-GSC-12773-2] c 33 N87-23904
- RECOMBINATION REACTIONS**  
Oxygen recombination in individual pressure vessel nickel-hydrogen batteries  
[NASA-CASE-LEW-13822-1] c 44 N86-25874
- RECONSTRUCTION**  
Method and means for recording and reconstructing holograms without use of a reference beam Patent  
[NASA-CASE-ERC-10020] c 16 N71-26154
- RECORDING HEADS**  
Electromagnetic transducer recording head having a laminated core section and tapered gap  
[NASA-CASE-NPO-10711-1] c 35 N77-21392
- RECORDING INSTRUMENTS**  
Automatic force measuring system Patent  
[NASA-CASE-XLA-02605] c 14 N71-10773
- Blood pressure measuring system for separating and separately recording dc signal and an ac signal Patent  
[NASA-CASE-XMS-06061] c 05 N71-23317
- Helical recorder arrangement for multiple channel recording on both sides of the tape  
[NASA-CASE-GSC-10614-1] c 09 N72-11224
- Thermomagnetic recording and magneto-optic playback system having constant intensity laser beam control  
[NASA-CASE-NPO-11317-2] c 36 N74-13205
- Holography utilizing surface plasmon resonances  
[NASA-CASE-MFS-22040-1] c 35 N74-26946
- Measuring probe position recorder  
[NASA-CASE-LAR-10806-1] c 35 N74-32877
- RECOVERABILITY**  
Ejectable underwater sound source recovery assembly  
[NASA-CASE-LAR-10595-1] c 35 N74-16135
- RECOVERABLE LAUNCH VEHICLES**  
Recoverable rocket vehicle Patent  
[NASA-CASE-XMF-00389] c 31 N70-34176
- Oribter/launch system  
[NASA-CASE-LAR-12250-1] c 14 N81-26161
- RECOVERABLE SPACECRAFT**  
Space capsule ejection assembly Patent  
[NASA-CASE-XMF-03169] c 31 N71-15675
- RECOVERY PARACHUTES**  
Vehicle parachute and equipment jettison system Patent  
[NASA-CASE-XLA-00195] c 02 N70-38009
- Vortex breech high pressure gas generator  
[NASA-CASE-LAR-10549-1] c 31 N73-13898
- RECTANGULAR PANELS**  
Stacked solar cell arrays  
[NASA-CASE-NPO-11771] c 03 N73-20040
- Composite sandwich lattice structure  
[NASA-CASE-LAR-11898-1] c 24 N78-10214
- RECTIFIERS**  
Thin window, drifted silicon, charged particle detector  
[NASA-CASE-XLE-10529] c 14 N69-23191
- Power control circuit  
[NASA-CASE-XNP-02713] c 10 N69-39888
- Precision rectifier with FET switching means Patent  
[NASA-CASE-ARC-10101-1] c 09 N71-33109
- SCR lamp driver  
[NASA-CASE-GSC-10221-1] c 09 N72-23171
- A dc to ac to dc converter having transistor synchronous rectifiers  
[NASA-CASE-GSC-11126-1] c 09 N72-25253
- Elimination of current spikes in buck power converters  
[NASA-CASE-NPO-14505-1] c 33 N81-19393
- RECTUM**  
Cervix-to-rectum measuring device in a radiation applicator for use in the treatment of cervical cancer  
[NASA-CASE-GSC-12081-2] c 52 N82-22875
- REDOX CELLS**  
Catalyst surfaces for the chromous/chromic redox couple  
[NASA-CASE-LEW-13148-2] c 44 N81-29524
- Zirconium carbide as an electrocatalyst for the chromous-chromic redox couple  
[NASA-CASE-LEW-13246-1] c 44 N83-27344
- Chromium electrodes for REDOX cells  
[NASA-CASE-LEW-13653-1] c 44 N84-28205
- Negative electrode catalyst for the iron chromium redox energy storage system  
[NASA-CASE-LEW-14028-1] c 44 N86-19721
- Method and apparatus for rebalancing a REDOX flow cell system  
[NASA-CASE-LEW-14127-1] c 33 N86-20680
- REDUCED GRAVITY**  
Reduced gravity liquid configuration simulator  
[NASA-CASE-XLE-02624] c 12 N69-39988
- Mass measuring system Patent  
[NASA-CASE-XMS-03371] c 05 N70-42000
- Reduced gravity simulator Patent  
[NASA-CASE-XLA-01787] c 11 N71-16028
- Restraint system for ergometer  
[NASA-CASE-MFS-21046-1] c 14 N73-27377
- Method of forming frozen spheres in a force-free drop tower  
[NASA-CASE-NPO-14845-1] c 27 N82-28442
- Spray applicator for spraying coatings and other fluids in space  
[NASA-CASE-MSC-18852-1] c 37 N85-29283
- Improved method and apparatus for waste collection and storage  
[NASA-CASE-MSC-21025-1] c 31 N87-25495
- Acoustic convective system  
[NASA-CASE-NPO-17278-1-CU] c 31 N88-24818
- Gas particle radiator  
[NASA-CASE-LEW-14297-1] c 35 N89-12048
- Tank gauging apparatus and method  
[NASA-CASE-MSC-21059-1] c 35 N89-12843
- Don/doff support stand for use with rear entry space suits  
[NASA-CASE-MSC-21364-1] c 54 N89-13889
- Spiral vane bioreactor  
[NASA-CASE-MSC-21361-1] c 51 N89-25557
- Hollow fiber clinostat: Technical abstract  
[NASA-CASE-MFS-28370-1] c 35 N89-28793
- REDUCTION**  
Method and apparatus for reducing speckle  
[NASA-CASE-LAR-13771-1] c 36 N89-14428
- REDUCTION (CHEMISTRY)**  
Production of metal powders  
[NASA-CASE-XLE-06461] c 17 N72-22530
- Process for making anhydrous metal halides  
[NASA-CASE-LEW-11860-1] c 37 N76-18458
- Curable liquid hydrocarbon prepolymers containing hydroxyl groups and process for producing same  
[NASA-CASE-NPO-13137-1] c 27 N80-32514
- Hydrodesulfurization of chlorinated coal  
[NASA-CASE-NPO-15304-1] c 25 N83-31743
- REDUNDANCY**  
Reconfiguring redundancy management  
[NASA-CASE-MSC-18498-1] c 60 N82-29013
- REDUNDANT COMPONENTS**  
Redundant memory organization Patent  
[NASA-CASE-GSC-10564] c 10 N71-29135
- Redundant disc  
[NASA-CASE-LEW-12496-1] c 07 N78-33101
- Redundant motor drive system  
[NASA-CASE-MFS-23777-1] c 37 N80-32716
- Redundant operation of counter modules  
[NASA-CASE-NPO-14162-1] c 60 N81-15706
- REELS**  
Method and apparatus for measuring web material wound on a reel  
[NASA-CASE-GSC-11902-1] c 38 N77-17495
- Rotatable electric cable connecting system  
[NASA-CASE-GSC-12899-1] c 33 N86-20669
- REENTRY COMMUNICATION**  
Electrostatic plasma modulator for space vehicle re-entry communication Patent  
[NASA-CASE-XLA-01400] c 07 N70-41331
- Means for communicating through a layer of ionized gases Patent  
[NASA-CASE-XLA-01127] c 07 N70-41372
- Reentry communication by material addition Patent  
[NASA-CASE-XLA-01552] c 07 N71-11284
- REENTRY SHIELDING**  
Transpirationally cooled heat ablation system Patent  
[NASA-CASE-XMS-02677] c 31 N70-42075
- Method and apparatus for making a heat insulating and ablative structure Patent  
[NASA-CASE-XMS-02009] c 33 N71-20834
- Stand-off type ablative heat shield  
[NASA-CASE-MSC-12143-1] c 33 N72-17947
- Protected isotope heat source --- for atmospheric reentry protection and heat transmission to spacecraft  
[NASA-CASE-LEW-11227-1] c 73 N75-30876
- Fibrous refractory composite insulation --- shielding reusable spacecraft  
[NASA-CASE-ARC-11169-1] c 24 N79-24062
- Adjustable high emittance gap filler --- reentry shielding for space shuttle vehicles  
[NASA-CASE-ARC-11310-1] c 27 N82-24339
- Method for repair of thin glass coatings --- on space shuttle orbiter tiles  
[NASA-CASE-KSC-11097-1] c 27 N82-33520
- Ceramic-ceramic shell tile thermal protection system and method thereof  
[NASA-CASE-ARC-11641-1] c 24 N88-18628
- REENTRY TRAJECTORIES**  
Hypersonic reentry vehicle Patent  
[NASA-CASE-XMS-04142] c 31 N70-41631
- REENTRY VEHICLES**  
Reentry vehicle leading edge Patent  
[NASA-CASE-XLA-00165] c 31 N70-33242
- Variable-geometry winged reentry vehicle Patent  
[NASA-CASE-XLA-00241] c 31 N70-37986
- Telespectrograph Patent  
[NASA-CASE-XLA-03273] c 14 N71-18699
- Ablation sensor Patent  
[NASA-CASE-XLA-01791] c 14 N71-22991
- Ring wing tension vehicle Patent  
[NASA-CASE-XLA-04901] c 31 N71-24315
- Ferry system  
[NASA-CASE-LAR-10574-1] c 11 N73-13257
- Vortex breech high pressure gas generator  
[NASA-CASE-LAR-10549-1] c 31 N73-13898
- Three-component ceramic coating for silica insulation  
[NASA-CASE-MSC-14270-2] c 27 N76-23426
- Earth-to-orbit vehicle providing a reusable orbital stage and method of utilizing same  
[NASA-CASE-LAR-13486-1] c 16 N87-29582
- REFERENCE SYSTEMS**  
Automatic frequency control loop including synchronous switching circuits  
[NASA-CASE-KSC-10393] c 09 N72-21247
- Magnetic heading reference  
[NASA-CASE-LAR-11387-2] c 04 N77-19056
- REFINING**  
Helium refining by superfluidity Patent  
[NASA-CASE-XNP-00733] c 06 N70-34946
- REFLECTANCE**  
Optical characteristics measuring apparatus Patent  
[NASA-CASE-XNP-08840] c 23 N71-16365
- Gravimeter Patent  
[NASA-CASE-XMF-05844] c 14 N71-17587
- Optical mirror apparatus Patent  
[NASA-CASE-ERC-10001] c 23 N71-24868

- Portable reflectance spectrometer  
[NASA-CASE-NPO-13556-1] c 35 N84-33766  
Diffusely reflecting paints including  
polytetrafluoroethylene and method of manufacture  
[NASA-CASE-GSC-12883-1] c 27 N85-29044  
Wide-angle flat field telescope  
[NASA-CASE-GSC-12825-1] c 74 N86-28732
- REFLECTED WAVES**  
Device and method for determining X ray reflection  
efficiency of optical surfaces  
[NASA-CASE-MFS-20243] c 23 N73-13662  
Clear air turbulence detector  
[NASA-CASE-MFS-21244-1] c 36 N75-15028  
Reflected-wave maser --- low noise amplifier  
[NASA-CASE-NPO-13490-1] c 36 N76-31512
- REFLECTING TELESCOPES**  
Anastigmatic three-mirror telescope  
[NASA-CASE-MFS-23675-1] c 89 N79-10969  
Wide-angle flat field telescope  
[NASA-CASE-GSC-12825-1] c 74 N86-28732
- REFLECTION**  
Synthesis of zinc titanate pigment and coatings  
containing the same  
[NASA-CASE-MFS-13532] c 18 N72-17532  
Method and apparatus for compensating reflection  
losses in a path length modulated absorption-absorption  
trace gas detector --- for determining density of gas  
[NASA-CASE-ARC-10631-1] c 74 N76-20958  
Ranging system which compares an object reflected  
component of a light beam to a reference component of  
the light beam  
[NASA-CASE-NPO-15865-1] c 74 N85-34629
- REFLECTOMETERS**  
Ellipsoidal mirror reflectometer including means for  
averaging the radiation reflected from the sample  
Patent  
[NASA-CASE-XGS-05291] c 23 N71-16341  
Real time reflectometer --- measurement of specular  
reflectance  
[NASA-CASE-MFS-23118-1] c 35 N77-31465  
Coal-shale interface detection  
[NASA-CASE-MFS-23720-3] c 43 N79-25443  
Visible and infrared polarization ratio  
spectroreflectometer  
[NASA-CASE-LAR-12285-1] c 35 N80-28687
- REFLECTOR ANTENNAS**  
Focal axis resolver for offset reflector antennas  
[NASA-CASE-GSC-12630-1] c 33 N83-36355
- REFLECTORS**  
Reflector space satellite Patent  
[NASA-CASE-XLA-00138] c 31 N70-37981  
Self-erecting reflector Patent  
[NASA-CASE-XGS-09190] c 31 N71-16102  
Spectroscope equipment using a slender cylindrical  
reflector as a substitute for a slit Patent  
[NASA-CASE-XGS-08269] c 23 N71-26206  
Conical reflector antenna  
[NASA-CASE-NPO-10303] c 07 N72-22127  
Target acquisition antenna  
[NASA-CASE-GSC-10064-1] c 10 N72-22235  
Multi-purpose antenna employing dish reflector with  
plural coaxial horn feeds  
[NASA-CASE-NPO-11264] c 07 N72-25174  
Multiple reflection conical microwave antenna  
[NASA-CASE-ARC-11661] c 07 N73-14130  
Non-tracking solar energy collector system  
[NASA-CASE-NPO-13813-1] c 44 N78-31526  
Solar cell having improved back surface reflector  
[NASA-CASE-LEW-13620-1] c 44 N83-13579  
Acoustic suspension system  
[NASA-CASE-NPO-15435-1] c 71 N83-36846  
Optical system with reflective baffles  
[NASA-CASE-ARC-11502-1] c 74 N86-20125  
Ultrasonic angle beam standard reflector --- ultrasonic  
nondestructive inspection  
[NASA-CASE-LAR-13153-1] c 71 N86-21276  
Compensation for primary reflector wavefront error  
[NASA-CASE-NPO-16869-1CU] c 74 N86-33138  
Welding torch with arc light reflector  
[NASA-CASE-MFS-29134-1] c 74 N87-17493  
Self-clamping arc light reflector for welding torch  
[NASA-CASE-MFS-29207-1] c 74 N87-25843
- REFRACTIVITY**  
The 2 deg/90 deg laboratory scattering photometer ---  
particulate refractivity in hydrosols  
[NASA-CASE-GSC-12088-1] c 74 N78-13874  
Chromatically corrected virtual image visual display ---  
reducing eye strain in flight simulators  
[NASA-CASE-LAR-12251-1] c 74 N80-27185  
Dual laser optical system and method for studying fluid  
flow  
[NASA-CASE-MFS-25315-1] c 36 N83-29680  
Photorefractor ocular screening system  
[NASA-CASE-MFS-26011-1-SB] c 52 N87-24874

- Dynamic range compression/expansion of light beams  
by photorefractive crystals  
[NASA-CASE-NPO-17140-1-CU] c 74 N89-14077
- REFRACTORY COATINGS**  
Refractory coatings and method of producing the  
same  
[NASA-CASE-LEW-13169-1] c 26 N82-29415  
Refractory coatings  
[NASA-CASE-LEW-13169-2] c 26 N82-30371  
Method for repair of thin glass coatings --- on space  
shuttle orbiter tiles  
[NASA-CASE-KSC-11097-1] c 27 N82-33520  
Thermal barrier coating system  
[NASA-CASE-LEW-13324-2] c 24 N85-21266
- REFRACTORY MATERIALS**  
High temperature testing apparatus Patent  
[NASA-CASE-XLE-00335] c 14 N70-35368  
Prestressed refractory structure Patent  
[NASA-CASE-XNP-02888] c 18 N71-21068  
Method of manufacturing semiconductor devices using  
refractory dielectrics  
[NASA-CASE-XER-08476-1] c 26 N72-17820  
High temperature furnace for melting materials in  
space  
[NASA-CASE-MFS-20710] c 11 N72-23215  
High temperature resistant cermet and ceramic  
compositions --- for thermal resistant insulators and  
refractory coatings  
[NASA-CASE-NPO-13690-1] c 27 N78-19302  
High temperature resistant cermet and ceramic  
compositions  
[NASA-CASE-NPO-13690-2] c 27 N79-14213  
Fibrous refractory composite insulation --- shielding  
reusable spacecraft  
[NASA-CASE-ARC-11169-1] c 24 N79-24062  
Catalytic trimerization of aromatic nitriles and  
triaryl-s-triazine ring cross-linked high temperature  
resistant polymers and copolymers made thereby  
[NASA-CASE-LEW-12053-2] c 27 N79-28307  
Improved refractory coatings --- sputtered coatings on  
substrates that form stable nitrides  
[NASA-CASE-LEW-23169-2] c 26 N81-16209  
Adjustable high emittance gap filler --- reentry shielding  
for space shuttle vehicles  
[NASA-CASE-ARC-11310-1] c 27 N82-24339  
Attachment system for silica tiles --- thermal protection  
for space shuttle orbiter  
[NASA-CASE-MSC-18741-1] c 27 N82-29456  
Densification of porous refractory substrates --- space  
shuttle orbiter tiles  
[NASA-CASE-MSC-18737-1] c 24 N83-13171  
Method of repairing surface damage to porous refractory  
substrates --- space shuttle orbiter tiles  
[NASA-CASE-MSC-18736-1] c 24 N83-13172  
High temperature silicon carbide impregnated insulating  
fabrics  
[NASA-CASE-MSC-18832-1] c 27 N83-18908  
Apparatus for accurately preloading auger attachment  
means for frangible protective material  
[NASA-CASE-MSC-18791-1] c 37 N83-36482  
High temperature resistant polyimide from tetra ester,  
diamine, diester and N-arylnadimide  
[NASA-CASE-LEW-13864-1] c 27 N86-19457  
Lightweight ceramic insulation and method  
[NASA-CASE-MSC-20782-1] c 27 N89-13620
- REFRACTORY METALS**  
Radiant heater having formed filaments Patent  
[NASA-CASE-XLE-00387] c 33 N70-34812  
Method of producing refractory bodies having controlled  
porosity Patent  
[NASA-CASE-LEW-10393-1] c 17 N71-15468  
Multilayer porous ionizer Patent  
[NASA-CASE-XNP-04338] c 17 N71-23046  
Brazing alloy Patent  
[NASA-CASE-XNP-03063] c 17 N71-23365  
Thermal radiation shielding Patent  
[NASA-CASE-XLE-03432] c 33 N71-24145  
Method of producing refractory composites containing  
tantalum carbide, hafnium carbide, and hafnium boride  
Patent  
[NASA-CASE-XLE-03940] c 18 N71-26153  
Silicide coatings for refractory metals Patent  
[NASA-CASE-XLE-10910] c 18 N71-29040  
Refractory metal base alloy composites  
[NASA-CASE-XLE-03940-2] c 17 N72-28536  
Fused silicide coatings containing discrete particles for  
protecting niobium alloys --- used in space shuttle thermal  
protection systems and turbine engine components  
[NASA-CASE-LEW-11179-1] c 27 N76-16229  
Method of making an apertured casting --- using  
duplicate mold  
[NASA-CASE-LEW-11169-1] c 37 N76-23570  
Absorbable-susceptor joining of ceramic surfaces  
[NASA-CASE-NPO-15640-1] c 27 N84-22748

## REFRIGERATING

- Helium refrigerator and method for decontaminating the  
refrigerator  
[NASA-CASE-NPO-10634] c 23 N72-25619  
Magnetic heat pumping  
[NASA-CASE-LEW-12508-3] c 34 N83-29625
- REFRIGERATING MACHINERY**  
Refrigeration apparatus  
[NASA-CASE-NPO-10309] c 15 N69-23190  
Refrigeration apparatus Patent  
[NASA-CASE-XNP-08877] c 15 N71-23025  
Dual solid cryogenics for spacecraft refrigeration Patent  
[NASA-CASE-GSC-10188-1] c 23 N71-24725  
Stirling cycle engine and refrigeration systems  
[NASA-CASE-NPO-13613-1] c 37 N76-23590  
Cycling Joule Thomson refrigerator  
[NASA-CASE-NPO-15251-1] c 31 N83-31897  
Vibration isolation and pressure compensation  
apparatus for sensitive instrumentation  
[NASA-CASE-LAR-12728-1] c 35 N83-32026  
Magnetically actuated compressor  
[NASA-CASE-GSC-12799-1] c 31 N85-21404  
Oxygen chemisorption cryogenic refrigerator  
[NASA-CASE-NPO-16734-1-CU] c 31 N88-14223
- REFRIGERATORS**  
Intermittent type silica gel adsorption refrigerator  
Patent  
[NASA-CASE-XNP-00920] c 15 N71-15906  
Helium refrigerator  
[NASA-CASE-NPO-13435-1] c 31 N76-14284  
Thermal compensator for closed-cycle helium  
refrigerator --- assuring constant temperature for an  
infrared laser diode  
[NASA-CASE-GSC-12168-1] c 31 N79-17029  
Reciprocating magnetic refrigerator employing tandem  
porous matrices within a reciprocating displacer  
[NASA-CASE-NPO-16257-1] c 31 N85-29082  
Ten degree Kelvin hydride refrigerator  
[NASA-CASE-NPO-16393-1-CU] c 31 N87-21159  
Krypton based adsorption type cryogenic refrigerator  
[NASA-CASE-NPO-17334-1-CU] c 31 N88-21917  
Cryogenic regenerator including saran-carbon heat  
conduction matrix  
[NASA-CASE-NPO-17291-1-CU] c 34 N88-21946  
Self-actuating heat switches for redundant refrigeration  
systems  
[NASA-CASE-NPO-17085-1-CU] c 31 N89-12785  
Joule Thomson refrigerator  
[NASA-CASE-NPO-17143-1-CU] c 31 N89-14351  
Two stage sorption type cryogenic refrigerator including  
heat regeneration system  
[NASA-CASE-NPO-17630-1-CU] c 31 N89-29577
- REFUELING**  
Quick-disconnect inflatable seal assembly  
[NASA-CASE-KSC-11368-1] c 37 N89-13786
- REGENERATION (ENGINEERING)**  
Switching circuit employing regeneratively connected  
complementary transistors Patent  
[NASA-CASE-XNP-02654] c 10 N70-42032  
Regenerative braking system Patent  
[NASA-CASE-XMF-01096] c 10 N71-16030  
Free-piston regenerative hot gas hydraulic engine  
[NASA-CASE-LEW-12274-1] c 37 N80-31790  
Cryogenic regenerator including saran-carbon heat  
conduction matrix  
[NASA-CASE-NPO-17291-1-CU] c 34 N88-23946
- REGENERATION (PHYSIOLOGY)**  
Implantable electrical device  
[NASA-CASE-GSC-12560-1] c 52 N82-25863  
Method and apparatus for bio-regenerative life support  
system  
[NASA-CASE-MSC-21629-1] c 54 N89-25027
- REGENERATIVE COOLING**  
Formed metal ribbon wrap Patent  
[NASA-CASE-XLE-00164] c 15 N70-36411  
Method of making a regeneratively cooled combustion  
chamber Patent  
[NASA-CASE-XLE-00150] c 28 N70-41818  
Small rocket engine Patent  
[NASA-CASE-XLE-00685] c 28 N70-41992  
Combustion chamber Patent  
[NASA-CASE-XLE-04857] c 28 N71-21968  
Method of making apparatus for sensing temperature  
[NASA-CASE-XLE-05230-2] c 14 N73-13417
- REGENERATIVE FUEL CELLS**  
Electrolytically regenerative hydrogen-oxygen fuel cell  
Patent  
[NASA-CASE-XLE-04526] c 03 N71-11052
- REGENERATORS**  
Code regenerative clean-up loop transponder for a  
mu-type ranging system  
[NASA-CASE-NPO-11707] c 07 N73-25161  
Magnetic heat pumping  
[NASA-CASE-LEW-12508-3] c 34 N83-29625

- Two stage sorption type cryogenic refrigerator including heat regeneration system  
[NASA-CASE-NPO-17630-1-CU] c 31 N89-29577
- REGISTERS (COMPUTERS)**  
Variable digital processor including a register for shifting and rotating bits in either direction Patent  
[NASA-CASE-GSC-10186] c 08 N71-33110  
Priority interrupt system --- comprised of four registers  
[NASA-CASE-NPO-13067-1] c 60 N76-18800
- REINFORCED PLASTICS**  
Tube fabricating process  
[NASA-CASE-LAR-10203-1] c 15 N72-16330  
Reinforced structural plastics  
[NASA-CASE-LEW-10199-1] c 27 N74-23125
- REINFORCEMENT (STRUCTURES)**  
Reinforcing means for diaphragms Patent  
[NASA-CASE-XNP-01962] c 32 N70-41370
- REINFORCEMENT RINGS**  
Tube coupling device  
[NASA-CASE-MFS-25964-2] c 37 N87-22977
- REINFORCING FIBERS**  
Reinforced metallic composites Patent  
[NASA-CASE-XLE-02428] c 17 N70-33288  
Method of making fiber reinforced metallic composites Patent  
[NASA-CASE-XLE-00231] c 17 N70-38198  
Method for producing fiber reinforced metallic composites Patent  
[NASA-CASE-XLE-03925] c 18 N71-22894  
Thermal protection ablation spray system Patent  
[NASA-CASE-XLA-04251] c 18 N71-26100  
Method of preparing graphite reinforced aluminum composite  
[NASA-CASE-MFS-21077-1] c 24 N75-28135  
Crystalline polyimides --- reinforcing fibers for high temperature composites and adhesives as well as flame retardation  
[NASA-CASE-LAR-12099-1] c 27 N80-16158  
Composition and method for making polyimide resin-reinforced fabric  
[NASA-CASE-LEW-12933-1] c 27 N81-19296  
High modulus rare earth and beryllium containing silicate glass compositions --- for glass reinforcing fibers  
[NASA-CASE-HQN-10595-1] c 27 N82-29455  
Method of carbonizing polyacrylonitrile fibers  
[NASA-CASE-ARC-11261-1] c 24 N83-25789  
Fluoroether modified epoxy composites  
[NASA-CASE-ARC-11418-1] c 24 N84-11213  
Lightweight piston  
[NASA-CASE-LAR-13150-1] c 24 N87-27742
- RELAXATION OSCILLATORS**  
Voltage to frequency converter Patent  
[NASA-CASE-GSC-10022-1] c 10 N71-25882
- RELAY SATELLITES**  
Satellite communication system and method Patent  
[NASA-CASE-GSC-10118-1] c 07 N71-24621  
Satellite personal communications system  
[NASA-CASE-NPO-14480-1] c 32 N80-20448
- RELEASING**  
Despin weight release Patent  
[NASA-CASE-XLA-00679] c 15 N70-38601  
Quick attach and release fluid coupling assembly Patent  
[NASA-CASE-XKS-01985] c 15 N71-10782  
Redundant actuating mechanism Patent  
[NASA-CASE-XGS-08718] c 15 N71-24600  
Quick release hook tape Patent  
[NASA-CASE-XMS-10660-1] c 15 N71-25975  
Delayed simultaneous release mechanism  
[NASA-CASE-GSC-10814-1] c 03 N73-20039  
Slide release mechanism --- for space shuttle orbiter/external tank connection device  
[NASA-CASE-MSC-20080-1] c 37 N85-30334  
Fully redundant mechanical release actuator  
[NASA-CASE-LAR-13198-1] c 37 N87-23983  
Preloadable vector sensitive latch  
[NASA-CASE-MSC-20910-1] c 37 N87-25582
- RELIABILITY ANALYSIS**  
Program for computer aided reliability estimation  
[NASA-CASE-NPO-13086-1] c 15 N73-12495  
Integrated circuit reliability testing  
[NASA-CASE-NPO-17393-1-CU] c 33 N89-29679
- RELIABILITY ENGINEERING**  
Method of improving the reliability of a rolling element system Patent  
[NASA-CASE-XLE-02999] c 15 N71-16052  
Inspection gage for boss Patent  
[NASA-CASE-XMF-04966] c 14 N71-17658  
Valving device for automatic refilling in cryogenic liquid systems  
[NASA-CASE-NPO-11177] c 15 N72-17453  
Electrical connector  
[NASA-CASE-NPO-10694] c 09 N72-20200  
Inherent redundancy electric heater  
[NASA-CASE-MFS-21462-1] c 33 N74-14935
- Hollow rolling element bearings  
[NASA-CASE-LEW-11087-3] c 37 N74-21064  
Reconfiguring redundancy management  
[NASA-CASE-MSC-18498-1] c 60 N82-29013  
Phase sensitive guidance sensor for wire-following vehicles  
[NASA-CASE-NPO-15341-1] c 35 N84-33769  
Lightweight piston  
[NASA-CASE-LAR-13150-1] c 24 N87-27742
- RELIEF MAPS**  
Method and apparatus for contour mapping using synthetic aperture radar  
[NASA-CASE-NPO-15939-1] c 43 N86-19711
- RELIEF VALVES**  
Relief valve  
[NASA-CASE-XMS-05894-1] c 15 N69-21924  
Zero gravity separator Patent  
[NASA-CASE-XLE-00586] c 15 N71-15968  
Redundant hydraulic control system for actuators  
[NASA-CASE-MFS-20944] c 15 N73-13466  
Prosthetic urinary sphincter  
[NASA-CASE-MFS-23717-1] c 52 N81-25660  
Ion beam sputter-etched ventricular catheter for hydrocephalus shunt  
[NASA-CASE-LEW-13107-1] c 52 N83-21785
- REMOTE CONTROL**  
Electromagnetic mirror drive system  
[NASA-CASE-XLA-03724] c 14 N69-27461  
Tubular coupling having frangible connecting means  
[NASA-CASE-XLA-02854] c 15 N69-27490  
Bimetallic power controlled actuator  
[NASA-CASE-XNP-09776] c 09 N69-39929  
Fluid coupling Patent  
[NASA-CASE-XLE-00397] c 15 N70-36492  
Umbilical disconnect Patent  
[NASA-CASE-XLA-00711] c 03 N71-12258  
Remote controlled tubular disconnect Patent  
[NASA-CASE-XLA-01396] c 03 N71-12259  
Three-axis finger tip controller for switches Patent  
[NASA-CASE-XAC-02405] c 09 N71-16089  
Satellite communication system Patent  
[NASA-CASE-XNP-02389] c 07 N71-28900  
Method and apparatus for aligning a laser beam projector Patent  
[NASA-CASE-NPO-11087] c 23 N71-29125  
Solid state remote circuit selector switch  
[NASA-CASE-LEW-10387] c 09 N72-22201  
Laser communication system for controlling several functions at a location remote to the laser  
[NASA-CASE-LAR-10311-1] c 16 N73-16536  
Cooperative multiaxis sensor for teleoperation of article manipulating apparatus  
[NASA-CASE-NPO-13386-1] c 54 N75-27758  
Remotely operable articulated manipulator  
[NASA-CASE-MFS-22707-1] c 37 N76-15457  
Remote manipulator system  
[NASA-CASE-MFS-22022-1] c 37 N76-15460  
Remote lightning monitor system  
[NASA-CASE-KSC-11031-1] c 33 N79-11315  
Simulator method and apparatus for practicing the mating of an observer-controlled object with a target  
[NASA-CASE-MFS-23052-2] c 74 N79-13855  
Terminal guidance sensor system --- space shuttle coupling to orbiting satellites  
[NASA-CASE-NPO-14521-1] c 37 N81-27519  
Retinally stabilized differential resolution television display  
[NASA-CASE-NPO-15432-1] c 32 N85-29117  
Digital control of diode laser for atmospheric spectroscopy  
[NASA-CASE-NPO-16000-1] c 36 N85-29264  
Remotely controllable mixing system  
[NASA-CASE-MFS-28153-1] c 31 N86-32589  
Remotely operable peristaltic pump  
[NASA-CASE-MFS-28059-1] c 37 N86-32738  
Radial and torsionally controlled magnetic bearing  
[NASA-CASE-GSC-12957-1] c 37 N87-17038  
Apparatus and method of capturing an orbiting spacecraft  
[NASA-CASE-MSC-20979-1] c 37 N87-22985  
Remotely controlled spray gun  
[NASA-CASE-MFS-28110-1] c 37 N87-24689  
Improved docking alignment system  
[NASA-CASE-MSC-21372-1] c 35 N89-12842  
Magnetic attachment mechanism  
[NASA-CASE-MSC-21095-1] c 37 N89-12866  
Remotely controllable real-time optical processor  
[NASA-CASE-NPO-16750-1-CU] c 74 N89-14078
- REMOTE HANDLING**  
Remote control manipulator for zero gravity environment  
[NASA-CASE-MFS-14405] c 15 N72-28495  
Apparatus for remote handling of materials --- mixing or analyzing dangerous chemicals  
[NASA-CASE-LAR-10634-1] c 37 N74-18123
- Anthropomorphic master/slave manipulator system  
[NASA-CASE-ARC-10756-1] c 54 N77-32721  
Controller arm for a remotely related slave arm  
[NASA-CASE-ARC-11052-1] c 37 N79-28551  
Apparatus for sequentially transporting containers  
[NASA-CASE-MFS-23846-1] c 37 N82-32731  
Precision manipulator heating and cooling apparatus for use in UHV systems with sample transfer capability  
[NASA-CASE-LAR-13040-1] c 37 N85-29286  
Space spider crane  
[NASA-CASE-LAR-13411-1-SB] c 18 N88-23828  
Mobile remote manipulator system for a tetrahedral truss  
[NASA-CASE-MSC-20985-1] c 18 N88-26398
- REMOTE MANIPULATOR SYSTEM**  
Coupling device for moving vehicles  
[NASA-CASE-GSC-12322-1] c 37 N80-14398  
Apparatus and method of capturing an orbiting spacecraft  
[NASA-CASE-MSC-20979-1] c 37 N87-22985  
Mobile remote manipulator vehicle system  
[NASA-CASE-LAR-13393-1] c 54 N87-29118
- REMOTE SENSING**  
Method and apparatus for calibrating the ionosphere and application to surveillance of geophysical events  
[NASA-CASE-NPO-15430-1] c 46 N85-21846  
Thermal remote anemometer system  
[NASA-CASE-LAR-13508-1] c 35 N88-23962  
Remote object configuration/orientation determination  
[NASA-CASE-NPO-17436-1-CU] c 35 N89-13764
- REMOTE SENSORS**  
Passive optical wind and turbulence detection system Patent  
[NASA-CASE-XMF-14032] c 20 N71-16340  
Pressure monitoring with a plurality of ionization gauges controlled at a central location Patent  
[NASA-CASE-XLE-00787] c 14 N71-21090  
Flow angle sensor and read out system Patent  
[NASA-CASE-XLE-04503] c 14 N71-24864  
Time synchronization system utilizing moon reflected coded signals Patent  
[NASA-CASE-NPO-10143] c 10 N71-26326  
Clear air turbulence detector  
[NASA-CASE-ERC-10081] c 14 N72-28437  
Intruder detection system  
[NASA-CASE-ARC-10907-2] c 07 N73-25160  
Microwave power transmission system wherein level of transmitted power is controlled by reflections from receiver  
[NASA-CASE-MFS-21470-1] c 44 N74-19870  
Voltage monitoring system  
[NASA-CASE-KSC-10736-1] c 33 N75-19521  
Wind sensor  
[NASA-CASE-NPO-13462-1] c 35 N76-24524  
Focused laser Doppler velocimeter  
[NASA-CASE-MFS-23178-1] c 35 N77-10493  
Wind measurement system  
[NASA-CASE-MFS-23362-1] c 47 N77-10753  
Penetrometer --- for determining load bearing characteristics of inclined surfaces  
[NASA-CASE-NPO-11103-1] c 35 N77-27367  
Remote sensing of vegetation and soil using microwave ellipsometry  
[NASA-CASE-GSC-11976-1] c 43 N78-10529  
Remote water monitoring system  
[NASA-CASE-LAR-11973-1] c 35 N78-27384  
Radar target for remotely sensing hydrological phenomena  
[NASA-CASE-LAR-12344-1] c 43 N80-18498  
Method of and apparatus for measuring temperature and pressure --- atmospheric sounding  
[NASA-CASE-GSC-12558-1] c 36 N85-21639
- REMOTELY PILOTED VEHICLES**  
Rotating launch device for a remotely piloted aircraft  
[NASA-CASE-ARC-10979-1] c 09 N77-19076
- REMOVAL**  
Catalyst bed removing tool Patent  
[NASA-CASE-XFR-00811] c 15 N70-36901  
Recovery of aluminum from composite propellants  
[NASA-CASE-NPO-14110-1] c 28 N81-15119  
Acoustic bubble removal method  
[NASA-CASE-NPO-15334-1] c 71 N83-35781
- REPEATERS**  
Time division radio relay synchronizing system using different sync code words for in sync and out of sync conditions Patent  
[NASA-CASE-GSC-10373-1] c 07 N71-19773
- REPLACING**  
Electron beam tube containing a multiple cathode array employing indexing means for cathode substitution Patent  
[NASA-CASE-NPO-10625] c 09 N71-26182
- RESCUE OPERATIONS**  
Backpack carrier Patent  
[NASA-CASE-LAR-10056] c 05 N71-12351



- Rescue litter flotation assembly Patent  
[NASA-CASE-XMS-04170] c 05 N71-22748  
Method of locating persons in distress --- by using radar  
imagery from radar reflectors  
[NASA-CASE-LAR-11390-1] c 32 N77-21267  
Apparatus and method of capturing an orbiting  
spacecraft  
[NASA-CASE-MSC-20979-1] c 37 N87-22985
- RESEARCH AIRCRAFT**  
Miniature electrophysical air flow sensor  
[NASA-CASE-LAR-13065-1] c 35 N85-20295
- RESEARCH AND DEVELOPMENT**  
Tube fabricating process  
[NASA-CASE-LAR-10203-1] c 15 N72-16330
- RESEARCH VEHICLES**  
Lunar landing flight research vehicle Patent  
[NASA-CASE-XFR-00929] c 31 N70-34966  
Velocity limiting safety system Patent  
[NASA-CASE-XLA-07473] c 15 N71-24895
- RESIDUAL STRESS**  
Miniature stress transducer Patent  
[NASA-CASE-XNP-02983] c 14 N71-21091  
Method of making a perspiration resistant biopotential  
electrode  
[NASA-CASE-MSC-90153-2] c 05 N72-25120
- RESILIENCE**  
Resilience testing device Patent  
[NASA-CASE-XLA-08254] c 14 N71-26161
- RESIN BONDING**  
Method and apparatus for bonding a plastics sleeve onto  
a metallic body Patent  
[NASA-CASE-XLA-01262] c 15 N71-21404  
Covered silicon solar cells and method of manufacture  
--- with polymeric films  
[NASA-CASE-LEW-11065-2] c 44 N76-14600  
Method of manufacture of bonded fiber flywheel ---  
fiberglass-epoxy  
[NASA-CASE-MFS-23674-1] c 24 N81-29163
- RESIN MATRIX COMPOSITES**  
Phosphorus-containing bisimide resins  
[NASA-CASE-ARC-11321-1] c 27 N81-27272  
Elastomer coated filler and composites thereof  
comprising at least 60% by weight of a hydrated filler and  
an elastomer containing an acid substituent  
[NASA-CASE-NPO-14857-1] c 27 N83-19900  
Method of tracing contour patterns for use in making  
gradual contour resin matrix composites  
[NASA-CASE-ARC-11246-1] c 31 N83-34073  
Copolymers of vinyl styrylpyridines or vinyl stilbazoles  
with bismaleimide  
[NASA-CASE-ARC-11429-1-CU] c 27 N86-20560  
High performance mixed bisimide resins and composites  
based thereon  
[NASA-CASE-ARC-11538-1SB] c 24 N86-21590  
Toughening reinforced epoxy composites with  
brominated polymeric additives  
[NASA-CASE-ARC-11427-2] c 27 N86-27451  
Process for preparing phthalocyanine polymer from  
imide containing bisphthalonitrile  
[NASA-CASE-ARC-11511-2] c 27 N87-21112  
Novel ladder polymers for use as high temperature stable  
resins or coatings  
[NASA-CASE-LEW-14203-1] c 27 N88-29984  
Processable polyimide adhesive and matrix composite  
resin  
[NASA-CASE-LAR-14101-1] c 27 N89-23692  
Semipermeable polymer network for tougher and  
more microcracking resistant high temperature polymers  
[NASA-CASE-LAR-13925-1] c 27 N89-25334  
Method of controlling a resin curing process --- for fiber  
reinforced composites  
[NASA-CASE-MSC-21169-1] c 27 N89-29539
- RESINS**  
Modified polyurethane foams for fuel-fire Patent  
[NASA-CASE-ARC-10098-1] c 06 N71-24739  
Bonding or repairing process  
[NASA-CASE-MSC-12357] c 15 N73-12489  
Semiconductor surface protection material  
[NASA-CASE-ERC-10339-1] c 18 N73-30532  
Composite lamination method  
[NASA-CASE-LAR-12019-1] c 24 N78-17150  
Polyvinyl alcohol cross-linked with two aldehydes  
[NASA-CASE-LEW-13504-1] c 25 N83-13188  
Phosphorus-containing imide resins  
[NASA-CASE-ARC-11368-1] c 27 N83-31854  
Fire and heat resistant laminating resins based on  
maleimido and citraconimido substituted 1-(diorgano  
oxyphosphonyl) methyl -2,4- and -2,6- diaminobenzenes  
[NASA-CASE-ARC-11533-3] c 27 N87-24564  
Fire and heat resistant laminating resin based on  
maleimido and citraconimido substituted  
1-(diorganoxyphosphonyl-methyl)-2,4-  
-2,6-diaminobenzenes  
[NASA-CASE-ARC-11533-2] c 27 N89-16042

**RESISTANCE**

- Method of making a perspiration resistant biopotential  
electrode  
[NASA-CASE-MSC-90153-2] c 05 N72-25120  
Variable resistance constant tension and lubrication  
device --- using oil-saturated leather wiper  
[NASA-CASE-KSC-10723-1] c 37 N75-13265  
Acoustic ground impedance meter  
[NASA-CASE-LAR-12995-1] c 35 N84-22933

**RESISTANCE HEATING**

- Electrothermal rockets having improved heat  
exchangers Patent  
[NASA-CASE-XLE-01783] c 28 N70-34175  
Instrumentation for sensing moisture content of material  
using a transient thermal pulse  
[NAS 1.71:NPO-15494-2] c 35 N85-34373

**RESISTORS**

- High isolation RF signal selection switches  
[NASA-CASE-NPO-13081-1] c 33 N74-22814  
Resistive anode image converter  
[NASA-CASE-HQN-10876-1] c 33 N76-27473  
Amplifier for measuring low-level signals in the presence  
of high common mode voltage  
[NASA-CASE-MFS-25868-1] c 33 N86-20670

**RESOLUTION**

- Analog-to-digital conversion system Patent  
[NASA-CASE-XAC-00404] c 08 N70-40125  
Spectroscopy equipment using a slender cylindrical  
reflector as a substitute for a slit Patent  
[NASA-CASE-XGS-08269] c 23 N71-26206  
Resolution enhanced sound detecting apparatus  
[NASA-CASE-NPO-14134-1] c 71 N79-23753  
Television monitor field shifter and an opto-electronic  
method for obtaining a stereo image of optimal depth  
resolution and reduced depth distortion on a single  
screen  
[NASA-CASE-NPO-17249-1-CU] c 32 N89-28676

**RESOLVERS**

- Differential phase shift keyed signal resolver  
[NASA-CASE-MSC-14066-1] c 33 N74-27705  
Focal axis resolver for offset reflector antennas  
[NASA-CASE-GSC-12630-1] c 33 N83-36355  
Magnetic heading reference  
[NASA-CASE-LAR-12638-1] c 04 N84-14132  
Angular measurement system  
[NASA-CASE-MFS-25825-1] c 31 N86-29055

**RESONANCE**

- Optically selective, acoustically resonant gas detecting  
transducer  
[NASA-CASE-ARC-10639-1] c 35 N78-13400  
Resonant isolator for maser amplifier  
[NASA-CASE-NPO-15201-1] c 36 N83-35350  
Arrangement for damping the resonance in a laser  
diode  
[NASA-CASE-NPO-15980-1] c 36 N85-30305  
Precision tunable resonant microwave cavity  
[NASA-CASE-LEW-13935-1] c 33 N87-21234

**RESONANT FREQUENCIES**

- Vibrating element electrometer with output signal  
magnified over input signal by a function of the mechanical  
Q of the vibrating element Patent  
[NASA-CASE-XAC-02807] c 09 N71-23021  
Apparatus for detecting the amount of material in a  
resonant cavity container Patent  
[NASA-CASE-XNP-02500] c 18 N71-27397  
Parasitic suppressing circuit  
[NASA-CASE-ERC-10403-1] c 10 N73-26228  
CW ultrasonic bolt tensioning monitor  
[NASA-CASE-LAR-12016-1] c 39 N78-15512  
Microbalance --- for measuring particle mass  
[NASA-CASE-MSC-11242] c 35 N78-17358  
Method and apparatus for shaping and enhancing  
acoustical levitation forces  
[NASA-CASE-MFS-25050-1] c 71 N81-15767  
Acoustic bubble removal method  
[NASA-CASE-NPO-15334-1] c 71 N83-35781  
Low noise tuned amplifier  
[NASA-CASE-GSC-12567-1] c 33 N84-22887  
Acoustic ground impedance meter  
[NASA-CASE-LAR-12995-1] c 35 N84-22933  
Vibrating-chamber levitation systems  
[NASA-CASE-NPO-16142-1-CU] c 35 N86-20752  
Single mode levitation and translation  
[NASA-CASE-NPO-16675-1-CU] c 71 N88-24241

**RESONANT VIBRATION**

- Acoustic agglomeration methods and apparatus  
[NASA-CASE-NPO-15466-1] c 71 N85-22104

**RESONATORS**

- High-Q bandpass resonators utilizing bandstop  
resonator pairs  
[NASA-CASE-GSC-10990-1] c 09 N73-26195  
Low noise cryogenic dielectric resonator oscillator  
[NASA-CASE-NPO-17157-1-CU] c 33 N88-26596  
Method and circuit for shaping laser output pulses  
[NASA-CASE-LAR-14203-1] c 36 N89-28817

**RESOURCE ALLOCATION**

- Dynamic resource allocation scheme for distributed  
heterogeneous computer systems  
[NASA-CASE-NPO-17197-1-CU] c 62 N89-29976

**RESPIRATION**

- Method and system for respiration analysis Patent  
[NASA-CASE-XFR-08403] c 05 N71-11202

**RESPIRATORS**

- Respiration monitor  
[NASA-CASE-FRC-10012] c 14 N72-17329

**RESPIRATORY RATE**

- Gas low pressure low flow rate metering system  
Patent  
[NASA-CASE-FRC-10022] c 12 N71-26546  
Respiratory analysis system and method  
[NASA-CASE-MSC-13436-1] c 05 N73-32015  
Metabolic analyzer --- for measuring metabolic rate and  
breathing dynamics of human beings  
[NASA-CASE-MFS-21415-1] c 52 N74-20728

**RESPIROMETERS**

- Metabolic analyzer --- for measuring metabolic rate and  
breathing dynamics of human beings  
[NASA-CASE-MFS-21415-1] c 52 N74-20728

**RESPONSE TIME (COMPUTERS)**

- Dynamic resource allocation scheme for distributed  
heterogeneous computer systems  
[NASA-CASE-NPO-17197-1-CU] c 62 N89-29976

**RESPONSES**

- Frequency division multiplex technique  
[NASA-CASE-KSC-10521] c 07 N73-20176

**RESTARTABLE ROCKET ENGINES**

- Zero gravity starting means for liquid propellant motors  
Patent  
[NASA-CASE-XNP-01390] c 28 N70-41275  
Small rocket engine Patent  
[NASA-CASE-XLE-00685] c 28 N70-41992

**RESUSCITATION**

- Resuscitation apparatus Patent  
[NASA-CASE-XMS-01115] c 05 N70-39922

**RETAINING**

- Floating nut retention system  
[NASA-CASE-MSC-16938-1] c 37 N80-23653  
Modified spiral wound retaining ring  
[NASA-CASE-LAR-12361-1] c 37 N83-19091

**RETARDERS (DEVICES)**

- Thrust reverser for a long duct fan engine --- for turbofan  
engines  
[NASA-CASE-LEW-13199-1] c 07 N82-26293

**RETARDING**

- Ablative resin Patent  
[NASA-CASE-XLE-05913] c 33 N71-14032

**RETICLES**

- Optical tracker having overlapping reticles on parallel  
axes Patent  
[NASA-CASE-XGS-05715] c 23 N71-16100  
Star tracking reticles and process for the production  
thereof  
[NASA-CASE-GSC-11188-2] c 21 N73-19630  
Star tracking reticles  
[NASA-CASE-GSC-11188-1] c 14 N73-32320  
Formation of star tracking reticles  
[NASA-CASE-GSC-11188-3] c 74 N74-20008  
Star scanner --- with a reticle with a pair of slits having  
differing separation  
[NASA-CASE-GSC-11569-1] c 89 N74-30886

**RETINAL IMAGES**

- Retinally stabilized differential resolution television  
display  
[NASA-CASE-NPO-15432-1] c 32 N85-29117

**RETRACTABLE EQUIPMENT**

- Runway light Patent  
[NASA-CASE-XLA-00119] c 11 N70-33329  
Extensible cable support Patent  
[NASA-CASE-XMF-07587] c 15 N71-18701  
Retractable environmental seal  
[NASA-CASE-MFS-23646-1] c 37 N79-22474  
Antenna deployment mechanism for use with a  
spacecraft --- extensible and retractable telescopic  
antenna mast  
[NASA-CASE-GSC-12331-1] c 18 N80-14183  
CAM controlled retractable door latch  
[NASA-CASE-MSC-20304-1] c 37 N82-31690  
Satellite retrieval system  
[NASA-CASE-MFS-25403-1] c 18 N83-29303

**RETROFIRING**

- Visual target for retrofire attitude control  
[NASA-CASE-XMS-12158-1] c 31 N69-27499  
Discrete local altitude sensing device Patent  
[NASA-CASE-XMS-03792] c 14 N70-41812

**RETROREFLECTION**

- Interferometer servo system Patent  
[NASA-CASE-NPO-10300] c 14 N71-17662  
Over-under double-pass interferometer  
[NASA-CASE-NPO-13999-1] c 35 N78-18395

- Method and apparatus for Doppler frequency modulation of radiation  
[NASA-CASE-NPO-14524-1] c 32 N80-24510  
Remote object configuration/orientation determination  
[NASA-CASE-NPO-17436-1-CU] c 35 N89-13764
- RETROREFLECTORS**  
Interferometer --- high resolution  
[NASA-CASE-NPO-14448-1] c 74 N81-29963  
Low noise lead screw positioner  
[NASA-CASE-NPO-15617-1] c 35 N87-21304
- RETROCKET ENGINES**  
Steerable solid propellant rocket motor Patent  
[NASA-CASE-XNP-00234] c 28 N70-38645
- REUSABLE HEAT SHIELDING**  
High temperature glass thermal control structure and coating --- for application to spacecraft reusable heat shielding  
[NASA-CASE-ARC-11164-1] c 44 N83-34448
- REUSABLE ROCKET ENGINES**  
Earth-to-orbit vehicle providing a reusable orbital stage and method of utilizing same  
[NASA-CASE-LAR-13486-1] c 16 N87-29582
- REUSABLE SPACECRAFT**  
Recoverable single stage spacecraft booster Patent  
[NASA-CASE-XMF-01973] c 31 N70-41588  
Space shuttle vehicle and system  
[NASA-CASE-MS-C-12433] c 31 N73-14854  
Aerospace vehicle  
[NASA-CASE-LAR-13155-1] c 05 N86-19310
- REUSE**  
Silica reusable surface insulation  
[NASA-CASE-ARC-10721-1] c 27 N76-22376  
Reusable captive blind fastener  
[NASA-CASE-MS-C-18742-1] c 37 N82-26673  
Cryogenic insulation system  
[NASA-CASE-LAR-13506-1] c 27 N89-12741
- REVERSE OSMOSIS**  
Reverse osmosis membrane of high urea rejection properties --- water purification  
[NASA-CASE-ARC-10980-1] c 27 N80-23452  
Method for the preparation of thin-skinned asymmetric reverse osmosis membranes and products thereof  
[NASA-CASE-ARC-11359-1] c 51 N84-28361
- REVERSED FLOW**  
Multistage multiple-reentry turbine Patent  
[NASA-CASE-XLE-00170] c 15 N70-36412  
Reversible current control apparatus Patent  
[NASA-CASE-XLA-09371] c 10 N71-18724  
Positive locking check valve Patent  
[NASA-CASE-XMS-09310] c 15 N71-22706  
Reverse pitch fan with divided splitter  
[NASA-CASE-LEW-12760-1] c 07 N77-17059  
Reversal electron attachment ionizer for detection of trace species  
[NASA-CASE-NPO-17596-1-CU] c 35 N89-28795
- REYNOLDS NUMBER**  
Wind tunnel test section  
[NASA-CASE-MFS-20509] c 11 N72-17183
- REYNOLDS STRESS**  
System for measuring Reynolds in a turbulently flowing fluid --- signal processing  
[NASA-CASE-ARC-10755-2] c 34 N76-27517
- RHENIUM**  
Thermocouples of tantalum and rhenium alloys for more stable vacuum-high temperature performance  
[NASA-CASE-LEW-12050-1] c 35 N77-32454
- RHEOMETERS**  
Viscosity measuring instrument  
[NASA-CASE-NPO-14501-1] c 35 N80-18357
- RHOMBOIDS**  
Rhomboid prism pair for rotating the plane of parallel light beams  
[NASA-CASE-ARC-11311-1] c 74 N83-13978
- RIBBONS**  
Formed metal ribbon wrap Patent  
[NASA-CASE-XLE-00164] c 15 N70-36411  
Forming tool for ribbon or wire  
[NASA-CASE-XLA-05966] c 15 N72-12408  
Twisted multifilament superconductor  
[NASA-CASE-LEW-11726-1] c 26 N73-26752  
Method of controlling defect orientation in silicon crystal ribbon growth  
[NASA-CASE-NPO-13918-1] c 76 N79-11920  
Solar array strip and a method for forming the same  
[NASA-CASE-NPO-13652-1] c 44 N79-17314  
Growth of silicon carbide crystals on a seed while pulling silicon crystals from a melt  
[NASA-CASE-NPO-13969-1] c 76 N79-23798  
Bonding machine for forming a solar array strip  
[NASA-CASE-NPO-13652-2] c 44 N79-24431  
Method for forming a solar array strip  
[NASA-CASE-NPO-13652-3] c 44 N80-14474  
Means for growing ribbon crystals without subjecting the crystals to thermal shock-induced strains  
[NASA-CASE-NPO-14298-1] c 76 N80-32244
- Method of growing a ribbon crystal particularly suited for facilitating automated control of ribbon width  
[NASA-CASE-NPO-14295-1] c 76 N80-32245  
Apparatus for use in the production of ribbon-shaped crystals from a silicon melt  
[NASA-CASE-NPO-14297-1] c 33 N81-19389  
Method of increasing minority carrier lifetime in silicon web or the like  
[NASA-CASE-NPO-15530-1] c 76 N83-35888  
Ribbon growing method and apparatus  
[NASA-CASE-NPO-16306-1-CU] c 76 N85-30934
- RIBLETS**  
Combined riblet and lebu drag reduction system  
[NASA-CASE-LAR-13286-1] c 02 N88-14071
- RIBOFLAVIN**  
Flavin coenzyme assay  
[NASA-CASE-GSC-10565-1] c 06 N72-25149
- RIBS (SUPPORTS)**  
Aeroflexible structures  
[NASA-CASE-XLA-06095] c 01 N69-39981
- RICE**  
Modification of the physical properties of freeze-dried rice  
[NASA-CASE-MS-C-13540-1] c 05 N72-33096
- RIDING QUALITY**  
Ride quality meter  
[NASA-CASE-LAR-12882-1] c 35 N84-12445
- RIGID ROTORS**  
Hingeless helicopter rotor with improved stability  
[NASA-CASE-ARC-10807-1] c 05 N77-17029
- RIGID STRUCTURES**  
Quick release hook tape Patent  
[NASA-CASE-XMS-10660-1] c 15 N71-25975  
Thermally activated foaming compositions Patent  
[NASA-CASE-LAR-10373-1] c 18 N71-26155  
Adjustable mount for a trihedral mirror Patent  
[NASA-CASE-XNP-08907] c 23 N71-29123  
Folding structure fabricated of rigid panels  
[NASA-CASE-XHQ-02146] c 18 N75-27040  
Telescoping columns --- parabolic antenna support  
[NASA-CASE-LAR-12195-1] c 31 N81-27324  
Clevis joint for deployable space structures  
[NASA-CASE-LAR-13898-1] c 37 N88-30130
- RIGID WINGS**  
Flexible wing deployment device Patent  
[NASA-CASE-XLA-01220] c 02 N70-41863
- RIMS**  
Rim inertial measuring system  
[NASA-CASE-LAR-12052-1] c 18 N81-29152
- RING CURRENTS**  
Ring counter  
[NASA-CASE-XGS-03095] c 09 N69-27463
- RING STRUCTURES**  
Reversible ring counter employing cascaded single SCR stages Patent  
[NASA-CASE-XGS-01473] c 09 N71-10673  
Energy absorbing device Patent  
[NASA-CASE-XMF-10040] c 15 N71-22877  
Phase-locked servo system --- for synchronizing the rotation of slip ring assembly  
[NASA-CASE-MFS-22073-1] c 33 N75-13139  
Laser system with an antiresonant optical ring  
[NASA-CASE-HQN-10844-1] c 36 N75-19653  
Helmet latching and attaching ring  
[NASA-CASE-XMS-04670] c 54 N78-17678  
Collapsible corrugated horn antenna  
[NASA-CASE-LAR-11745-1] c 32 N80-29539  
Modified spiral wound retaining ring  
[NASA-CASE-LAR-12361-1] c 37 N83-19091  
Torso sizing ring construction for hard space suit  
[NASA-CASE-ARC-11616-1] c 54 N86-28618  
Method and apparatus for making an optical element having a dielectric film  
[NASA-CASE-ARC-11611-1] c 74 N87-28416
- RING WINGS**  
Ring wing tension vehicle Patent  
[NASA-CASE-XLA-04901] c 31 N71-24315
- RIPPLES**  
Ripple indicator  
[NASA-CASE-KSC-10162] c 09 N72-11225
- RIVETS**  
Printed circuit board with bellows rivet connection Patent  
[NASA-CASE-XNP-05082] c 15 N70-41960
- ROBOTICS**  
Self-locking telescoping manipulator arm  
[NASA-CASE-MFS-25906-1] c 37 N86-20789  
Remotely controlled spray gun  
[NASA-CASE-MFS-28110-1] c 37 N87-24689  
A universal computer control system for motors  
[NASA-CASE-NPO-17134-1-CU] c 33 N88-24864  
Gripping device  
[NASA-CASE-MS-C-21365-1] c 37 N89-12865  
Optically controlled welding system  
[NASA-CASE-MFS-29291-1] c 37 N89-12868
- Passively activated prehensile digit for a robotic end effector  
[NASA-CASE-NPO-16766-1-CU] c 37 N89-13785  
Distributed proximity sensor system  
[NASA-CASE-NPO-17275-1-CU] c 37 N89-29750
- ROBOTS**  
Optically controlled welding system  
[NASA-CASE-MFS-29291-1] c 37 N89-12868  
Robust high-performance control for robotic manipulators  
[NASA-CASE-NPO-17785-1-CU] c 37 N89-28846  
Distributed proximity sensor system  
[NASA-CASE-NPO-17275-1-CU] c 37 N89-29750
- ROCKET ENGINE CASINGS**  
Method of making a rocket motor casing Patent  
[NASA-CASE-XLE-00409] c 28 N71-15658  
Rocket motor casing Patent  
[NASA-CASE-LAR-11974-1] c 28 N71-15659  
Payload/burned-out motor case separation system Patent  
[NASA-CASE-XLA-05369] c 31 N71-15687  
Solid propellant liner Patent  
[NASA-CASE-XNP-09744] c 27 N71-16392  
Ion engine casing construction and method of making same Patent  
[NASA-CASE-XNP-06942] c 28 N71-23293  
Casting propellant in rocket engine  
[NASA-CASE-LAR-11995-1] c 28 N77-10213  
Solid propellant rocket motor and method of making same  
[NASA-CASE-XLA-01349] c 20 N77-17143
- ROCKET ENGINE CONTROL**  
Fluid thrust control system --- for liquid propellant rocket engines  
[NASA-CASE-XMF-05964-1] c 20 N79-21124
- ROCKET ENGINE DESIGN**  
Annular rocket motor and nozzle configuration Patent  
[NASA-CASE-XLE-00078] c 28 N70-33284  
Spherical solid-propellant rocket motor Patent  
[NASA-CASE-XLA-00105] c 28 N70-33331  
Spherically-shaped rocket motor Patent  
[NASA-CASE-XHQ-01897] c 28 N70-35381  
Rocket engine Patent  
[NASA-CASE-XLE-00342] c 28 N70-37980  
Swirling flow nozzle Patent  
[NASA-CASE-XNP-03692] c 28 N71-24321  
Ion thruster with a combination keeper electrode and electron baffle  
[NASA-CASE-NPO-11880] c 28 N73-24783  
Supersonic-combustion rocket  
[NASA-CASE-LEW-11058-1] c 20 N74-13502  
Rocket chamber and method of making  
[NASA-CASE-LEW-11118-2] c 20 N76-14191  
System for imposing directional stability on a rocket-propelled vehicle  
[NASA-CASE-MFS-21311-1] c 20 N76-21275  
Dual-fuel, dual-mode rocket engine  
[NASA-CASE-LAR-13773-1] c 20 N88-24685
- ROCKET ENGINES**  
Channel-type shell construction for rocket engines and the like Patent  
[NASA-CASE-XLE-00144] c 28 N70-34860  
Ion thruster cathode Patent Application  
[NASA-CASE-LEW-10814-1] c 28 N70-35422  
Injector-valve device Patent  
[NASA-CASE-XLE-00303] c 15 N70-36535  
Elastic universal joint Patent  
[NASA-CASE-XNP-00416] c 15 N70-36947  
Passively regulated water electrolysis rocket engine Patent  
[NASA-CASE-XGS-08729] c 28 N71-14044  
Method of igniting solid propellants Patent  
[NASA-CASE-XLE-01988] c 27 N71-15634  
Laminar flow enhancement Patent  
[NASA-CASE-NPO-10122] c 12 N71-17631  
Swirling flow nozzle Patent  
[NASA-CASE-XNP-03692] c 28 N71-24321  
Thruster maintenance system Patent  
[NASA-CASE-MFS-20325] c 28 N71-27095  
Purge device for thrust engines Patent  
[NASA-CASE-XMS-04826] c 28 N71-28849  
Method and device for cooling Patent  
[NASA-CASE-HQN-00938] c 33 N71-29053  
Ion thruster magnetic field control  
[NASA-CASE-LEW-10835-1] c 28 N72-22771  
Altitude simulation chamber for rocket engine testing  
[NASA-CASE-MFS-20620] c 11 N72-27262  
Method of making apparatus for sensing temperature  
[NASA-CASE-XLE-05230-2] c 14 N73-13417  
Magneto-plasma-dynamic arc thruster  
[NASA-CASE-LEW-11180-1] c 25 N73-25760  
Method of electroforming a rocket chamber  
[NASA-CASE-LEW-11118-1] c 20 N74-32919  
Device for installing rocket engines  
[NASA-CASE-MFS-19220-1] c 20 N76-22296

Ion beam thruster shield  
[NASA-CASE-LEW-12082-1] c 20 N77-10148

Anode for ion thruster  
[NASA-CASE-LEW-12048-1] c 20 N77-20162

General purpose rocket furnace  
[NASA-CASE-MFS-23460-1] c 12 N79-26075

Diffuser/ejector system for a very high vacuum environment  
[NASA-CASE-MFS-25791-1] c 09 N84-27749

Ring-cusp ion thruster with shell anode  
[NASA-CASE-LEW-13881-1] c 20 N85-21256

Low loss injector for liquid propellant rocket engines  
[NASA-CASE-MFS-25989-1] c 20 N87-14420

Emergency egress fixed rocket package  
[NASA-CASE-MSC-21332-1] c 03 N89-11724

**ROCKET EXHAUST**

Thrust vector control apparatus Patent  
[NASA-CASE-XLE-00208] c 28 N70-34294

Rocket thrust throttling system  
[NASA-CASE-LEW-10374-1] c 28 N73-13773

Method and apparatus for suppressing ignition overpressure in solid rocket propulsion systems  
[NASA-CASE-MFS-25843-1] c 20 N83-17588

Hybrid plume plasma rocket  
[NASA-CASE-MSC-20476-2] c 20 N89-25279

**ROCKET FIRING**

Alleviation of divergence during rocket launch Patent  
[NASA-CASE-XLA-00256] c 31 N71-15663

**ROCKET FLIGHT**

Technique for control of free-flight rocket vehicles Patent  
[NASA-CASE-XLA-00937] c 31 N71-17691

**ROCKET LAUNCHING**

Alleviation of divergence during rocket launch Patent  
[NASA-CASE-XLA-00256] c 31 N71-15663

Controlled release device Patent  
[NASA-CASE-XKS-03338] c 15 N71-24043

**ROCKET LININGS**

Heat exchanger and method of making --- rocket lining  
[NASA-CASE-LEW-12441-2] c 34 N80-24573

**ROCKET NOZZLES**

Gimballed, partially submerged rocket nozzle Patent  
[NASA-CASE-XMF-01544] c 28 N70-34162

Rocket thrust chamber Patent  
[NASA-CASE-XLE-00145] c 28 N70-36806

Self-sealing, unbonded, rocket motor nozzle closure Patent  
[NASA-CASE-XLA-02651] c 28 N70-41967

Automatically deploying nozzle exit cone extension Patent  
[NASA-CASE-XLE-01640] c 31 N71-15637

Rocket nozzle test method Patent  
[NASA-CASE-NPO-10311] c 31 N71-15643

Collapsible nozzle extension for rocket engines Patent  
[NASA-CASE-MFS-11497] c 28 N71-16224

Apparatus and method for protecting a photographic device Patent  
[NASA-CASE-NPO-10174] c 14 N71-18465

Multistot film cooled pyrolytic graphite rocket nozzle Patent  
[NASA-CASE-XNP-04389] c 28 N71-20942

Prestressed refractory structure Patent  
[NASA-CASE-XNP-02888] c 18 N71-21068

Swirling flow nozzle Patent  
[NASA-CASE-XNP-03692] c 28 N71-24321

Method and device for cooling Patent  
[NASA-CASE-HQN-00938] c 33 N71-29053

Inflatable transpiration cooled nozzle  
[NASA-CASE-MFS-20619] c 28 N72-11708

Solid propellant rocket motor nozzle  
[NASA-CASE-NPO-11458] c 28 N72-23810

Method of making a rocket nozzle  
[NASA-CASE-XMF-06884-1] c 20 N79-21123

Retractable environmental seal  
[NASA-CASE-MFS-23646-1] c 37 N79-22474

Nozzle fabrication technique  
[NASA-CASE-MSC-21299-1] c 20 N88-24684

Hybrid plume plasma rocket  
[NASA-CASE-MSC-20476-2] c 20 N89-25279

**ROCKET OXIDIZERS**

Preparing oxidizer coated metal fuel particles  
[NASA-CASE-NPO-11975-1] c 28 N74-33209

**ROCKET PROPELLANTS**

Two-step rocket engine bipropellant valve Patent  
[NASA-CASE-XMS-04890-1] c 15 N70-22192

Rocket engine injector Patent  
[NASA-CASE-XLE-03157] c 28 N71-24736

Bipropellant injector  
[NASA-CASE-XNP-09461] c 28 N72-23809

**ROCKET TEST FACILITIES**

High-vacuum condenser tank for ion rocket tests Patent  
[NASA-CASE-XLE-00168] c 11 N70-33278

Micro-pound extended range thrust stand Patent  
[NASA-CASE-GSC-10710-1] c 28 N71-27094

**ROCKET THRUST**

Apparatus and method for control of a solid fueled rocket vehicle Patent  
[NASA-CASE-XNP-00217] c 28 N70-38181

Electrostatic thruster with improved insulators Patent  
[NASA-CASE-XLE-01902] c 28 N71-10574

Solid propellant rocket motor  
[NASA-CASE-NPO-11559] c 28 N73-24784

Thrust measurement  
[NASA-CASE-XMS-05731] c 35 N75-29382

**ROCKET VEHICLES**

Umbilical separator for rockets Patent  
[NASA-CASE-XNP-00425] c 11 N70-38202

Support apparatus for dynamic testing Patent  
[NASA-CASE-XMF-01772] c 11 N70-41677

Alleviation of divergence during rocket launch Patent  
[NASA-CASE-XLA-00256] c 31 N71-15663

Technique for control of free-flight rocket vehicles Patent  
[NASA-CASE-XLA-00937] c 31 N71-17691

Coupling device for moving vehicles  
[NASA-CASE-GSC-12322-1] c 37 N80-14398

High acceleration cable deployment system  
[NASA-CASE-ARC-11256-1] c 15 N82-24272

**ROCKET-BORNE INSTRUMENTS**

Scanning aspect sensor employing an apertured disc and a commutator  
[NASA-CASE-XGS-08266] c 14 N69-27432

**ROCKETS**

Hydrogen fire detection system with logic circuit to analyze the spectrum of temporal variations of the optical spectrum  
[NASA-CASE-MFS-13130] c 10 N72-17173

**ROCKS**

Rock drill for recovering samples  
[NASA-CASE-XNP-07478] c 14 N69-21923

Rock sampling --- apparatus for controlling particle size  
[NASA-CASE-XNP-10007-1] c 46 N74-23068

Rock sampling --- method for controlling particle size distribution  
[NASA-CASE-XNP-09755] c 46 N74-23069

Coal-rock interface detector  
[NASA-CASE-MFS-23725-1] c 43 N79-31706

**RODS**

Nuclear thermionic converter --- tungsten-thorium oxide rods  
[NASA-CASE-NPO-13121-1] c 73 N77-18891

Quasi-containerless glass formation method and apparatus  
[NASA-CASE-MFS-28090-1] c 27 N87-21111

Lightning discharge protection rod  
[NASA-CASE-LAR-13470-1] c 03 N88-14083

**ROLL**

Roll alignment detector  
[NASA-CASE-GSC-10514-1] c 14 N72-20379

**ROLLER BEARINGS**

Method of lubricating rolling element bearings Patent  
[NASA-CASE-XLE-09527] c 15 N71-17688

Semi-linear ball bearing Patent  
[NASA-CASE-XLA-02809] c 15 N71-22982

Low mass rolling element for bearings  
[NASA-CASE-LEW-11087-1] c 15 N73-30458

Method of making rolling element bearings  
[NASA-CASE-LEW-11087-2] c 37 N74-15128

Bearing material --- composite material with low friction surface for rolling or sliding contact  
[NASA-CASE-LEW-11930-1] c 24 N76-22309

**ROLLERS**

Method of improving the reliability of a rolling element system Patent  
[NASA-CASE-XLE-02999] c 15 N71-16052

Load regulating latch  
[NASA-CASE-MSC-19535-1] c 37 N77-32499

Suspension system for a wheel rolling on a flat track --- bearings for directional antennas  
[NASA-CASE-NPO-14395-1] c 37 N82-21587

**ROLLING CONTACT LOADS**

Rolling element bearings Patent  
[NASA-CASE-XLE-09527-2] c 15 N71-26189

**ROLLING MOMENTS**

Roll attitude star sensor system Patent  
[NASA-CASE-XNP-01307] c 21 N70-41856

**ROOM TEMPERATURE**

Coating process  
[NASA-CASE-XNP-06508] c 18 N69-39895

**ROTARY GYROSCOPES**

Closed loop fiber optic rotation sensor  
[NASA-CASE-NPO-16558-1-CU] c 74 N87-23259

**ROTARY STABILITY**

Reactance control system Patent  
[NASA-CASE-XMF-01598] c 21 N71-15583

Two component bearing Patent  
[NASA-CASE-XLA-00013] c 15 N71-29136

Lubricated journal bearing  
[NASA-CASE-LEW-11076-3] c 37 N75-30562

Cyclical bi-directional rotary actuator  
[NASA-CASE-GSC-11883-1] c 37 N77-19458

Family of airfoil shapes for rotating blades --- for increased power efficiency and blade stability  
[NASA-CASE-LAR-12843-1] c 02 N84-11136

Apparatus for and method of compensating dynamic unbalance  
[NASA-CASE-GSC-12550-1] c 37 N84-28082

Dual motion valve with single motion input  
[NASA-CASE-MFS-28058-1] c 37 N87-21332

**ROTARY WING AIRCRAFT**

Aircraft control system  
[NASA-CASE-ERC-10439] c 02 N73-19004

Swashplate control system  
[NASA-CASE-ARC-11633-1] c 08 N87-23631

High lift, low pitching moment airfoils  
[NASA-CASE-LAR-13215-1] c 02 N89-14224

**ROTARY WINGS**

Variable geometry rotor system  
[NASA-CASE-LAR-10557] c 02 N72-11018

Hingeless helicopter rotor with improved stability  
[NASA-CASE-ARC-10807-1] c 05 N77-17029

Locking redundant link  
[NASA-CASE-LAR-11900-1] c 37 N79-14382

Acoustically swept rotor --- helicopter noise reduction  
[NASA-CASE-LAR-11106-1] c 05 N80-14107

Compensating linkage for main rotor control  
[NASA-CASE-LAR-11797-1] c 05 N81-19087

Family of airfoil shapes for rotating blades --- for increased power efficiency and blade stability  
[NASA-CASE-LAR-12843-1] c 02 N84-11136

Shapes for rotating airfoils  
[NASA-CASE-LAR-12396-1] c 02 N84-28732

Helicopter anti-torque system using strakes  
[NASA-CASE-LAR-13233-1] c 05 N84-33400

**ROTATING BODIES**

Optical spin compensator  
[NASA-CASE-XGS-02401] c 14 N69-27485

Laser apparatus for removing material from rotating objects Patent  
[NASA-CASE-MFS-11279] c 16 N71-20400

Phase-locked servo system --- for synchronizing the rotation of slip ring assembly  
[NASA-CASE-MFS-22073-1] c 33 N75-13139

Annular momentum control device used for stabilization of space vehicles and the like  
[NASA-CASE-LAR-11051-1] c 15 N76-14158

Axially and radially controllable magnetic bearing  
[NASA-CASE-GSC-11551-1] c 37 N76-18459

Multiple in-line docking capability for rotating space stations  
[NASA-CASE-MFS-20855-1] c 15 N77-10112

Rotatable mass for a flywheel  
[NASA-CASE-MFS-23051-1] c 37 N79-10422

Acoustic driving of rotor  
[NASA-CASE-NPO-14005-1] c 71 N79-20827

Multi-channel rotating optical interface for data transmission  
[NASA-CASE-NPO-14066-1] c 74 N79-34011

Apparatus for and method of compensating dynamic unbalance  
[NASA-CASE-GSC-12550-1] c 37 N84-28082

Airborne tracking sunphotometer apparatus and system  
[NASA-CASE-ARC-11622-1] c 44 N88-14492

**ROTATING CYLINDERS**

Tread drum for animals --- having an electrical shock station  
[NASA-CASE-ARC-10917-1] c 51 N78-27733

Head for high speed spinner having a vacuum chuck --- holding silicon dioxide chips for etching  
[NASA-CASE-NPO-15227-1] c 37 N81-33482

Non-backdrivable free wheeling coupling  
[NASA-CASE-MSC-20475-1] c 37 N87-17037

**ROTATING DISKS**

Foil seal  
[NASA-CASE-XLE-05130] c 15 N69-21362

Scanning aspect sensor employing an apertured disc and a commutator  
[NASA-CASE-XGS-08266] c 14 N69-27432

Redundant disc  
[NASA-CASE-LEW-12496-1] c 07 N78-33101

Spinning disk calibration method and apparatus for laser Doppler velocimeter  
[NASA-CASE-ARC-11510-1] c 35 N86-32697

**ROTATING ELECTRICAL MACHINES**

Light intensity modulator controller Patent  
[NASA-CASE-XMS-04300] c 09 N71-19479

Direct current motor with stationary armature and field Patent  
[NASA-CASE-XGS-05290] c 09 N71-25999

Constant frequency output two stage induction machine systems Patent  
[NASA-CASE-ERC-10065] c 09 N71-27364

## ROTATING ENVIRONMENTS

- Radial module space station Patent  
[NASA-CASE-XMS-01906] c 31 N70-41373
- Rotating space station simulator Patent  
[NASA-CASE-XLA-03127] c 11 N71-10776

## ROTATING GENERATORS

- Rotating raster generator  
[NASA-CASE-FRC-10071-1] c 32 N74-20813
- Wind wheel electric power generator  
[NASA-CASE-MFS-23515-1] c 44 N80-21828

## ROTATING MIRRORS

- Retrodirective modulator Patent  
[NASA-CASE-GSC-10062] c 14 N71-15605
- Attitude sensor for space vehicles Patent  
[NASA-CASE-XLA-00793] c 21 N71-22880
- Method for generating ultra-precise angles Patent  
[NASA-CASE-XGS-04173] c 19 N71-26674
- Method and apparatus for optically monitoring the angular position of a rotating mirror  
[NASA-CASE-GSC-11353-1] c 74 N74-21304
- Multispectral glancing incidence X-ray telescope  
[NASA-CASE-MFS-28013-1] c 89 N86-22459

## ROTATING SHAFTS

- Foil seal Patent  
[NASA-CASE-XLE-05130-2] c 15 N71-19570
- Anemometer with braking mechanism Patent  
[NASA-CASE-XMF-05224] c 14 N71-23726
- Detenting servomotor Patent  
[NASA-CASE-XNP-06936] c 15 N71-24695
- Rotating shaft seal Patent  
[NASA-CASE-XNP-02862-1] c 15 N71-26294
- Two component bearing Patent  
[NASA-CASE-XLA-00013] c 15 N71-29136
- Half effect transducer  
[NASA-CASE-LAR-10620-1] c 09 N72-25255
- Spiral groove seal --- for rotating shaft  
[NASA-CASE-XLE-10326-4] c 37 N74-15125
- Digital servo controller --- for rotating antenna shaft  
[NASA-CASE-KSC-10769-1] c 33 N74-29556
- Solid medium thermal engine  
[NASA-CASE-ARC-10461-1] c 44 N74-33379
- Ergometer calibrator --- for any ergometer utilizing rotating shaft  
[NASA-CASE-MFS-21045-1] c 35 N75-15932
- Fluid seal for rotating shafts  
[NASA-CASE-LEW-11676-1] c 37 N76-22541
- Cyclical bi-directional rotary actuator  
[NASA-CASE-GSC-11883-1] c 37 N77-19458
- Tachometer  
[NASA-CASE-MFS-23175-1] c 35 N77-30436
- Rotary leveling base platform  
[NASA-CASE-ARC-10981-1] c 37 N78-27425
- Rotary electric device  
[NASA-CASE-GSC-12138-1] c 33 N79-20314
- Circumferential shaft seal  
[NASA-CASE-LEW-12119-1] c 37 N80-28711
- Multiple plate hydrostatic viscous damper  
[NASA-CASE-LEW-12445-1] c 37 N81-22360
- Clutchless multiple drive source for output shaft  
[NASA-CASE-ARC-11325-1] c 37 N82-22496
- Resilient seal ring assembly with spring means applying force to wedge member --- cryogenic applications  
[NASA-CASE-MFS-25678-1] c 37 N84-11497
- Vertical shaft windmill  
[NASA-CASE-LAR-12923-1] c 37 N84-12493
- Directional gear ratio transmissions  
[NASA-CASE-LAR-12644-1] c 37 N84-28084
- Variable force, eddy-current or magnetic damper  
[NASA-CASE-LEW-13717-1] c 37 N85-30333
- Rotary stepping device with memory metal actuator  
[NASA-CASE-NPO-15482-1] c 37 N87-23970
- Rotary control lock  
[NASA-CASE-NPO-17453-1-CU] c 37 N89-13787
- ROTATION**
- Semi-linear ball bearing Patent  
[NASA-CASE-XLA-02809] c 15 N71-22982
- Mechanical actuator Patent  
[NASA-CASE-XGS-04548] c 15 N71-24045
- Positioning mechanism  
[NASA-CASE-NPO-10679] c 15 N72-21462
- Spray coating apparatus having a rotatable workpiece holder  
[NASA-CASE-ARC-11110-1] c 37 N82-24492
- System for controlled acoustic rotation of objects  
[NASA-CASE-NPO-15522-1] c 71 N83-32516
- Acoustic rotation control  
[NASA-CASE-NPO-15689-1] c 71 N84-23233
- Atmospheric autorotating imaging device  
[NASA-CASE-NPO-17390-1-CU] c 35 N88-24944
- Improved docking alignment system  
[NASA-CASE-MS-C-21372-1] c 35 N89-12842
- Rotary control lock  
[NASA-CASE-NPO-17453-1-CU] c 37 N89-13787
- Controlled sample orientation and rotation in an acoustic levitator  
[NASA-CASE-NPO-17086-1-CU] c 35 N89-14422

- Hollow fiber clinostat: Technical abstract  
[NASA-CASE-MFS-28370-1] c 35 N89-28793

## ROTOR AERODYNAMICS

- Acoustically swept rotor --- helicopter noise reduction  
[NASA-CASE-ARC-11106-1] c 05 N80-14107

## ROTOR BLADES

- Non-destructive method for applying and removing instrumentation on helicopter rotor blades  
[NASA-CASE-LAR-11201-1] c 35 N78-24515
- Apparatus and method for reducing thermal stress in a turbine rotor  
[NASA-CASE-LEW-12232-1] c 07 N79-10057

## ROTOR BLADES (TURBOMACHINERY)

- Locking device for turbine rotor blades Patent  
[NASA-CASE-XNP-00816] c 28 N71-28928
- Turbo-machine blade vibration damper Patent  
[NASA-CASE-XLE-00155] c 28 N71-29154
- Apparatus for welding blades to rotors  
[NASA-CASE-LEW-10533-2] c 37 N74-11300
- Supersonic fan blading --- noise reduction in turbofan engines  
[NASA-CASE-LEW-11402-1] c 07 N74-28226
- Blade retainer assembly  
[NASA-CASE-LEW-12608-1] c 07 N77-27116
- Platform for a swing root turbomachinery blade  
[NASA-CASE-LEW-12312-1] c 07 N77-32148
- Tip cap for a rotor blade  
[NASA-CASE-LEW-13654-1] c 07 N84-22560
- Shapes for rotating airfoils  
[NASA-CASE-LAR-12396-1] c 02 N84-28732

## ROTOR LIFT

- Constant lift rotor for a heavier than air craft  
[NASA-CASE-XLA-11045-1] c 05 N79-17847

## ROTOR SPEED

- Brushless direct current tachometer Patent  
[NASA-CASE-MFS-20385] c 09 N71-24904

## ROTORCRAFT AIRCRAFT

- Constant lift rotor for a heavier than air craft  
[NASA-CASE-ARC-11045-1] c 05 N79-17847

## ROTOR

- Multi-stage multiple-reentry turbine Patent  
[NASA-CASE-XLE-00085] c 28 N70-39895
- Angular position and velocity sensing apparatus Patent  
[NASA-CASE-XGS-05680] c 14 N71-17585
- Indexing microwave switch Patent  
[NASA-CASE-XNP-06507] c 09 N71-23548
- Detenting servomotor Patent  
[NASA-CASE-XNP-06936] c 15 N71-24695
- Rotary vane attenuator wherein rotor has orthogonally disposed resistive and dielectric cards  
[NASA-CASE-NPO-11418-1] c 14 N73-13420
- Welding blades to rotors  
[NASA-CASE-LEW-10533-1] c 15 N73-28515
- Magnetic field control --- electromechanical torquing device  
[NASA-CASE-MFS-23828-1] c 33 N82-26569
- Damping seal for turbomachinery  
[NASA-CASE-MFS-25842-2] c 37 N86-20788
- Swashplate control system  
[NASA-CASE-ARC-11633-1] c 08 N87-23631
- Turbomachinery rotor support with damping  
[NASA-CASE-MFS-28345-1] c 37 N89-28841

## RUBBER

- Thermoplastic rubber comprising ethylene-vinyl acetate copolymer, asphalt and fluxing oil  
[NASA-CASE-NPO-08835-1] c 27 N78-33228
- Formulated plastic separators for soluble electrode cells --- rubber-ion transport membranes  
[NASA-CASE-LEW-12358-1] c 44 N79-17313
- Enhancement of in vitro guayule propagation  
[NASA-CASE-NPO-15213-1] c 51 N83-17045

## RUBBER COATINGS

- Intumescent paint containing nitrile rubber  
[NASA-CASE-ARC-10196-1] c 18 N73-13562

## RUBY

- Bonding of sapphire to sapphire by eutectic mixture of aluminum oxide and zirconium oxide  
[NASA-CASE-GSC-11577-1] c 37 N75-15992
- Bonding of sapphire to sapphire by eutectic mixture of aluminum oxide and zirconium oxide  
[NASA-CASE-GSC-11577-3] c 24 N79-25143

## RUBY LASERS

- Laser coolant and ultraviolet filter  
[NASA-CASE-MFS-20180] c 16 N72-12440

## RUNWAY ALIGNMENT

- Magnetic position detection method and apparatus  
[NASA-CASE-ARC-10179-1] c 21 N72-22619

## RUNWAY CONDITIONS

- Airplane runway performance monitoring system  
[NASA-CASE-LAR-13854-1-CU] c 04 N88-24621
- Warm fog dissipation using large volume water sprays  
[NASA-CASE-MFS-25962-1] c 09 N89-25242

## RUNWAY LIGHTS

- Runway light Patent  
[NASA-CASE-XLA-00119] c 11 N70-33329

- Spectrally balanced chromatic landing approach lighting system  
[NASA-CASE-ARC-10990-1] c 04 N82-16059

## RUNWAYS

- Airplane runway performance monitoring system  
[NASA-CASE-LAR-13854-1-CU] c 04 N88-24621
- Warm fog dissipation using large volume water sprays  
[NASA-CASE-MFS-25962-1] c 09 N89-25242

## RUPTURING

- Means for controlling rupture of shock tube diaphragms Patent  
[NASA-CASE-XAC-00731] c 11 N71-15960

## S

## SABOT PROJECTILES

- Hypervelocity gun --- using both electric and chemical energy for projectile propulsion  
[NASA-CASE-XLE-03186-1] c 09 N79-21084

## SAFETY

- Phosphorus-containing imide resins  
[NASA-CASE-ARC-11368-3] c 27 N84-22745

## SAFETY DEVICES

- Pressure suit tie-down mechanism Patent  
[NASA-CASE-XMS-00784] c 05 N71-12335
- Positive locking check valve Patent  
[NASA-CASE-XMS-09310] c 15 N71-22706
- Protective device for machine and metalworking tools Patent  
[NASA-CASE-XLE-01092] c 15 N71-22797
- Velocity limiting safety system Patent  
[NASA-CASE-XLA-07473] c 15 N71-24895
- Combustion products generating and metering device  
[NASA-CASE-GSC-11095-1] c 14 N72-10375
- Restraint torso for a pressurized suit  
[NASA-CASE-MS-C-12397-1] c 05 N72-25119
- Totally confined explosive welding --- apparatus to reduce noise level and protect personnel during explosive bonding  
[NASA-CASE-LAR-10941-1] c 37 N74-21057
- Deployable flexible ventral fins for use as an emergency spin recovery device in aircraft  
[NASA-CASE-LAR-10753-1] c 08 N74-30421
- Shoulder harness and lap belt restraint system  
[NASA-CASE-ARC-10519-2] c 05 N75-25915
- Fifth wheel  
[NASA-CASE-FRC-10081-1] c 37 N77-14477
- Microwave power transmission beam safety system  
[NASA-CASE-NPO-14224-1] c 33 N80-18287
- Safety shield for vacuum/pressure chamber viewing port  
[NASA-CASE-GSC-12513-1] c 31 N81-19343
- Self-locking double retention redundant full pin release  
[NASA-CASE-NPO-16233-1] c 37 N86-20801
- Variable response load limiting device  
[NASA-CASE-LAR-12801-1] c 37 N88-23982
- Timing control system  
[NASA-CASE-NPO-16882-1-CU] c 33 N88-24863

## SAFETY FACTORS

- Safety flywheel --- using flexible materials energy storage  
[NASA-CASE-HQN-10888-1] c 44 N79-14527

## SAHA EQUATIONS

- Cosmic dust analyzer  
[NASA-CASE-MS-C-13802-2] c 35 N76-15431

## SALT BATHS

- Process for applying a protective coating for salt bath brazing Patent  
[NASA-CASE-XLE-00046] c 15 N70-33311

## SAMARIUM

- Gd or Sm doped silicon semiconductor composition Patent  
[NASA-CASE-XLE-10715] c 26 N71-23292

## SAMPLERS

- Vacuum probe surface sampler  
[NASA-CASE-LAR-10623-1] c 14 N73-30395
- Automated syringe sampler --- remote sampling of air and water  
[NASA-CASE-LAR-12308-1] c 35 N81-29407

## SAMPLES

- Plural output optometric sample cell and analysis system  
[NASA-CASE-NPO-10233-1] c 74 N78-33913
- Mobile sampler for use in acquiring samples of terrestrial atmospheric gases  
[NASA-CASE-NPO-15220-1] c 45 N83-25217

## SAMPLING

- Sample collecting impact bit Patent  
[NASA-CASE-XNP-01412] c 15 N70-42034
- Fluid sample collector Patent  
[NASA-CASE-XMS-06767-1] c 14 N71-20435
- Atmospheric sampling devices  
[NASA-CASE-NPO-11373] c 13 N72-25323
- Digital to analog conversion apparatus  
[NASA-CASE-MS-C-12458-1] c 08 N73-32081

Rock sampling --- apparatus for controlling particle size  
[NASA-CASE-XNP-10007-1] c 46 N74-23068

Rock sampling --- method for controlling particle size distribution  
[NASA-CASE-XNP-09755] c 46 N74-23069

Apparatus for microbiological sampling --- including automatic swabbing  
[NASA-CASE-LAR-11069-1] c 35 N75-12272

Automatic biowaste sampling  
[NASA-CASE-MSC-14640-1] c 54 N76-14804

Remote water monitoring system  
[NASA-CASE-LAR-11973-1] c 35 N78-27384

Fluid sample collection and distribution system --- qualitative analysis of aqueous samples from several points  
[NASA-CASE-MSC-16841-1] c 34 N79-24285

Method for detecting coliform organisms  
[NASA-CASE-ARC-11322-1] c 51 N83-28849

Moisture content and gas sampling device  
[NASA-CASE-MSC-18866-1] c 35 N85-29213

Optical multiple sample vacuum integrating sphere  
[NASA-CASE-GSC-12849-1] c 74 N86-26190

Solid sorbent air sampler  
[NASA-CASE-MSC-20653-1] c 35 N86-26595

Digital carrier demodulator employing components working beyond normal limits  
[NASA-CASE-NPO-17628-1-CU] c 32 N89-28684

**SANDWICH STRUCTURES**

Sandwich panel construction Patent  
[NASA-CASE-XLA-00349] c 33 N70-37979

Micrometeoroid velocity measuring device Patent  
[NASA-CASE-XLA-00495] c 14 N70-41332

Meteoroid sensing apparatus having a coincidence network connected to a pair of capacitors Patent  
[NASA-CASE-XLE-01246] c 14 N71-10797

Method of making inflatable honeycomb Patent  
[NASA-CASE-XLA-03492] c 15 N71-22713

Convoluting device for forming convolutions and the like Patent  
[NASA-CASE-XNP-05297] c 15 N71-23811

Composite sandwich lattice structure  
[NASA-CASE-LAR-11898-1] c 24 N78-10214

Low density bismaleimide-carbon microballoon composites  
[NASA-CASE-ARC-11040-1] c 24 N79-16915

Superplastically formed diffusion bonded metallic structure  
[NASA-CASE-FRC-11026-1] c 24 N82-24296

Multilayer thermal protection system  
[NASA-CASE-LAR-12620-1] c 24 N82-32417

**SAPPHIRE**

Bonding of sapphire to sapphire by eutectic mixture of aluminum oxide and zirconium oxide  
[NASA-CASE-GSC-11577-1] c 37 N75-15992

Bonding of sapphire to sapphire by eutectic mixture of aluminum oxide and zirconium oxide  
[NASA-CASE-GSC-11577-3] c 24 N79-25143

**SATELLITE ANTENNAS**

Antenna system using parasitic elements and two driven elements at 90 deg angle fed 180 deg out of phase Patent  
[NASA-CASE-XLA-00414] c 07 N70-38200

Apparatus providing a directive field pattern and attitude sensing of a spin stabilized satellite Patent  
[NASA-CASE-XGS-02607] c 31 N71-23009

Apparatus and method for determining the position of a radiant energy source  
[NASA-CASE-GSC-12147-1] c 32 N81-27341

Microwave switching power divider --- antenna feeds  
[NASA-CASE-GSC-12420-1] c 33 N82-16340

Antenna surface contour control system  
[NASA-CASE-LAR-13798-1] c 32 N89-25363

**SATELLITE ATTITUDE CONTROL**

Photosensitive device to detect bearing deviation Patent  
[NASA-CASE-XNP-00438] c 21 N70-35089

Attitude control for spacecraft Patent  
[NASA-CASE-XNP-02982] c 31 N70-41855

Satellite despinn device Patent  
[NASA-CASE-XMF-08523] c 31 N71-20396

Attitude control and damping system for spacecraft Patent  
[NASA-CASE-XLA-02551] c 21 N71-21708

Gravity gradient attitude control system Patent  
[NASA-CASE-GSC-10555-1] c 21 N71-27324

Spacecraft attitude control method and apparatus  
[NASA-CASE-HQN-10439] c 21 N72-21624

Dual purpose momentum wheels for spacecraft with magnetic recording  
[NASA-CASE-NPO-11481] c 21 N73-13644

Combination automatic-starting electrical plasma torch and gas shutoff valve --- for satellite attitude control  
[NASA-CASE-XLE-10717] c 37 N75-29426

Attitude control system  
[NASA-CASE-MFS-22787-1] c 15 N77-10113

Rim inertial measuring system  
[NASA-CASE-LAR-12052-1] c 18 N81-29152

**SATELLITE COMMUNICATION**

Satellite communication system and method Patent  
[NASA-CASE-GSC-10118-1] c 07 N71-24621

Satellite communication system Patent  
[NASA-CASE-XNP-02389] c 07 N71-28900

Ground plane interference elimination by passive element  
[NASA-CASE-NPO-16632-1-CU] c 32 N87-15390

**SATELLITE CONTROL**

Stabilization of gravity oriented satellites Patent  
[NASA-CASE-XAC-01591] c 31 N71-17729

**SATELLITE DESIGN**

Inflation system for balloon type satellites Patent  
[NASA-CASE-XGS-03351] c 31 N71-16081

**SATELLITE INSTRUMENTS**

Reaction wheel scanner Patent  
[NASA-CASE-XGS-02629] c 14 N71-21082

**SATELLITE NETWORKS**

Satellite interface synchronization system  
[NASA-CASE-GSC-10390-1] c 07 N72-11149

**SATELLITE OBSERVATION**

Method and apparatus for Delta Kappa synthetic aperture radar measurement of ocean current  
[NASA-CASE-NPO-15704-1] c 32 N85-34327

**SATELLITE ORBITS**

Apparatus for changing the orientation and velocity of a spinning body traversing a path Patent  
[NASA-CASE-HQN-00936] c 31 N71-29050

**SATELLITE ORIENTATION**

Method and apparatus for determining satellite orientation utilizing spatial energy sources Patent  
[NASA-CASE-XGS-00466] c 21 N70-34297

Cartwheel satellite synchronization system Patent  
[NASA-CASE-XGS-05579] c 31 N71-15676

Apparatus for changing the orientation and velocity of a spinning body traversing a path Patent  
[NASA-CASE-HQN-00936] c 31 N71-29050

Analog spatial maneuver computer  
[NASA-CASE-GSC-10880-1] c 08 N72-11172

**SATELLITE PERTURBATION**

Method and means for damping nutation in a satellite Patent  
[NASA-CASE-XMF-00442] c 31 N71-10747

**SATELLITE POWER TRANSMISSION**

Microwave power transmission beam safety system  
[NASA-CASE-NPO-14224-1] c 33 N80-18287

**SATELLITE ROTATION**

Optical spin compensator  
[NASA-CASE-XGS-02401] c 14 N69-27485

Stretch de-spin mechanism Patent  
[NASA-CASE-XGS-00619] c 30 N70-40016

Apparatus for changing the orientation and velocity of a spinning body traversing a path Patent  
[NASA-CASE-HQN-00936] c 31 N71-29050

Magnetic spin reduction system for free spinning objects  
[NASA-CASE-MFS-25966-1] c 16 N86-26352

**SATELLITE TELEVISION**

Adaptive system and method for signal generation Patent  
[NASA-CASE-GSC-11367] c 10 N71-26374

**SATELLITE TRACKING**

Tracking receiver Patent  
[NASA-CASE-XGS-08679] c 10 N71-21473

Simultaneous acquisition of tracking data from two stations  
[NASA-CASE-NPO-13292-1] c 32 N75-15854

Switchable beamwidth monopulse method and system  
[NASA-CASE-GSC-11924-1] c 33 N76-27472

**SATELLITE TRANSMISSION**

Asynchronous, multiplexing, single line transmission and recovery data system --- for satellite use  
[NASA-CASE-NPO-13321-1] c 32 N75-26195

**SATELLITE-BORNE INSTRUMENTS**

Method of measuring sea surface water temperature with a satellite including wideband passive synthetic-aperture multichannel receiver  
[NASA-CASE-NPO-15651-1] c 43 N85-21723

**SATELLITE-BORNE PHOTOGRAPHY**

Rotary solenoid shutter drive assembly and rotary inertia damper and stop plate assembly --- for use with cameras mounted in satellites  
[NASA-CASE-GSC-11560-1] c 33 N74-20861

Scanner --- photography from a spin stabilized synchronous satellite  
[NASA-CASE-GSC-12032-2] c 43 N82-13465

**SATURABLE REACTORS**

Pulse switching for high energy lasers  
[NASA-CASE-NPO-14556-1] c 33 N82-24418

Low power consumption current transducer  
[NASA-CASE-NPO-16888-1-CU] c 33 N89-29681

## SATURATION

Method of detecting impending saturation of magnetic cores  
[NASA-CASE-ERC-10089] c 23 N72-17747

**SAWS**

Ingot slicing machine and method  
[NASA-CASE-NPO-15483-1] c 37 N85-21650

**SAWTOOTH WAVEFORMS**

Linear sawtooth voltage-wave generator employing transistor timing circuit having capacitor-zener diode combination feedback Patent  
[NASA-CASE-XMS-01315] c 09 N70-41675

**SCANNERS**

Monopulse system with an electronic scanner  
[NASA-CASE-XGS-05582] c 07 N69-27460

Electronic background suppression method and apparatus for a field scanning sensor  
[NASA-CASE-XGS-05211] c 07 N69-39980

Method and means for an improved electron beam scanning system Patent  
[NASA-CASE-ERC-10552] c 09 N71-12539

Reaction wheel scanner Patent  
[NASA-CASE-XGS-02629] c 14 N71-21082

Electronic scanning of 2-channel monopulse patterns Patent  
[NASA-CASE-GSC-10299-1] c 09 N71-24804

Method and apparatus for mapping the sensitivity of the face of a photodetector specifically a PMT  
[NASA-CASE-LAR-10320-1] c 09 N72-23172

Ultrasonic scanner for radial and flat panels  
[NASA-CASE-MFS-20335-1] c 35 N74-10415

Apparatus for scanning the surface of a cylindrical body  
[NASA-CASE-NPO-11861-1] c 36 N74-20009

Fast scan control for deflection type mass spectrometers  
[NASA-CASE-LAR-11428-1] c 35 N74-34857

Electronically scanned pressure sensor module with in situ calibration capability  
[NASA-CASE-LAR-12230-1] c 35 N79-14347

Scannable beam forming interferometer antenna array system  
[NASA-CASE-GSC-12365-1] c 32 N80-28578

Scanner --- photography from a spin stabilized synchronous satellite  
[NASA-CASE-GSC-12032-2] c 43 N82-13465

Optical crystal temperature gauge with fiber optic connections  
[NASA-CASE-MSC-18627-1] c 74 N82-30071

Scanning seismic intrusion detection method and apparatus --- monitoring unwanted subterranean entry and departure  
[NASA-CASE-ARC-11317-1] c 35 N83-34272

Self-correcting electronically scanned pressure sensor  
[NASA-CASE-LAR-12686-1] c 35 N84-14491

Two-dimensional scanner apparatus --- flaw detector in small flat plates  
[NASA-CASE-MFS-25687-1] c 35 N84-22928

Electronic scanning pressure measuring system and transducer package  
[NASA-CASE-ARC-11361-1] c 35 N84-22934

Programmable scan/read circuitry for charge coupled device imaging detectors --- spacecraft attitude control and star trackers  
[NASA-CASE-NPO-15345-1] c 74 N84-23247

Atmospheric autorotating imaging device  
[NASA-CASE-NPO-17390-1-CU] c 35 N88-24944

**SCANNING**

Television signal scan rate conversion system Patent  
[NASA-CASE-XMS-07168] c 07 N71-11300

Method of erasing target material of a vidicon tube or the like Patent  
[NASA-CASE-XNP-06028] c 09 N71-23189

Position determination systems --- using orbital antenna scan of celestial bodies  
[NASA-CASE-MSC-12593-1] c 17 N76-21250

Magnetometer with a miniature transducer and automatic scanning  
[NASA-CASE-LAR-11617-2] c 35 N78-32397

System and method for character recognition  
[NASA-CASE-NPO-11337-1] c 74 N81-19896

**SCATTERING CROSS SECTIONS**

Method and means for helium/hydrogen ratio measurement by alpha scattering  
[NASA-CASE-NPO-14079-1] c 25 N80-20334

Method and apparatus for sensor fusion  
[NASA-CASE-MSC-21334-1] c 32 N89-25360

**SCENE ANALYSIS**

Simulator scene display evaluation device  
[NASA-CASE-ARC-11504-1] c 09 N86-32447

**SCHLIEREN PHOTOGRAPHY**

System and method for obtaining wide screen Schlieren photographs  
[NASA-CASE-NPO-14174-1] c 74 N79-20856

**SCHMIDT CAMERAS**

Cooled echelle grating spectrometer --- for space telescope applications  
[NASA-CASE-NPO-13472-1] c 35 N80-26635

**SCHMIDT TELESCOPES**

Dual aperture multispectral Schmidt objective  
[NASA-CASE-GSC-12756-1] c 74 N84-23248

**SCHOOLS**

Silent emergency alarm system for schools and the like  
[NASA-CASE-NPO-11307-1] c 10 N73-30205

**SCHOTTKY DIODES**

High voltage, high current Schottky barrier solar cell  
[NASA-CASE-NPO-13482-1] c 44 N78-13526  
Solar cells having integral collector grids  
[NASA-CASE-LEW-12819-1] c 44 N79-11467  
Back wall solar cell  
[NASA-CASE-LEW-12236-2] c 44 N79-14528  
Schottky barrier solar cell  
[NASA-CASE-NPO-13689-2] c 44 N81-29525  
Method of fabricating Schottky Barrier solar cell  
[NASA-CASE-NPO-13689-4] c 44 N82-28780  
Thin wire pointing method  
[NASA-CASE-NPO-15789-1] c 31 N83-19947  
Epitaxial thinning process  
[NASA-CASE-NPO-15786-1] c 76 N84-35112  
GaAs Schottky barrier photo-responsive device and method of fabrication  
[NASA-CASE-GSC-12816-1] c 76 N86-20150

**SCOOPS**

Aeroflexible structures  
[NASA-CASE-XLA-06095] c 01 N69-39981

**SCORING**

Scriber for silicon wafers  
[NASA-CASE-NPO-15539-1] c 37 N82-11469

**SCRAMBLING (COMMUNICATION)**

Random digital encryption secure communication system  
[NASA-CASE-MSC-16462-1] c 32 N82-31583

**SCREWS**

Electromechanical control actuator system Patent  
[NASA-CASE-ERC-10022] c 15 N71-26635  
Adjustable support  
[NASA-CASE-NPO-10721] c 15 N72-27484  
Low noise lead screw positioner  
[NASA-CASE-NPO-15617-1] c 35 N87-21304

**SCRUBBERS**

High pressure gas filter system Patent  
[NASA-CASE-MFS-12806] c 14 N71-17588  
Nebulization reflux concentrator  
[NASA-CASE-LAR-13254-1CU] c 35 N86-29174

**SEA ICE**

A technique for breaking ice in the path of a ship  
[NASA-CASE-LAR-10815-1] c 16 N72-22520

**SEA STATES**

Oceanic wave measurement system  
[NASA-CASE-MFS-23862-1] c 48 N80-18667

**SEA SURFACE TEMPERATURE**

Method of measuring sea surface water temperature with a satellite including wideband passive synthetic-aperture multichannel receiver  
[NASA-CASE-NPO-15651-1] c 43 N85-21723

**SEALERS**

Pressure garment joint Patent  
[NASA-CASE-XMS-09636] c 05 N71-12344  
Sealing device for an electrochemical cell Patent  
[NASA-CASE-XGS-02630] c 03 N71-22974  
Bonded elastomeric seal for electrochemical cells Patent  
[NASA-CASE-XGS-02631] c 03 N71-23006  
Self-lubricating fluoride metal composite materials Patent  
[NASA-CASE-XLE-08511] c 18 N71-23710  
Polyimides of ether-linked aryl tetracarboxylic dianhydrides  
[NASA-CASE-MFS-22355-1] c 23 N76-15268  
High performance channel injection sealant invention abstract  
[NASA-CASE-ARC-14408-1] c 27 N82-33523

**SEALING**

Foil seal  
[NASA-CASE-XLE-05130] c 15 N69-21362  
Sealed battery gas manifold construction Patent  
[NASA-CASE-XNP-03378] c 03 N71-11051  
Sealing device for an electrochemical cell Patent  
[NASA-CASE-XGS-02630] c 03 N71-22974  
Sealing member and combination thereof and method of producing said sealing member Patent  
[NASA-CASE-XMS-01625] c 15 N71-23022  
Evacuation port seal Patent  
[NASA-CASE-XMF-03290] c 15 N71-23256  
Valve seat  
[NASA-CASE-NPO-10606] c 15 N72-25451  
Ampoule sealing apparatus and process --- for housing a semiconductor growth charge under vacuum  
[NASA-CASE-LAR-12847-1] c 33 N83-16633

Optical pressure sealing coupling apparatus

[NASA-CASE-MFS-29348-1] c 74 N89-25689  
O-ring gasket test fixture  
[NASA-CASE-MFS-28376-1] c 14 N89-28546  
High temperature flexible seal  
[NASA-CASE-LEW-14695-1] c 37 N89-28830

**SEALS (STOPPERS)**

Spacecraft battery seals  
[NASA-CASE-XGS-03864] c 15 N69-24320  
Flexible seal for valves Patent  
[NASA-CASE-XLE-00101] c 15 N70-33376  
Shrink-fit gas valve Patent  
[NASA-CASE-XGS-00587] c 15 N70-35087  
Thin-walled pressure vessel Patent  
[NASA-CASE-XLE-04677] c 15 N71-10577  
Foil seal Patent  
[NASA-CASE-XLE-05130-2] c 15 N71-19570  
Storage container for electronic devices Patent  
[NASA-CASE-MFS-20075] c 09 N71-26133  
Rotating shaft seal Patent  
[NASA-CASE-XNP-02862-1] c 15 N71-26294  
Spiral groove seal --- for rotating shaft  
[NASA-CASE-XLE-10326-4] c 37 N74-15125  
Glass-to-metal seals comprising relatively high expansion metals  
[NASA-CASE-LEW-10698-1] c 37 N74-21063  
High speed, self-acting shaft seal --- for use in turbine engines  
[NASA-CASE-LEW-11274-1] c 37 N75-21631  
Method of forming shrink-fit compression seal  
[NASA-CASE-LAR-11563-1] c 37 N77-23482  
Counter pumping debris excluder and separator --- gas turbine shaft seals  
[NASA-CASE-LEW-11855-1] c 07 N78-25090  
Composite seal for turbomachinery --- backings for turbine engine shrouds  
[NASA-CASE-LEW-12131-1] c 37 N79-18318  
Retractable environmental seal  
[NASA-CASE-MFS-23646-1] c 37 N79-22474  
Shaft seal assembly for high speed and high pressure applications  
[NASA-CASE-LEW-11873-1] c 37 N79-22475  
Fluid pressure balanced seal  
[NASA-CASE-XGS-01286-1] c 37 N79-33469  
Gas path seal  
[NASA-CASE-NPO-12131-3] c 37 N80-18400  
Composite seal for turbomachinery  
[NASA-CASE-LEW-12131-2] c 37 N80-26658  
Circumferential shaft seal  
[NASA-CASE-LEW-12119-1] c 37 N80-28711  
Thermal barrier pressure seal --- shielding junctions between spacecraft control surfaces and structures  
[NASA-CASE-MSC-18134-1] c 37 N81-15363  
Modified face seal for positive film stiffness  
[NASA-CASE-LEW-12989-1] c 37 N82-12442  
Surface conforming thermal/pressure seal --- tail assemblies of space shuttle orbiters  
[NASA-CASE-MSC-18422-1] c 37 N82-16408  
Composite seal for turbomachinery  
[NASA-CASE-LEW-12131-3] c 37 N82-19540  
Continuous self-locking spiral wound seal --- for maintaining pressure between chambers in cryogenic wind tunnels  
[NASA-CASE-LAR-12315-1] c 37 N82-24490  
Fully plasma-sprayed compliant backed ceramic turbine seal  
[NASA-CASE-LEW-13268-2] c 37 N82-26674  
Fully plasma-sprayed compliant backed ceramic turbine seal  
[NASA-CASE-LEW-13268-1] c 27 N82-29453  
Process for preparing perfluorotriazine elastomers and precursors thereof  
[NASA-CASE-ARC-11402-1] c 27 N84-22744  
Method of fabricating an abradable gas path seal  
[NASA-CASE-LEW-13269-2] c 37 N84-22957  
Damping seal for turbomachinery  
[NASA-CASE-MFS-25842-2] c 37 N86-20788  
Dual motion valve with single motion input  
[NASA-CASE-MFS-28058-1] c 37 N87-21332  
Thermal stress minimized, two component, turbine shroud seal  
[NASA-CASE-LEW-14212-1] c 37 N88-23978  
Quick-disconnect inflatable seal assembly  
[NASA-CASE-KSC-11368-1] c 37 N89-13786  
High temperature flexible seal  
[NASA-CASE-LEW-14695-1] c 37 N89-28830  
Turbomachinery rotor support with damping  
[NASA-CASE-MFS-28345-1] c 37 N89-28841

**SEAMS (JOINTS)**

Traveling sealer for contoured table Patent  
[NASA-CASE-XLA-01494] c 15 N71-24164  
Omnidirectional joint Patent  
[NASA-CASE-XMS-09635] c 05 N71-24623  
Method of making pressure tight seal for super alloy  
[NASA-CASE-LAR-10170-1] c 37 N74-11301

**SEAT BELTS**

Shoulder harness and lap belt restraint system  
[NASA-CASE-ARC-10519-2] c 05 N75-25915

**SEATS**

Seat cushion to provide realistic acceleration cues to aircraft simulator pilot  
[NASA-CASE-LAR-12149-2] c 09 N79-31228  
Fire blocking systems for aircraft seat cushions  
[NASA-CASE-ARC-11423-1] c 03 N84-33394  
Segmented tubular cushion springs and spring assembly  
[NASA-CASE-ARC-11349-1] c 37 N86-20797  
Variable response load limiting device  
[NASA-CASE-LAR-12801-1] c 37 N88-23982

**SECONDARY EMISSION**

Textured carbon surfaces on copper by sputtering  
[NASA-CASE-LEW-14130-1] c 31 N86-32587

**SECTORS**

Journal Bearings  
[NASA-CASE-LEW-11076-2] c 37 N74-32921

**SECURITY**

Passive intrusion detection system  
[NASA-CASE-NPO-13804-1] c 33 N80-23559  
Portable appliance security apparatus  
[NASA-CASE-GSC-12399-1] c 33 N81-25299  
Random digital encryption secure communication system  
[NASA-CASE-MSC-16462-1] c 32 N82-31583  
Scanning seismic intrusion detection method and apparatus --- monitoring unwanted subterranean entry and departure  
[NASA-CASE-ARC-11317-1] c 35 N83-34272

**SEGMENTS**

Method and apparatus for making curved reflectors Patent  
[NASA-CASE-XLE-08917] c 15 N71-15597

**SEISMIC WAVES**

Seismic displacement transducer Patent  
[NASA-CASE-XMF-00479] c 14 N70-34794  
Seismic vibration source  
[NASA-CASE-NPO-14112-1] c 46 N79-22679  
Underwater seismic source --- for petroleum exploration  
[NASA-CASE-NPO-14255-1] c 46 N79-23555

**SEISMOGRAPHS**

Scanning seismic intrusion detection method and apparatus --- monitoring unwanted subterranean entry and departure  
[NASA-CASE-ARC-11317-1] c 35 N83-34272

**SELECTORS**

Molecular beam velocity selector Patent  
[NASA-CASE-XLE-01533] c 11 N71-10777  
Peak polarity selector Patent  
[NASA-CASE-FRC-10010] c 10 N71-24862

**SELF ADAPTIVE CONTROL SYSTEMS**

Self-actuating heat switches for redundant refrigeration systems  
[NASA-CASE-NPO-17085-1-CU] c 31 N89-12785

**SELF ALIGNMENT**

Electro-optical alignment control system Patent  
[NASA-CASE-XMF-00908] c 14 N70-40238  
Electrical self-aligning connector --- orbital servicer vehicles  
[NASA-CASE-MFS-25211-2] c 33 N84-14423

**SELF ERECTING DEVICES**

Flexible foam erectable space structures Patent  
[NASA-CASE-XLA-00686] c 31 N70-34135  
Erectable modular space station Patent  
[NASA-CASE-XLA-00678] c 31 N70-34296  
Manned space station Patent  
[NASA-CASE-XLA-00258] c 31 N70-38676  
Foldable conduit Patent  
[NASA-CASE-XLE-00620] c 32 N70-41579  
Self-erecting reflector Patent  
[NASA-CASE-XGS-09190] c 31 N71-16102  
Collapsible reflector Patent  
[NASA-CASE-XMS-03454] c 09 N71-20658  
Foldable self-erecting joint  
[NASA-CASE-MSC-20635-1] c 18 N87-14373

**SELF FOCUSING**

Focal axis resolver for offset reflector antennas  
[NASA-CASE-GSC-12630-1] c 33 N83-36355

**SELF LUBRICATING MATERIALS**

Self-lubricating fluoride metal composite materials Patent  
[NASA-CASE-XLE-08511] c 18 N71-23710  
Self-lubricating gears and other mechanical parts Patent  
[NASA-CASE-MFS-14971] c 15 N71-24984  
Method of making bearing material  
[NASA-CASE-LEW-11930-3] c 24 N80-33482

**SELF LUBRICATION**  
Method of making bearing materials --- self-lubricating, oxidation resistant composites for high temperature applications  
[NASA-CASE-LEW-11930-4] c 24 N79-17916



Carbide-fluoride-silver self-lubricating composite  
[NASA-CASE-LEW-14196-2] c 37 N87-25585

**SELF MANEUVERING UNITS**  
Hand-held self-maneuvering unit Patent  
[NASA-CASE-XMS-05304] c 05 N71-12336  
Personal propulsion unit Patent  
[NASA-CASE-MFS-20130] c 28 N71-27585

**SELF PROPAGATION**  
Optical frequency waveguide Patent  
[NASA-CASE-HQN-10541-1] c 07 N71-26291

**SELF SEALING**  
Modification of one man life raft  
[NASA-CASE-LAR-10241-1] c 54 N74-14845  
Self-stabilizing radial face seal  
[NASA-CASE-LEW-12991-1] c 37 N81-24442  
Self-compensating solenoid valve  
[NASA-CASE-ARC-11620-1] c 37 N87-25573

**SELF TESTS**  
Self-testing and repairing computer Patent  
[NASA-CASE-NPO-10567] c 08 N71-24633

**SEMICONDUCTOR DEVICES**  
Test fixture for pellet-like electrical elements  
[NASA-CASE-XNP-06032] c 09 N69-21926  
Semiconductor p-n junction stress and strain sensor  
[NASA-CASE-XLA-04980] c 09 N69-27422  
A method for selective gold diffusion of monolithic silicon devices and/or circuits Patent application  
[NASA-CASE-ERC-10072] c 09 N70-11148  
Ultra-long monostable multivibrator employing bistable semiconductor switch to allow charging of timing circuit Patent  
[NASA-CASE-XGS-00381] c 09 N70-34819  
Method of forming thin window drifted silicon charged particle detector Patent  
[NASA-CASE-XLE-00808] c 24 N71-10560  
Method of making a silicon semiconductor device Patent  
[NASA-CASE-XLE-02792] c 26 N71-10607  
Apparatus and method for separating a semiconductor wafer Patent  
[NASA-CASE-ERC-10138] c 26 N71-14354  
Voltage tunable Gunn-type microwave generator Patent  
[NASA-CASE-XER-07894] c 09 N71-18721  
Method and device for determining battery state of charge Patent  
[NASA-CASE-NPO-10194] c 03 N71-20407  
Multialarm summary alarm Patent  
[NASA-CASE-XLE-03061-1] c 10 N71-24798  
Method of temperature compensating semiconductor strain gages Patent  
[NASA-CASE-XLA-04555-1] c 14 N71-25892  
Pneumatic oscillator Patent  
[NASA-CASE-LEW-10345-1] c 10 N71-25899  
Method and apparatus for detecting gross leaks Patent  
[NASA-CASE-ERC-10033] c 14 N71-26672  
Transistor drive regulator Patent  
[NASA-CASE-LEW-10233] c 10 N71-27126  
Orifice gross leak tester Patent  
[NASA-CASE-ERC-10150] c 14 N71-28992  
Method of manufacturing semiconductor devices using refractory dielectrics  
[NASA-CASE-XER-08476-1] c 26 N72-17820  
Fabrication of single crystal film semiconductor devices  
[NASA-CASE-ERC-10222] c 09 N72-22199  
Electrical insulating layer process  
[NASA-CASE-LEW-10489-1] c 15 N72-25447  
Gunn-type solid state devices  
[NASA-CASE-XER-07895] c 26 N72-25679  
Semiconductor transducer device  
[NASA-CASE-ERC-10087-2] c 14 N72-31446  
Hermetically sealed semiconductor  
[NASA-CASE-GSC-10791-1] c 15 N73-14469  
Process for fabricating SiC semiconductor devices  
[NASA-CASE-LEW-12094-1] c 76 N76-25049  
Semiconductor projectile impact detector  
[NASA-CASE-MFS-23008-1] c 35 N78-18390  
Apparatus for use in examining the lattice of a semiconductor wafer by X-ray diffraction  
[NASA-CASE-MFS-23315-1] c 76 N78-24950  
Apparatus for measuring semiconductor device resistance  
[NASA-CASE-NPO-14424-1] c 33 N80-32650  
Electrical power generating system --- for windpowered generation  
[NASA-CASE-MFS-24368-3] c 33 N81-22280  
Pyroelectric detector arrays  
[NASA-CASE-LAR-12363-2] c 33 N83-24763  
Imaging X-ray spectrometer  
[NASA-CASE-GSC-12682-1] c 35 N84-33765  
Epitaxial thinning process  
[NASA-CASE-NPO-15786-1] c 76 N84-35112  
Process and apparatus for growing a crystal ribbon  
[NASA-CASE-NPO-15629-1] c 76 N84-35113

Inelastic tunnel diodes  
[NASA-CASE-LEW-13833-1] c 33 N85-21492  
Low defect, high purity crystalline layers grown by selective deposition  
[NASA-CASE-NPO-15813-1] c 76 N85-30922  
Method and apparatus for measuring minority carrier lifetime in a direct band-gap semiconductor  
[NASA-CASE-NPO-16337-1-CU] c 33 N87-22894

**SEMICONDUCTOR DIODES**  
Tm,Ho:YLF laser end-pumped by a semiconductor diode laser array  
[NASA-CASE-NPO-17282-1-CU] c 36 N89-12856

**SEMICONDUCTOR JUNCTIONS**  
Simple method of making photovoltaic junctions Patent  
[NASA-CASE-XNP-01960] c 09 N71-23027  
Pressure sensitive transducers Patent  
[NASA-CASE-ERC-10087] c 14 N71-27334  
Semiconductor surface protection material  
[NASA-CASE-ERC-10339-1] c 18 N73-30532  
High voltage planar multijunction solar cell  
[NASA-CASE-LEW-13400-1] c 44 N82-31764  
Screen printed interdigitated back contact solar cell  
[NASA-CASE-LEW-13414-1] c 44 N85-20530  
Method of measuring field funneling and range straggling in semiconductor charge-collecting junctions  
[NASA-CASE-NPO-16584-1-CU] c 76 N86-25269

**SEMICONDUCTOR LASERS**  
Field induced gap infrared detector  
[NASA-CASE-NPO-17526-1-CU] c 35 N89-28796

**SEMICONDUCTORS (MATERIALS)**  
Depositing semiconductor films utilizing a thermal gradient  
[NASA-CASE-XKS-04614] c 15 N69-21460  
System for improving signal-to-noise ratio of a communication signal Patent Application  
[NASA-CASE-MSC-12259-1] c 07 N70-12616  
High efficiency multivibrator Patent  
[NASA-CASE-XAC-00942] c 10 N71-16042  
Method of making impurity-type semiconductor electrical contacts Patent  
[NASA-CASE-XMF-01016] c 26 N71-17818  
Method of electrolytically binding a layer of semiconductors together Patent  
[NASA-CASE-XNP-01959] c 26 N71-23043  
Gd or Sm doped silicon semiconductor composition Patent  
[NASA-CASE-XLE-10715] c 26 N71-23292  
Infrared detectors  
[NASA-CASE-LAR-10728-1] c 14 N73-12445  
Traveling wave solid state amplifier utilizing a semiconductor with negative differential mobility  
[NASA-CASE-HQN-10069] c 33 N75-27251  
Vapor deposition apparatus --- semiconductors and gallium arsenides  
[NASA-CASE-HQN-10462] c 25 N75-29192  
Application of semiconductor diffusants to solar cells by screen printing  
[NASA-CASE-LEW-12775-1] c 44 N79-11468  
Method for the preparation of inorganic single crystal and polycrystalline electronic materials  
[NASA-CASE-XLE-02545-1] c 76 N79-21910  
Voltage feed through apparatus having reduced partial discharge  
[NASA-CASE-GSC-12347-1] c 33 N80-18286  
Photoelectrochemical cells including chalcogenophosphate photoelectrodes  
[NASA-CASE-LAR-12958-1] c 44 N84-23019  
Epitaxial thinning process  
[NASA-CASE-NPO-15786-1] c 76 N84-35112  
Method for determining the point of zero zeta potential of semiconductor  
[NASA-CASE-LAR-12893-1] c 76 N85-30923  
Method of making macrocrystalline or single crystal semiconductor material  
[NASA-CASE-NPO-15904-1] c 76 N86-28760  
Method for growing low defect, high purity crystalline layers utilizing lateral overgrowth of a patterned mask  
[NASA-CASE-NPO-15813-2] c 76 N87-15882  
Total immersion crystal growth  
[NASA-CASE-NPO-15800-2] c 76 N87-23286  
Apparatus and procedure to detect a liquid-solid interface during crystal growth in a bridgman furnace  
[NASA-CASE-LAR-13597-1-CU] c 25 N87-23713  
Floating emitter solar cell  
[NASA-CASE-NPO-16467-1-CU] c 33 N87-23879  
Liquid encapsulated float zone process and apparatus  
[NASA-CASE-MFS-28144-1] c 76 N88-24545  
Preparation of dilute magnetic semiconductor films by metalorganic chemical vapor deposition  
[NASA-CASE-NPO-17399-1-CU] c 76 N89-14120  
Oxidation of semiconductors and superconductors  
[NASA-CASE-NPO-17534-1-CU] c 76 N89-30076

**SENSITIVITY**  
Active RC networks  
[NASA-CASE-ARC-10042-2] c 10 N72-11256

Tailorable infrared sensing device with strain layer superlattice structure  
[NASA-CASE-NPO-16607-1-CU] c 76 N88-14836

**SENSITOMETRY**  
Condition sensor system and method  
[NASA-CASE-MSC-14805-1] c 54 N78-32720

**SENSORS**  
Bonding method in the manufacture of continuous regression rate sensor devices  
[NASA-CASE-LAR-10337-1] c 24 N75-30260  
Medical subject monitoring systems --- multichannel monitoring systems  
[NASA-CASE-MSC-14180-1] c 52 N76-14757  
Trace water sensor  
[NASA-CASE-NPO-15722-1] c 35 N85-29212

**SENSORY PERCEPTION**  
Tactile sensing means for prosthetic limbs  
[NASA-CASE-MFS-16570-1] c 05 N73-32013

**SEPARATED FLOW**  
Thrust vector control apparatus Patent  
[NASA-CASE-XLE-00208] c 28 N70-34294  
Double hinged flap Patent  
[NASA-CASE-XLA-01290] c 02 N70-42016  
Mixture separation cell Patent  
[NASA-CASE-XMS-02952] c 18 N71-20742  
Flow separation detector  
[NASA-CASE-ARC-11046-1] c 35 N78-14364  
Method and apparatus for detecting laminar flow separation and reattachment  
[NASA-CASE-LAR-13952-1-SB] c 34 N88-24910  
Method of forming a multiple layer dielectric and a hot film sensor therewith  
[NASA-CASE-LAR-13678-1] c 76 N88-25355

**SEPARATORS**  
Condenser - Separator  
[NASA-CASE-XLA-08645] c 15 N69-21465  
Umbilical separator for rockets Patent  
[NASA-CASE-XNP-00425] c 11 N70-38202  
Liquid-gas separation system Patent  
[NASA-CASE-XMS-01624] c 15 N70-40062  
Zero gravity separator Patent  
[NASA-CASE-XLE-00586] c 15 N71-15968  
Separator Patent  
[NASA-CASE-XLA-00415] c 15 N71-16079  
Water separating system Patent  
[NASA-CASE-XMS-13052] c 14 N71-20427  
Vapor liquid separator Patent  
[NASA-CASE-XMF-04042] c 15 N71-23023  
Air removal device  
[NASA-CASE-XLA-08914] c 15 N73-12492  
Centrifugal lyophobic separator  
[NASA-CASE-LAR-10194-1] c 34 N74-30608  
Fluid control apparatus and method  
[NASA-CASE-LAR-11110-1] c 34 N75-26282  
Method and apparatus for fluffing, separating, and cleaning fibers  
[NASA-CASE-LAR-11224-1] c 37 N76-18456  
Gels as battery separators for soluble electrode cells  
[NASA-CASE-LEW-12364-1] c 44 N77-22606  
Low gravity phase separator  
[NASA-CASE-MSC-14773-1] c 35 N78-12390  
Automatic multiple-sample applicator and electrophoresis apparatus  
[NASA-CASE-ARC-10991-1] c 25 N78-14104  
Counter pumping debris excluder and separator --- gas turbine shaft seals  
[NASA-CASE-LEW-11855-1] c 07 N78-25090  
Inorganic-organic separators for alkaline batteries  
[NASA-CASE-LEW-12649-1] c 44 N78-25530  
Formulated plastic separators for soluble electrode cells --- rubber-ion transport membranes  
[NASA-CASE-LEW-12358-1] c 44 N79-17313  
Water separator  
[NASA-CASE-XMS-01295-1] c 37 N79-21345  
In situ self cross-linking of polyvinyl alcohol battery separators  
[NASA-CASE-LEW-12972-1] c 44 N79-25481  
Partial interlaminar separation system for composites  
[NASA-CASE-LAR-12065-1] c 24 N81-14000  
Polyvinyl alcohol battery separator containing inert filler --- alkaline batteries  
[NASA-CASE-LEW-13556-1] c 44 N81-27615  
Method of making formulated plastic separators for soluble electrode cells  
[NASA-CASE-LEW-12358-2] c 25 N82-21268  
Process of treating cellulosic membrane and alkaline with membrane separator  
[NASA-CASE-GSC-10019-1] c 44 N82-24641  
Separator for alkaline batteries and method of making same  
[NASA-CASE-GSC-10350-1] c 44 N82-24642  
Separator for alkaline electric cells and method of making  
[NASA-CASE-GSC-10017-1] c 44 N82-24643

- Separator for alkaline electric batteries and method of making  
[NASA-CASE-GSC-10018-1] c 44 N82-24644
- Alkaline electrochemical cells and method of making  
[NASA-CASE-GSC-10349-1] c 44 N82-24645
- Aqueous alkali metal hydroxide insoluble cellulose ether membrane  
[NASA-CASE-XGS-05584-1] c 25 N82-29370
- Advanced inorganic separators for alkaline batteries  
[NASA-CASE-LEW-13171-1] c 44 N82-29708
- Electrophoresis device  
[NASA-CASE-MFS-25426-1] c 25 N83-10126
- Static continuous electrophoresis device  
[NASA-CASE-MFS-25306-1] c 25 N83-13187
- Advanced inorganic separators for alkaline batteries and method of making the same  
[NASA-CASE-LEW-13171-2] c 44 N83-32176
- Alkaline battery containing a separator of a cross-linked copolymer of vinyl alcohol and unsaturated carboxylic acid  
[NASA-CASE-LEW-13102-1] c 33 N85-29144
- SEQUENCING**
- Synchronous counter Patent  
[NASA-CASE-XGS-02440] c 08 N71-19432
- Control apparatus for applying pulses of selectively predetermined duration to a sequence of loads Patent  
[NASA-CASE-XGS-04224] c 10 N71-26418
- Digital function generator  
[NASA-CASE-NPO-11104] c 08 N72-22165
- MOD 2 sequential function generator for multibit binary sequence  
[NASA-CASE-NPO-10636] c 08 N72-25210
- Pseudonoise sequence generators with three tap linear feedback shift registers  
[NASA-CASE-NPO-11406] c 08 N73-12175
- Mechanical sequencer  
[NASA-CASE-MSC-19536-1] c 37 N77-22482
- Method for sequentially processing a multi-level interconnect circuit in a vacuum chamber  
[NASA-CASE-MFS-15670-1] c 33 N82-33634
- SEQUENTIAL ANALYSIS**
- Binary coded sequential acquisition ranging system  
[NASA-CASE-NPO-11194] c 08 N72-25209
- Event sequence detector  
[NASA-CASE-NPO-11703-1] c 10 N73-32144
- SEQUENTIAL COMPUTERS**
- Digital data reformatter/deserializer  
[NASA-CASE-NPO-13676-1] c 60 N79-20751
- SEQUENTIAL CONTROL**
- Linear three-tap feedback shift register Patent  
[NASA-CASE-NPO-10351] c 08 N71-12503
- Binary sequence detector Patent  
[NASA-CASE-XNP-05415] c 08 N71-12505
- Sequencing device utilizing planetary gear set  
[NASA-CASE-MSC-19514-1] c 37 N79-20377
- Method for sequentially processing a multi-level interconnect circuit in a vacuum chamber  
[NASA-CASE-MFS-256704-1] c 33 N84-22884
- SERUMS**
- Reduction of blood serum cholesterol  
[NASA-CASE-NPO-12119-1] c 52 N75-15270
- SERVICE LIFE**
- Electro-mechanical sine/cosine generator  
[NASA-CASE-LAR-10503-1] c 09 N72-21248
- Stirling cycle cryogenic cooler  
[US-PATENT-4,389,849] c 44 N83-28574
- Tip cap for a rotor blade  
[NASA-CASE-LEW-13654-1] c 07 N84-22560
- SERVOAMPLIFIERS**
- Pneumatic amplifier Patent  
[NASA-CASE-MSC-12121-1] c 15 N71-27147
- SERVOCONTROL**
- Monopulse system with an electronic scanner  
[NASA-CASE-XGS-05582] c 07 N69-27460
- Proportional controller Patent  
[NASA-CASE-XAC-03392] c 03 N70-41954
- Light intensity modulator controller Patent  
[NASA-CASE-XMS-04300] c 09 N71-19479
- Strain coupled servo control system Patent  
[NASA-CASE-XLA-08530] c 32 N71-25360
- Energy limiter for hydraulic actuators Patent  
[NASA-CASE-ARC-10131-1] c 15 N71-27754
- Digital servo controller --- for rotating antenna shaft  
[NASA-CASE-KSC-10769-1] c 33 N74-29556
- Digital servo control of random sound test excitation --- in reverberant acoustic chamber  
[NASA-CASE-NPO-11623-1] c 71 N74-31148
- Phase-locked servo system --- for synchronizing the rotation of slip ring assembly  
[NASA-CASE-MFS-22073-1] c 33 N75-13139
- Servo-controlled intravitral microscope system  
[NASA-CASE-NPO-13214-1] c 35 N75-25123
- Autonomous navigation system --- gyroscopic pendulum for air navigation  
[NASA-CASE-ARC-11257-1] c 04 N81-21047
- System and method for moving a probe to follow movements of tissue  
[NASA-CASE-NPO-15197-1] c 52 N83-25346
- Control system for an induction motor with energy recovery  
[NASA-CASE-MFS-25477-1] c 33 N84-14424
- Memory metal actuator  
[NASA-CASE-NPO-15960-1] c 37 N86-19604
- SERVO MECHANISMS**
- Interferometer servo system Patent  
[NASA-CASE-NPO-10300] c 14 N71-17662
- Line following servosystem Patent  
[NASA-CASE-XAC-00001] c 15 N71-28952
- A dc servosystem including an ac motor Patent  
[NASA-CASE-NPO-10700] c 07 N71-33613
- Ball screw linear actuator  
[NASA-CASE-NPO-11222] c 15 N72-25456
- Rotary actuator  
[NASA-CASE-NPO-10680] c 31 N73-14855
- Hydraulic drain means for servo-systems  
[NASA-CASE-NPO-10316-1] c 37 N77-22479
- Actuator mechanism  
[NASA-CASE-GSC-11883-2] c 37 N78-31426
- Apparatus for providing a servo drive signal in a high-speed stepping interferometer  
[NASA-CASE-NPO-13569-2] c 35 N79-14348
- Automated syringe sampler --- remote sampling of air and water  
[NASA-CASE-LAR-12308-1] c 35 N81-29407
- Electrical servo actuator bracket --- fuel control valves on jet engines  
[NASA-CASE-FRC-11044-1] c 37 N81-33483
- Hydraulic actuator mechanism to control aircraft spoiler movements through dual input commands  
[NASA-CASE-LAR-12412-1] c 08 N82-24205
- Servomechanism for Doppler shift compensation in optical correlator for synthetic aperture radar  
[NASA-CASE-NPO-14998-1] c 32 N83-18975
- SERVOMOTORS**
- Automatic closed circuit television arc guidance control Patent  
[NASA-CASE-MFS-13046] c 07 N71-19433
- Transistor servo system including a unique differential amplifier circuit Patent  
[NASA-CASE-XMF-05195] c 10 N71-24861
- Cyclically operable optical shutter  
[NASA-CASE-NPO-10758] c 14 N73-14427
- Rotary actuator  
[NASA-CASE-NPO-10680] c 31 N73-14855
- Velocity servo for continuous scan Fourier interference spectrometer  
[NASA-CASE-NPO-14093-1] c 35 N80-20563
- Load positioning system with gravity compensation  
[NASA-CASE-ARC-11525-1] c 37 N86-27629
- SEWAGE TREATMENT**
- Sewage sludge additive  
[NASA-CASE-NPO-13877-1] c 45 N82-11634
- Method for treating wastewater using microorganisms and vascular aquatic plants  
[NASA-CASE-NSTL-10] c 45 N84-12654
- SHADES**
- Sun shield  
[NASA-CASE-MSC-20162-1] c 37 N87-17036
- SHAFTS (MACHINE ELEMENTS)**
- Fatigue-resistant shear pin  
[NASA-CASE-XLA-09122] c 15 N69-27505
- Elastic universal joint Patent  
[NASA-CASE-XNP-00416] c 15 N70-36947
- Apparatus for absorbing and measuring power Patent  
[NASA-CASE-XLE-00720] c 14 N70-40201
- Two-axis controller Patent  
[NASA-CASE-XFR-04104] c 03 N70-42073
- Ratchet mechanism Patent  
[NASA-CASE-MFS-12805] c 15 N71-17805
- Frictionless universal joint Patent  
[NASA-CASE-NPO-10646] c 15 N71-28467
- Spiral groove seal  
[NASA-CASE-XLE-10326-2] c 15 N72-29488
- High speed hybrid bearing comprising a fluid bearing and a rolling bearing connected in series  
[NASA-CASE-LEW-11152-1] c 15 N73-32359
- Spiral groove seal --- for hydraulic rotating shaft  
[NASA-CASE-LEW-10326-3] c 37 N74-10474
- Hole cutter --- drill bits and rotating shaft  
[NASA-CASE-MFS-22649-1] c 37 N75-25186
- Twin-capacitive shaft angle encoder with analog output signal  
[NASA-CASE-ARC-10897-1] c 33 N77-31404
- Counter pumping debris excluder and separator --- gas turbine shaft seals  
[NASA-CASE-LEW-11855-1] c 07 N78-25090
- Sequencing device utilizing planetary gear set  
[NASA-CASE-MSC-19514-1] c 37 N79-20377
- Shaft seal assembly for high speed and high pressure applications  
[NASA-CASE-LEW-11873-1] c 37 N79-22475
- Speed control device for a heavy duty shaft --- solar sails for spacecraft propulsion  
[NASA-CASE-NPO-14170-1] c 37 N81-15364
- Hot gas engine with dual crankshafts  
[NASA-CASE-NPO-14221-1] c 37 N81-25370
- Circumferential shaft seal  
[NASA-CASE-LEW-12119-2] c 37 N81-26447
- Hermetic seal for a shaft  
[NASA-CASE-NPO-15115-1] c 37 N82-24493
- Method for driving two-phase turbines with enhanced efficiency  
[NASA-CASE-NPO-15037-2] c 37 N85-29282
- Angular measurement system  
[NASA-CASE-MFS-25825-1] c 31 N86-29055
- Non-backdrivable free wheeling coupling  
[NASA-CASE-MSC-20475-1] c 37 N87-17037
- Turbomachinery shaft insert  
[NASA-CASE-MFS-28345-2] c 37 N89-28842
- SHAKERS**
- Planar oscillatory stirring apparatus  
[NASA-CASE-MFS-26002-1-CU] c 35 N86-26598
- SHALE OIL**
- In-situ laser retorting of oil shale  
[NASA-CASE-LEW-12217-1] c 43 N78-14452
- Oil shale extraction using super-critical extraction  
[NASA-CASE-NPO-15656-1] c 43 N84-23012
- Solar heated oil shale pyrolysis process  
[NASA-CASE-NPO-16392-1] c 25 N86-25428
- SHALES**
- Coal-shale interface detection  
[NASA-CASE-MFS-23720-3] c 43 N79-25443
- Coal-shale interface detection system  
[NASA-CASE-MFS-23720-2] c 43 N80-14423
- Coal-shale interface detector  
[NASA-CASE-MFS-23720-1] c 43 N80-23711
- Oil shale extraction using super-critical extraction  
[NASA-CASE-NPO-15656-1] c 43 N84-23012
- SHAPE CONTROL**
- Synchronously deployable truss structure  
[NASA-CASE-LAR-13117-1] c 37 N86-25789
- Antenna surface contour control system  
[NASA-CASE-LAR-13798-1] c 32 N89-25363
- Method and circuit for shaping laser output pulses  
[NASA-CASE-LAR-14203-1] c 36 N89-28817
- SHAPE MEMORY ALLOYS**
- Memory metal actuator  
[NASA-CASE-NPO-15960-1] c 37 N86-19604
- Rotary stepping device with memory metal actuator  
[NASA-CASE-NPO-15482-1] c 37 N87-23970
- SHAPED CHARGES**
- Coupling for linear shaped charge Patent  
[NASA-CASE-XLA-00189] c 33 N70-36846
- Lateral displacement system for separated rocket stages Patent  
[NASA-CASE-XLA-04804] c 31 N71-23008
- SHAPERS**
- Mandrel for shaping solid propellant rocket fuel into a motor casing Patent  
[NASA-CASE-XLA-00304] c 27 N70-34783
- Tube dimpling tool Patent  
[NASA-CASE-XMS-06876] c 15 N71-21536
- Dielectric molding apparatus Patent  
[NASA-CASE-LAR-10121-1] c 15 N71-26721
- SHARKS**
- Process for conditioning tanned sharkskin and articles made therefrom Patent  
[NASA-CASE-XMS-09691-1] c 18 N71-15545
- SHARPNESS**
- Method of forming a sharp edge on an optical device  
[NASA-CASE-GSC-12348-1] c 74 N80-24149
- SHEAR CREEP**
- Instrument for measuring torsional creep and recovery Patent  
[NASA-CASE-XLE-01481] c 14 N71-10781
- SHEAR FLOW**
- Shear modulated fluid amplifier Patent  
[NASA-CASE-MFS-10412] c 12 N71-17578
- SHEAR PROPERTIES**
- Parallel plate viscometer Patent  
[NASA-CASE-XNP-09462] c 14 N71-17584
- SHEAR STRESS**
- Fatigue-resistant shear pin  
[NASA-CASE-XLA-09122] c 15 N69-27505
- Angular velocity and acceleration measuring apparatus  
[NASA-CASE-ERC-10292] c 14 N72-25410
- Bonded joint and method --- for reducing peak shear stress in adhesive bonds  
[NASA-CASE-LAR-10900-1] c 37 N74-23064
- Method and apparatus for detecting laminar flow separation and reattachment  
[NASA-CASE-LAR-13952-1-SB] c 34 N88-24910
- Delamination test apparatus and method  
[NASA-CASE-LAR-13985-1] c 24 N89-28586

**SHEARING**

Elastomer coated filler and composites thereof comprising at least 60% by weight of a hydrated filler and an elastomer containing an acid substituent  
[NASA-CASE-NPO-14857-1] c 27 N83-19900

**SHELL ANODES**

Ring-cusp ion thruster with shell anode  
[NASA-CASE-LEW-13881-1] c 20 N85-21256

**SHELLS (STRUCTURAL FORMS)**

Channel-type shell construction for rocket engines and the like Patent  
[NASA-CASE-XLE-00144] c 28 N70-34860

**SHIELDING**

Spherical shield Patent  
[NASA-CASE-XNP-01855] c 15 N71-28937  
Shielded flat cable  
[NASA-CASE-MFS-13687-2] c 09 N72-22198  
System for the measurement of ultra-low stray light levels --- determining the adequacy of large space telescope systems  
[NASA-CASE-MFS-23513-1] c 74 N79-11865  
Space ultra-vacuum facility and method of operation  
[NASA-CASE-MFS-28139-1] c 29 N87-18679  
Trailer shield assembly for a welding torch  
[NASA-CASE-MFS-29260-1] c 37 N88-24972

**SHIFT REGISTERS**

Binary to binary-coded-decimal converter Patent  
[NASA-CASE-XNP-00432] c 08 N70-35423  
Linear three-tap feedback shift register Patent  
[NASA-CASE-NPO-10351] c 08 N71-12503  
Counter and shift register Patent  
[NASA-CASE-XNP-01753] c 08 N71-22897  
Current steering commutator  
[NASA-CASE-NPO-10743] c 08 N72-21199  
Feedback shift register with states decomposed into cycles of equal length  
[NASA-CASE-NPO-11082] c 08 N72-22167  
MOD 2 sequential function generator for multibit binary sequence  
[NASA-CASE-NPO-10636] c 08 N72-25210  
Pseudonoise sequence generators with three tap linear feedback shift registers  
[NASA-CASE-NPO-11406] c 08 N73-12175  
A m-ary linear feedback shift register with binary logic  
[NASA-CASE-NPO-11868] c 10 N73-20254  
Counting digital filters  
[NASA-CASE-NPO-11821-1] c 08 N73-26175  
Event sequence detector  
[NASA-CASE-NPO-11703-1] c 10 N73-32144  
Method and apparatus for decoding compatible convolutional codes  
[NASA-CASE-MSC-14070-1] c 32 N74-32598  
Nonlinear nonsingular feedback shift registers  
[NASA-CASE-NPO-13451-1] c 33 N76-14373  
Selective data segment monitoring system --- using shift registers  
[NASA-CASE-ARC-10899-1] c 60 N77-19760  
Digital data reformatter/deserializer  
[NASA-CASE-NPO-13676-1] c 60 N79-20751

**SHOCK ABSORBERS**

Pivotal shock absorbing pad assembly Patent  
[NASA-CASE-XMF-03856] c 31 N70-34159  
Frangible tube energy dissipation Patent  
[NASA-CASE-XLA-00754] c 15 N70-34850  
Shock absorbing support and restraint means Patent  
[NASA-CASE-XMS-01240] c 05 N70-35152  
Energy absorbing structure Patent Application  
[NASA-CASE-MSC-12279-1] c 15 N70-35679  
Landing pad assembly for aerospace vehicles Patent  
[NASA-CASE-XMF-02853] c 31 N70-36654  
Space craft soft landing system Patent  
[NASA-CASE-XMF-02108] c 31 N70-36845  
Double-acting shock absorber Patent  
[NASA-CASE-XMF-01045] c 15 N70-40354  
Articulated multiple couch assembly Patent  
[NASA-CASE-MSC-11253] c 05 N71-12343  
Shock absorber Patent  
[NASA-CASE-XMS-03722] c 15 N71-21530  
Impact energy absorber Patent  
[NASA-CASE-XLA-01530] c 14 N71-23092  
Low onset rate energy absorber  
[NASA-CASE-MSC-12279] c 15 N72-17450  
Impact energy absorbing system utilizing fracturable material  
[NASA-CASE-NPO-10671] c 15 N72-20443  
Translatory shock absorber for attitude sensors  
[NASA-CASE-MFS-22905-1] c 19 N76-22284  
Vehicular impact absorption system  
[NASA-CASE-NPO-14014-1] c 37 N79-10420  
Variable response load limiting device  
[NASA-CASE-LAR-12801-1] c 37 N88-23982

**SHOCK LOADS**

Wind tunnel model damper Patent  
[NASA-CASE-XLA-09480] c 11 N71-33612

**SHOCK MEASURING INSTRUMENTS**

Semiconductor projectile impact detector  
[NASA-CASE-MFS-23008-1] c 35 N78-18390

**SHOCK RESISTANCE**

Method and apparatus for shock protection Patent  
[NASA-CASE-XLA-00482] c 15 N70-36409  
Thermal shock resistant hafnia ceramic material  
[NASA-CASE-LAR-10894-1] c 18 N73-14584  
Thermal shock and erosion resistant tantalum carbide ceramic material  
[NASA-CASE-LAR-11902-1] c 27 N78-17206  
Laser surface fusion of plasma sprayed ceramic turbine seals  
[NASA-CASE-LEW-13269-1] c 18 N83-20996  
Method of fabricating an abradable gas path seal  
[NASA-CASE-LEW-13269-2] c 37 N84-22957

**SHOCK TUBES**

Means for controlling rupture of shock tube diaphragms Patent  
[NASA-CASE-XAC-00731] c 11 N71-15960  
Shock tube bypass piston tunnel  
[NASA-CASE-NPO-12109] c 11 N72-22245  
Annular arc accelerator shock tube  
[NASA-CASE-NPO-13528-1] c 09 N77-10071

**SHOCK WAVE INTERACTION**

Absorptive splitter for closely spaced supersonic engine air inlets Patent  
[NASA-CASE-XLA-02865] c 28 N71-15563

**SHOCK WAVE LUMINESCENCE**

Shock-layer radiation measurement  
[NASA-CASE-XAC-02970] c 14 N69-39896

**SHOCK WAVE PROFILES**

Shock-layer radiation measurement  
[NASA-CASE-XAC-02970] c 14 N69-39896  
Adapter for mounting a microphone flush with the external surface of the skin of a pressurized aircraft  
[NASA-CASE-FRC-11072-1] c 05 N83-27975

**SHOCK WAVES**

Shock tube powder dispersing apparatus Patent  
[NASA-CASE-XLE-04946] c 17 N71-24911  
Shock wave convergence apparatus  
[NASA-CASE-MFS-20890] c 14 N72-22439  
Synthesis of superconducting compounds by explosive compaction of powders  
[NASA-CASE-MFS-20861-1] c 18 N73-32437  
Shock position sensor for supersonic inlets --- measuring pressure in the throat of a supersonic inlet  
[NASA-CASE-LEW-11915-1] c 35 N76-14431

**SHOES**

Jet shoes  
[NASA-CASE-XLA-08491] c 05 N69-21380

**SHORT CIRCUITS**

Protection for energy conversion systems  
[NASA-CASE-XGS-04808] c 03 N69-25146  
Triode thermionic energy converter  
[NASA-CASE-XLE-01015] c 03 N69-39898  
Analog to digital converter tester Patent  
[NASA-CASE-XLA-06713] c 14 N71-28991  
Apparatus including a plurality of spaced transformers for locating short circuits in cables  
[NASA-CASE-KSC-10899-1] c 33 N79-18193  
Test apparatus for locating shorts during assembly of electrical buses  
[NASA-CASE-ARC-11116-1] c 33 N82-24420

**SHOT PEENING**

Method of peening and portable peening gun  
[NASA-CASE-MFS-23047-1] c 37 N76-18454

**SHOULDERS**

Shoulder and hip joint for hard space suits  
[NASA-CASE-ARC-11543-1] c 54 N86-28620  
Shoulder and hip joints for hard space suits and the like  
[NASA-CASE-ARC-11534-1] c 54 N86-29507

**SHROUDED NOZZLES**

Two dimensional wedge/translating shroud nozzle  
[NASA-CASE-LAR-11919-1] c 07 N78-27121

**SHROUDED TURBINES**

Composite seal for turbomachinery --- backings for turbine engine shrouds  
[NASA-CASE-LEW-12131-1] c 37 N79-18318  
Gas path seal  
[NASA-CASE-NPO-12131-3] c 37 N80-18400  
Composite seal for turbomachinery  
[NASA-CASE-LEW-12131-2] c 37 N80-26658  
Laser surface fusion of plasma sprayed ceramic turbine seals  
[NASA-CASE-LEW-13269-1] c 18 N83-20996  
Thermal stress minimized, two component, turbine shroud seal  
[NASA-CASE-LEW-14212-1] c 37 N88-23978

**SHROUDS**

Composite powerplant and shroud therefor Patent  
[NASA-CASE-XLA-01043] c 28 N71-10780  
Composite seal for turbomachinery --- backings for turbine engine shrouds  
[NASA-CASE-LEW-12131-1] c 37 N79-18318

Composite seal for turbomachinery  
[NASA-CASE-LEW-12131-3] c 37 N82-19540  
Active clearance control system for a turbomachine  
[NASA-CASE-LEW-12938-1] c 07 N82-32366  
Method of fabricating an abradable gas path seal  
[NASA-CASE-LEW-13269-2] c 37 N84-22957

**SHUTTERS**

High speed shutter --- electrically actuated ribbon loop for shuttering optical or fluid passageways  
[NASA-CASE-ARC-10516-1] c 70 N74-21300

**SHUTTLE DERIVED VEHICLES**

Three stage rocket vehicle with parallel staging  
[NASA-CASE-MFS-25878-1] c 18 N84-27787

**SIDE INLETS**

Low-drag ground vehicle particularly suited for use in safely transporting livestock  
[NASA-CASE-FRC-11058-1] c 85 N82-33288

**SIDEBANDS**

Phase-locked loop with sideband rejecting properties Patent  
[NASA-CASE-XNP-02723] c 07 N70-41680  
Method and means for generation of tunable laser sidebands in the far-infrared region  
[NASA-CASE-NPO-16497-1-CU] c 36 N87-25567

**SIDEBLOBE REDUCTION**

Dual mode horn antenna Patent  
[NASA-CASE-XNP-01057] c 07 N71-15907  
Video processor for air traffic control beacon system  
[NASA-CASE-KSC-11155-1] c 04 N86-19304

**SIGNAL ANALYSIS**

Signal detection and tracking apparatus Patent  
[NASA-CASE-XGS-03502] c 10 N71-20852  
Method and apparatus for a single channel digital communications system --- synchronization of received PCM signal by digital correlation with reference signal  
[NASA-CASE-NPO-11302-2] c 32 N74-10132  
Differential phase shift keyed signal resolver  
[NASA-CASE-MSC-14066-1] c 33 N74-27705  
Correlation type phase detector --- with time correlation integrator for frequency multiplexed signals  
[NASA-CASE-GSC-11744-1] c 33 N75-26243  
Real time analysis of voiced sounds  
[NASA-CASE-NPO-13465-1] c 32 N76-31372  
Digital plus analog output encoder  
[NASA-CASE-GSC-12115-1] c 62 N76-31946  
Serial data correlator/code translator  
[NASA-CASE-KSC-11025-1] c 32 N83-13323  
Video processor for air traffic control beacon system  
[NASA-CASE-KSC-11155-1] c 04 N86-19304  
Acoustic emission frequency discrimination  
[NASA-CASE-MSC-20467-1] c 35 N88-23966

**SIGNAL ANALYZERS**

System for monitoring signal amplitude ranges  
[NASA-CASE-XMS-04061-1] c 09 N69-39885  
Sampled data controller Patent  
[NASA-CASE-GSC-10554-1] c 08 N71-29033  
Family of frequency to amplitude converters  
[NASA-CASE-MSC-12395] c 09 N72-25257  
Apparatus for statistical time-series analysis of electrical signals  
[NASA-CASE-MSC-12428-1] c 10 N73-25240  
Pulse stretcher for narrow pulses  
[NASA-CASE-MSC-14130-1] c 33 N74-32711  
Electronic optical transfer function analyzer  
[NASA-CASE-MFS-21672-1] c 74 N76-19935  
Speech analyzer  
[NASA-CASE-GSC-11898-1] c 32 N77-30305

**SIGNAL DETECTION**

Position location system and method Patent  
[NASA-CASE-GSC-10087-2] c 21 N71-13958  
Method of detecting impending saturation of magnetic cores  
[NASA-CASE-ERC-10089] c 23 N72-17747  
Anti-multipath digital signal detector  
[NASA-CASE-LAR-11827-1] c 32 N77-10392  
Multiple rate digital command detection system with range clean-up capability  
[NASA-CASE-NPO-13753-1] c 32 N77-20285  
Automatic communication signal monitoring system  
[NASA-CASE-NPO-13941-1] c 32 N79-10262  
Apparatus and method for stabilized phase detector for binary signal tracking loops  
[NASA-CASE-MSC-16461-1] c 33 N79-11313  
Method and apparatus for receiving and tracking phase modulated signals  
[NASA-CASE-MSC-16170-2] c 32 N84-27952

**SIGNAL DETECTORS**

Surface roughness detector Patent  
[NASA-CASE-XLA-02023] c 14 N70-34161  
Pulse amplitude and width detector Patent  
[NASA-CASE-XMF-06519] c 09 N71-12519  
System for monitoring the presence of neutrals in a stream of ions Patent  
[NASA-CASE-XNP-02592] c 24 N71-20516  
Digital modulator and demodulator Patent  
[NASA-CASE-ERC-10041] c 08 N71-29136

Coal-shale interface detection system  
[NASA-CASE-MFS-23720-2] c 43 N80-14423

Pulse transducer with artifact signal attenuator --- heart rate sensors  
[NASA-CASE-FRC-11012-1] c 52 N80-23969

Self-calibrating threshold detector  
[NASA-CASE-MSC-16370-1] c 35 N81-19427

Triac failure detector  
[NASA-CASE-MFS-25607-1] c 33 N83-34190

Method and apparatus for detecting laminar flow separation and reattachment  
[NASA-CASE-LAR-13952-1-SB] c 34 N88-24910

**SIGNAL DISTORTION**  
Low distortion receiver for bi-level baseband PCM waveforms  
[NASA-CASE-MSC-14557-1] c 32 N76-16249

**SIGNAL ENCODING**  
Adaptive compression of communication signals Patent  
[NASA-CASE-XLA-03076] c 07 N71-11266

Self-calibrating threshold detector  
[NASA-CASE-MSC-16370-1] c 35 N81-19427

Random digital encryption secure communication system  
[NASA-CASE-MSC-16462-1] c 32 N82-31583

**SIGNAL GENERATORS**  
Plural recorder system  
[NASA-CASE-XMS-06949] c 09 N69-21467

Signal generator  
[NASA-CASE-XNP-05612] c 09 N69-21468

Means for generating a sync signal in an FM communication system Patent  
[NASA-CASE-XNP-10830] c 07 N71-11281

Array phasing device Patent  
[NASA-CASE-ERC-10046] c 10 N71-18722

Sidereal frequency generator Patent  
[NASA-CASE-XGS-02610] c 14 N71-23174

Controllers Patent  
[NASA-CASE-XMS-07487] c 15 N71-23255

Signal ratio system utilizing voltage controlled oscillators Patent  
[NASA-CASE-XMF-04367] c 09 N71-23545

Signal processing apparatus for multiplex transmission Patent  
[NASA-CASE-NPO-10388] c 07 N71-24622

Multialarm summary alarm Patent  
[NASA-CASE-XLE-03061-1] c 10 N71-24798

Adaptive system and method for signal generation Patent  
[NASA-CASE-GSC-11367] c 10 N71-26374

Voltage dropout sensor Patent  
[NASA-CASE-KSC-10020] c 10 N71-27338

System for controlling the operation of a variable signal device  
[NASA-CASE-NPO-11064] c 07 N72-11150

Digital function generator  
[NASA-CASE-NPO-11104] c 08 N72-22165

Hall effect transducer  
[NASA-CASE-LAR-10620-1] c 09 N72-25255

Gunn-type solid state devices  
[NASA-CASE-XER-07895] c 26 N72-25679

Audio frequency marker system  
[NASA-CASE-NPO-11147] c 14 N72-27408

Digital servo control of random sound test excitation --- in reverberant acoustic chamber  
[NASA-CASE-NPO-11623-1] c 71 N74-31148

Signal conditioner test set  
[NASA-CASE-KSC-10750-1] c 35 N75-12270

System for generating timing and control signals  
[NASA-CASE-NPO-13125-1] c 33 N75-19519

Pseudo-noise test set for communication system evaluation --- test signals  
[NASA-CASE-MFS-22671-1] c 35 N75-21582

NDIR gas analyzer based on absorption modulation ratios for known and unknown samples  
[NASA-CASE-ARC-10802-1] c 35 N75-30502

Twin-capacitive shaft angle encoder with analog output signal  
[NASA-CASE-ARC-10897-1] c 33 N77-31404

Apparatus for providing a servo drive signal in a high-speed stepping interferometer  
[NASA-CASE-NPO-13569-2] c 35 N79-14348

Versatile LDV burst simulator  
[NASA-CASE-LAR-11859-1] c 35 N79-14349

Underwater seismic source --- for petroleum exploration  
[NASA-CASE-NPO-14255-1] c 46 N79-23555

Frequency translating phase conjugation circuit for active retrodirective antenna array --- microwave transmission  
[NASA-CASE-NPO-14536-1] c 32 N81-14185

Integrated control system for a gas turbine engine  
[NASA-CASE-LEW-12594-2] c 07 N81-19116

Motor power factor controller with a reduced voltage starter  
[NASA-CASE-MFS-25586-1] c 33 N82-11360

Combinational logic for generating gate drive signals for phase control rectifiers  
[NASA-CASE-MFS-25208-1] c 33 N83-10345

Adaptive reference voltage generator for firing angle control of line-commutated inverters  
[NASA-CASE-MFS-25215-1] c 33 N83-31953

Magnetic heading reference  
[NASA-CASE-LAR-12638-1] c 04 N84-14132

Brushless DC motor control system responsive to control signals generated by a computer or the like  
[NASA-CASE-NPO-16420-1] c 33 N86-20681

**SIGNAL MEASUREMENT**  
Amplifier for measuring low-level signals in the presence of high common mode voltage  
[NASA-CASE-MFS-25868-1] c 33 N86-20670

**SIGNAL MIXING**  
Signal multiplexer  
[NASA-CASE-XGS-01110] c 07 N69-24334

Baseband signal combiner for large aperture antenna array  
[NASA-CASE-NPO-14641-1] c 32 N81-29308

**SIGNAL PROCESSING**  
Adaptive compression of communication signals Patent  
[NASA-CASE-XLA-03076] c 07 N71-11266

Television signal scan rate conversion system Patent  
[NASA-CASE-XMS-07168] c 07 N71-11300

Difference circuit Patent  
[NASA-CASE-XNP-08274] c 10 N71-13537

Correlation function apparatus Patent  
[NASA-CASE-XNP-00746] c 07 N71-21476

Sidereal frequency generator Patent  
[NASA-CASE-XGS-02610] c 14 N71-23174

Feedback integrator with grounded capacitor Patent  
[NASA-CASE-XAC-10607] c 10 N71-23669

Signal processing apparatus for multiplex transmission Patent  
[NASA-CASE-NPO-10388] c 07 N71-24622

Television signal processing system Patent  
[NASA-CASE-NPO-10140] c 07 N71-24742

Electronic scanning of 2-channel monopulse patterns Patent  
[NASA-CASE-GSC-10299-1] c 09 N71-24804

Remodulator filter Patent  
[NASA-CASE-NPO-10198] c 09 N71-24806

Video sync processor Patent  
[NASA-CASE-KSC-10002] c 10 N71-25865

Transient video signal recording with expanded playback Patent  
[NASA-CASE-ARC-10003-1] c 09 N71-25866

Phase multiplying electronic scanning system Patent  
[NASA-CASE-NPO-10302] c 10 N71-26142

Variable frequency nuclear magnetic resonance spectrometer Patent  
[NASA-CASE-XNP-09830] c 14 N71-26266

Digital modulator and demodulator Patent  
[NASA-CASE-ERC-10041] c 08 N71-29138

Digital pulse width selection circuit Patent  
[NASA-CASE-XLA-07788] c 09 N71-29139

Phase shift circuit apparatus  
[NASA-CASE-ARC-10269-1] c 10 N72-16172

Contourograph system for monitoring electrocardiograms  
[NASA-CASE-MSC-13407-1] c 10 N72-20225

Recorder using selective noise filter  
[NASA-CASE-ERC-10112] c 07 N72-21119

Logarithmic function generator utilizing an exponentially varying signal in an inverse manner  
[NASA-CASE-ERC-10267] c 09 N72-23173

Flexible computer accessed telemetry  
[NASA-CASE-NPO-11358] c 07 N72-25172

Data processor with conditionally supplied clock signals  
[NASA-CASE-GSC-10975-1] c 08 N73-13187

Multichannel telemetry system  
[NASA-CASE-NPO-11572] c 07 N73-16121

Measurement system  
[NASA-CASE-MFS-20658-1] c 14 N73-30386

Digital to analog conversion apparatus  
[NASA-CASE-MSC-12458-1] c 08 N73-32081

Fluid pressure amplifier and system  
[NASA-CASE-LAR-10868-1] c 33 N74-11050

Low level signal limiter  
[NASA-CASE-XLE-04791] c 32 N74-22096

Miniature multichannel biotelemetry system  
[NASA-CASE-NPO-13065-1] c 52 N74-26625

Apparatus and method for processing Korotkov sounds --- for blood pressure measurement  
[NASA-CASE-MSC-13999-1] c 52 N74-26626

Pulse stretcher for narrow pulses  
[NASA-CASE-MSC-14130-1] c 33 N74-32711

Continuous Fourier transform method and apparatus --- for the analysis of simultaneous analog signal components  
[NASA-CASE-ARC-10466-1] c 60 N75-13539

Signal conditioning circuit apparatus --- with constant input impedance  
[NASA-CASE-ARC-10348-1] c 33 N75-19518

Television noise reduction device  
[NASA-CASE-MSC-12607-1] c 32 N75-21485

Isolated output system for a class D switching-mode amplifier  
[NASA-CASE-MFS-21616-1] c 33 N75-30429

Compact bi-phase pulse coded modulation decoder  
[NASA-CASE-KSC-10834-1] c 33 N76-14371

Filtering device --- removing electromagnetic noise from voice communication signals  
[NASA-CASE-MFS-22729-1] c 32 N76-21366

System for measuring Reynolds in a turbulently flowing fluid --- signal processing  
[NASA-CASE-ARC-10755-2] c 34 N76-27517

Three phase full wave dc motor decoder  
[NASA-CASE-GSC-11824-1] c 33 N77-26386

Apparatus for determining thermophysical properties of test specimens  
[NASA-CASE-LAR-11883-1] c 09 N77-27131

Analog to digital converter for two-dimensional radiant energy array computers  
[NASA-CASE-GSC-11839-3] c 60 N77-32731

Hearing aid malfunction detection system  
[NASA-CASE-MSC-14916-1] c 33 N78-10375

Swept group delay measurement  
[NASA-CASE-NPO-13909-1] c 33 N78-25319

Quadrature demodulation  
[NASA-CASE-GSC-12137-1] c 33 N78-32338

Bit error rate measurement above and below bit rate tracking threshold  
[NASA-CASE-MSC-12743-1] c 32 N79-10263

Multibeam single frequency synthetic aperture radar processor for imaging separate range swaths  
[NASA-CASE-NPO-14525-1] c 32 N79-19195

Electrochemical detection device --- for use in microbiology  
[NASA-CASE-LAR-11922-1] c 25 N79-24073

Scannable beam forming interferometer antenna array system  
[NASA-CASE-GSC-12365-1] c 32 N80-28578

System for plotting subsoil structure and method therefor  
[NASA-CASE-NPO-14191-1] c 31 N80-32584

CCD correlated quadruple sampling processor  
[NASA-CASE-NPO-14426-1] c 33 N81-27396

Interleaving device  
[NASA-CASE-GSC-12111-2] c 33 N81-29342

Reconfiguring redundancy management  
[NASA-CASE-MSC-18498-1] c 60 N82-29013

Discriminator aided phase lock acquisition for suppressed carrier signals  
[NASA-CASE-NPO-14311-1] c 33 N82-29539

Serial data correlator/code translator  
[NASA-CASE-KSC-11025-1] c 32 N83-13323

Interferometric angle monitor  
[NASA-CASE-GSC-12614-1] c 74 N83-32577

Real time pressure signal system for a rotary engine  
[NASA-CASE-LEW-13622-1] c 07 N84-22559

Digital interface for bi-directional communication between a computer and a peripheral device  
[NASA-CASE-MSC-20258-1] c 60 N84-28492

Pipelined digital SAR azimuth correlator using hybrid FFT-transversal filter  
[NASA-CASE-NPO-15519-1] c 32 N84-34651

Optical stereo video signal processor  
[NASA-CASE-MFS-25752-1] c 74 N86-21348

Method and apparatus for telemetry adaptive bandwidth compression  
[NASA-CASE-MSC-20821-1] c 17 N87-25348

Processing circuit with asymmetry corrector and convolutional encoder for digital data  
[NASA-CASE-MSC-20187-1] c 33 N87-25531

Doppler radar with multiphase modulation of transmitted and reflected signal  
[NASA-CASE-MSC-18808-1] c 32 N88-23923

Method and apparatus for non-destructive testing of temper embrittlement in steels  
[NASA-CASE-LAR-13817-1] c 26 N88-29012

Doppler-corrected differential detection system  
[NASA-CASE-NPO-16987-1-CU] c 32 N88-30001

Quantitative surface temperature measurement using two-color thermographic phosphors and video equipment  
[NASA-CASE-LAR-13740-1] c 35 N88-30105

Frequency domain laser velocimeter signal processor  
[NASA-CASE-LAR-13552-1-CU] c 33 N89-14385

Digital carrier demodulator employing components working beyond normal limits  
[NASA-CASE-NPO-17628-1-CU] c 32 N89-28684

Vibration analyzer  
[NASA-CASE-MSC-21408-1] c 37 N89-28829

Fiber optic frequency transfer link  
[NASA-CASE-NPO-17703-1-CU] c 74 N89-29191

## SIGNAL RECEPTION

- Radar ranging receiver Patent  
[NASA-CASE-XNP-00748] c 07 N70-36911
- Reflectometer for receiver input impedance match measurement Patent  
[NASA-CASE-XNP-10843] c 07 N71-11267
- Diversity receiving system with diversity phase lock Patent  
[NASA-CASE-XGS-01222] c 10 N71-20841
- Signal detection and tracking apparatus Patent  
[NASA-CASE-XGS-03502] c 10 N71-20852
- Optimum predetection diversity receiving system Patent  
[NASA-CASE-XGS-00740] c 07 N71-23098
- Decoder system Patent  
[NASA-CASE-NPO-10118] c 07 N71-24741
- Antenna array phase quadrature tracking system Patent  
[NASA-CASE-MS-C-12205-1] c 07 N71-27056
- Electricity measurement devices employing liquid crystalline materials  
[NASA-CASE-ERC-10275] c 26 N72-25680
- Filter for third order phase locked loops  
[NASA-CASE-NPO-11941-1] c 10 N73-27171
- Ferrofluidic solenoid  
[NASA-CASE-NPO-11738-1] c 09 N73-30185
- Scan converting video tape recorder  
[NASA-CASE-NPO-10166-2] c 35 N76-16391
- Faraday rotation measurement method and apparatus  
[NASA-CASE-NPO-14839-1] c 35 N82-15361
- Method and apparatus for receiving and tracking phase modulated signals  
[NASA-CASE-MS-C-16170-2] c 32 N84-27952
- Single frequency multitransmitter telemetry  
[NASA-CASE-LAR-13006-1] c 17 N87-16863

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- Reflectometer for receiver input impedance match measurement Patent  
[NASA-CASE-XNP-10843] c 07 N71-11267
- Reflex feed system for dual frequency antenna with frequency cutoff means  
[NASA-CASE-NPO-14022-1] c 32 N78-31321

## SIGNAL STABILIZATION

- Linear accelerator frequency control system Patent  
[NASA-CASE-XGS-05441] c 10 N71-22962
- Digital modulator and demodulator Patent  
[NASA-CASE-ERC-10041] c 08 N71-29138
- System for interference signal nulling by polarization adjustment  
[NASA-CASE-NPO-13140-1] c 32 N75-24982
- Fiber optic transmission line stabilization apparatus and method  
[NASA-CASE-NPO-15036-1] c 74 N82-19029

## SIGNAL TO NOISE RATIOS

- System for improving signal-to-noise ratio of a communication signal Patent Application  
[NASA-CASE-MS-C-12259-1] c 07 N70-12616
- Radar ranging receiver Patent  
[NASA-CASE-XNP-00748] c 07 N70-36911
- Phase detector assembly Patent  
[NASA-CASE-XMF-00701] c 09 N70-40272
- Signal-to-noise ratio estimating by taking ratio of mean and standard deviation of integrated signal samples Patent  
[NASA-CASE-XNP-05254] c 07 N71-20791
- Signal ratio system utilizing voltage controlled oscillators Patent  
[NASA-CASE-XMF-04367] c 09 N71-23545
- Recorder using selective noise filter  
[NASA-CASE-ERC-10112] c 07 N72-21119
- Parametric amplifiers with idler circuit feedback  
[NASA-CASE-LAR-10253-1] c 09 N72-25258
- System for improving signal-to-noise ratio of a communication signal  
[NASA-CASE-MS-C-12259-2] c 07 N72-33146
- Signal-to-noise ratio determination circuit  
[NASA-CASE-GSC-11239-1] c 10 N73-25241
- Gated compressor, distortionless signal limiter  
[NASA-CASE-NPO-11820-1] c 32 N74-19788

## SIGNAL TRANSMISSION

- Time division multiplex system  
[NASA-CASE-XGS-05918] c 07 N69-39974
- Apparatus for coupling a plurality of ungrounded circuits to a grounded circuit Patent  
[NASA-CASE-XAC-00086] c 09 N70-33182
- Bi-carrier demodulator with modulation Patent  
[NASA-CASE-XMF-01160] c 07 N71-11298
- Bi-polar phase detector and corrector for split phase PCM data signals Patent  
[NASA-CASE-XGS-01590] c 07 N71-12392
- Signal-to-noise ratio estimating by taking ratio of mean and standard deviation of integrated signal samples Patent  
[NASA-CASE-XNP-05254] c 07 N71-20791

- Elimination of frequency shift in a multiplex communication system Patent  
[NASA-CASE-XNP-01306] c 07 N71-20814
- Adaptive tracking notch filter system Patent  
[NASA-CASE-XMF-01892] c 10 N71-22986
- Passive synchronized spike generator with high input impedance and low output impedance and capacitor power supply Patent  
[NASA-CASE-XGS-03632] c 09 N71-23311
- Junction range finder  
[NASA-CASE-KSC-10108] c 14 N73-25461
- Television multiplexing system  
[NASA-CASE-KSC-10654-1] c 07 N73-30115
- Controlled oscillator system with a time dependent output frequency  
[NASA-CASE-NPO-11962-1] c 33 N74-10194
- Pulse code modulated signal synchronizer  
[NASA-CASE-MS-C-12462-1] c 32 N74-20809
- Pulse code modulated signal synchronizer  
[NASA-CASE-MS-C-12494-1] c 32 N74-20810
- Digital transmitter for data bus communications system  
[NASA-CASE-MS-C-14558-1] c 32 N75-21486
- Modulator for tone and binary signals --- phase of modulation of tone and binary signals on carrier waves in communication systems  
[NASA-CASE-GSC-11743-1] c 32 N75-24981
- Method and apparatus for background signal reduction in opto-acoustic absorption measurement  
[NASA-CASE-NPO-13683-1] c 35 N77-14411
- Automatic transponder --- measurement of the internal delay time of a transponder  
[NASA-CASE-GSC-12075-1] c 32 N77-31350
- Fiber optic multiplex optical transmission system  
[NASA-CASE-KSC-11047-1] c 74 N78-14889
- Telephone multiline signaling using common signal pair  
[NASA-CASE-KSC-11023-1] c 32 N79-23310
- Precise RF timing signal distribution to remote stations --- fiber optics  
[NASA-CASE-NPO-14749-1] c 32 N81-14186
- Digital numerically controlled oscillator  
[NASA-CASE-MS-C-16747-1] c 33 N81-17349
- High stability amplifier  
[NASA-CASE-GSC-12646-1] c 33 N83-34191
- Navigation system and method  
[NASA-CASE-GSC-12508-1] c 04 N84-22546
- Doppler radar having phase modulation of both transmitted and reflected return signals  
[NASA-CASE-MS-C-18675-1] c 32 N84-22820

## SIGNATURE ANALYSIS

- Multispectral imaging and analysis system --- using charge coupled devices and linear arrays  
[NASA-CASE-NPO-13691-1] c 43 N79-17288

## SILANES

- Elastomeric silazane polymers and process for preparing the same Patent  
[NASA-CASE-XMF-04133] c 06 N71-20717
- Process for preparation of dianilinosilanes Patent  
[NASA-CASE-XMF-06409] c 06 N71-23230
- Process for preparation of high-molecular-weight polyaryloxysilanes Patent  
[NASA-CASE-XMF-08674] c 06 N71-28807
- Oxygen post-treatment of plastic surface coated with plasma polymerized silicon-containing monomers  
[NASA-CASE-ARC-10915-2] c 27 N79-18052
- Thermal reactor --- liquid silicon production from silane gas  
[NASA-CASE-NPO-14369-1] c 44 N83-10501
- Process for producing tris *s*(*n*-methylamino) methylsilane  
[NASA-CASE-MFS-25721-1] c 25 N85-21280
- Boron-containing organosilane polymers and ceramic materials thereof  
[NASA-CASE-ARC-11649-1-SB] c 27 N88-29040

## SILICA GEL

- Gels as battery separators for soluble electrode cells  
[NASA-CASE-LEW-12364-1] c 44 N77-22606
- Procedure to prepare transparent silica gels  
[NASA-CASE-LAR-13476-1-CU] c 76 N87-29360

## SILICA GLASS

- Non-toxic invert analog glass compositions of high modulus  
[NASA-CASE-HQN-10328-2] c 27 N82-29454
- High modulus rare earth and beryllium containing silicate glass compositions --- for glass reinforcing fibers  
[NASA-CASE-HQN-10595-1] c 27 N82-29455

## SILICATES

- Alkali-metal silicate protective coating  
[NASA-CASE-XGS-04119] c 18 N69-39979
- Alkali-metal silicate binders and methods of manufacture  
[NASA-CASE-GSC-12303-1] c 24 N79-31347

## SILICIDES

- Silicide coatings for refractory metals Patent  
[NASA-CASE-XLE-10910] c 18 N71-29040

- Fused silicide coatings containing discrete particles for protecting niobium alloys --- used in space shuttle thermal protection systems and turbine engine components  
[NASA-CASE-LEW-11179-1] c 27 N76-16229

## SILICON

- Method of forming thin window drifted silicon charged particle detector Patent  
[NASA-CASE-XLE-00808] c 24 N71-10560
- Gd or Sm doped silicon semiconductor composition Patent  
[NASA-CASE-XLE-10715] c 26 N71-23292
- Silicon solar cell with cover glass bonded to cell by metal pattern Patent  
[NASA-CASE-XLE-08569] c 03 N71-23449
- Covered silicon solar cells and method of manufacture --- with polymeric films  
[NASA-CASE-LEW-11065-2] c 44 N76-14600
- Method of controlling defect orientation in silicon crystal ribbon growth  
[NASA-CASE-NPO-13918-1] c 76 N79-11920
- Method of purifying metallurgical grade silicon employing reduced pressure atmospheric control  
[NASA-CASE-NPO-14474-1] c 26 N80-14229
- Method of producing silicon --- gas phase reactor multiple injector liquid feed system  
[NASA-CASE-NPO-14382-1] c 31 N80-18231
- System for slicing silicon wafers  
[NASA-CASE-NPO-14406-1] c 37 N80-29703
- Apparatus for use in the production of ribbon-shaped crystals from a silicon melt  
[NASA-CASE-NPO-14297-1] c 33 N81-19389
- Scriber for silicon wafers  
[NASA-CASE-NPO-15539-1] c 37 N82-11469
- Method of protecting a surface with a silicon-slurry/aluminate coating --- coatings for gas turbine engine blades and vanes  
[NASA-CASE-LEW-13343-1] c 27 N82-28441
- Thermal reactor --- liquid silicon production from silane gas  
[NASA-CASE-NPO-14369-1] c 44 N83-10501
- Process and apparatus for growing a crystal ribbon  
[NASA-CASE-NPO-15629-1] c 76 N84-35113
- Increased voltage photovoltaic cell  
[NASA-CASE-NPO-16155-1] c 44 N85-30475
- Ribbon growing method and apparatus  
[NASA-CASE-NPO-16306-1-CU] c 76 N85-30934
- Oxidation resistant slurry coating for carbon-based materials  
[NASA-CASE-LEW-13923-1] c 26 N85-35267
- Oxygen diffusion barrier coating  
[NASA-CASE-LAR-13474-1-SB] c 26 N87-25455

## SILICON ALLOYS

- Improved properties of SiGe/GaP alloys  
[NASA-CASE-NPO-17259-1-CU] c 76 N88-25358

## SILICON CARBIDES

- A method for the deposition of beta-silicon carbide by isoeptaxy  
[NASA-CASE-ERC-10120] c 26 N69-33482
- Production of high purity silicon carbide Patent  
[NASA-CASE-XLA-00158] c 26 N70-36805
- Apparatus for producing high purity silicon carbide crystals Patent  
[NASA-CASE-XLA-02057] c 26 N70-40015
- Process for fabricating SiC semiconductor devices  
[NASA-CASE-LEW-12094-1] c 76 N76-25049
- Growth of silicon carbide crystals on a seed while pulling silicon crystals from a melt  
[NASA-CASE-NPO-13969-1] c 76 N79-23798
- High temperature silicon carbide impregnated insulating fabrics  
[NASA-CASE-MS-C-18832-1] c 27 N83-18903
- Oxidation resistant slurry coating for carbon-based materials  
[NASA-CASE-LEW-13923-1] c 26 N85-35267
- Method of preparing fiber reinforced ceramic material  
[NASA-CASE-LEW-14392-1] c 27 N87-28656
- Boron-containing organosilane polymers and ceramic materials thereof  
[NASA-CASE-ARC-11649-1-SB] c 27 N88-29040

## SILICON COMPOUNDS

- Method of making a silicon semiconductor device Patent  
[NASA-CASE-XLE-02792] c 26 N71-1067
- Polymerizable disilanol having in-chain perfluoroalkyl groups  
[NASA-CASE-MFS-20979-2] c 06 N73-32050
- Infusible silazane polymer and process for producing same --- protective coatings  
[NASA-CASE-XMF-02526-1] c 27 N79-21190
- Silicon-slurry/aluminate coating --- protecting gas turbine engine vanes and blades  
[NASA-CASE-LEW-13343] c 26 N83-31795

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- Protection for energy conversion systems  
[NASA-CASE-XGS-04808] c 03 N69-25146

- Transient-compensated SCR inverter  
[NASA-CASE-XLA-08507] c 09 N69-39984
- Reversible ring counter employing cascaded single SCR stages Patent  
[NASA-CASE-XGS-01473] c 09 N71-10673
- SCR blocking pulse gate amplifier Patent  
[NASA-CASE-XLA-07497] c 09 N71-12514
- Combinational logic for generating gate drive signals for phase control rectifiers  
[NASA-CASE-MFS-25208-1] c 33 N83-10345
- SILICON DIOXIDE**  
Intermittent type silica gel adsorption refrigerator Patent  
[NASA-CASE-XNP-00920] c 15 N71-15906
- Nose cone mounted heat resistant antenna Patent  
[NASA-CASE-XMS-04312] c 07 N71-22984
- Method and apparatus for stable silicon dioxide layers on silicon grown in silicon nitride ambient  
[NASA-CASE-ERC-10073-1] c 24 N74-19769
- Silica reusable surface insulation  
[NASA-CASE-ARC-10721-1] c 27 N76-22376
- Two-component ceramic coating for silica insulation  
[NASA-CASE-MS-C-14270-1] c 27 N76-22377
- Transmitting and reflecting diffuser --- using ultraviolet grade fused silica coatings  
[NASA-CASE-LAR-10385-3] c 74 N78-15879
- Field effect transistor and method of construction thereof  
[NASA-CASE-MFS-23312-1] c 33 N78-27326
- Fibrous refractory composite insulation --- shielding reusable spacecraft  
[NASA-CASE-ARC-11169-1] c 24 N79-24062
- Attachment system for silica tiles --- thermal protection for space shuttle orbiter  
[NASA-CASE-MS-C-18741-1] c 27 N82-29456
- Pyroelectric detector arrays  
[NASA-CASE-LAR-12363-2] c 33 N83-24763
- Apparatus and method for heating a material in a transparent ampoule --- crystal growth  
[NASA-CASE-MFS-25436-1] c 27 N83-36220
- SILICON FILMS**  
A method for the deposition of beta-silicon carbide by isoeptitaxy  
[NASA-CASE-ERC-10120] c 26 N69-33482
- Pyroelectric detector arrays  
[NASA-CASE-LAR-12363-1] c 35 N82-31659
- Ingot slicing machine and method  
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- SILICON JUNCTIONS**  
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[NASA-CASE-XGS-07801] c 09 N71-12513
- SILICON NITRIDES**  
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[NASA-CASE-ERC-10073-1] c 24 N74-19769
- Silicon nitride coated, plastic covered solar cell  
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- Sandblasting nozzle  
[NASA-CASE-NPO-13823-1] c 37 N81-25371
- SILICON OXIDES**  
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- SILICON POLYMERS**  
Oxygen post-treatment of plastic surface coated with plasma polymerized silicon-containing monomers  
[NASA-CASE-ARC-10915-2] c 27 N79-18052
- Boron-containing organosilane polymers and ceramic materials thereof  
[NASA-CASE-ARC-11649-1-SB] c 27 N88-29040
- SILICON RADIATION DETECTORS**  
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[NASA-CASE-XLE-10529] c 14 N69-23191
- Biomedical radiation detecting probe Patent  
[NASA-CASE-XMS-01177] c 05 N71-19440
- Imaging X-ray spectrometer  
[NASA-CASE-GSC-12682-1] c 35 N84-33765
- SILICON TRANSISTORS**  
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[NASA-CASE-GSC-10695-1] c 09 N72-25259
- Method and apparatus for detecting surface ions on silicon diodes and transistors  
[NASA-CASE-ERC-10325] c 15 N72-25457
- SILICONE RESINS**  
Vacuum pressure molding technique  
[NASA-CASE-LAR-10073-1] c 37 N76-24575
- SILICONES**  
Silicone containing solid propellant  
[NASA-CASE-NPO-14477-1] c 28 N80-28536
- SILICONIZING**  
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[NASA-CASE-XLA-00284] c 15 N71-16075
- SILOXANES**  
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[NASA-CASE-MFS-13994-1] c 06 N71-11240
- Method of producing alternating ether siloxane copolymers Patent  
[NASA-CASE-XMF-02584] c 06 N71-20905
- Siloxane containing epoxide compounds  
[NASA-CASE-MFS-13994-2] c 06 N72-25148
- Silphenylenesiloxane polymers having in-chain perfluoroalkyl groups  
[NASA-CASE-MFS-20979] c 06 N72-25151
- Low outgassing polydimethylsiloxane material and preparation thereof  
[NASA-CASE-GSC-11358-1] c 06 N73-26100
- Acetylene (ethynyl) terminated polyimide siloxane and process for preparation thereof  
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- SILVER**  
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[NASA-CASE-FRC-10029-2] c 05 N72-25121
- Method for forming hermetic seals  
[NASA-CASE-NPO-16423-1-CU] c 37 N87-21334
- Carbide-fluoride-silver self-lubricating composite  
[NASA-CASE-LEW-14196-2] c 37 N87-25585
- SILVER ALLOYS**  
Brazing alloy composition  
[NASA-CASE-XMF-06053] c 26 N75-27126
- SILVER CHLORIDES**  
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[NASA-CASE-XMS-02872] c 05 N69-21925
- Bonding graphite with fused silver chloride  
[NASA-CASE-XGS-00963] c 15 N69-39735
- SILVER COMPOUNDS**  
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[NASA-CASE-MS-C-10960-1] c 03 N71-24718
- SILVER ZINC BATTERIES**  
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[NASA-CASE-XGS-01674] c 03 N71-29129
- Additive for zinc electrodes --- electric automobiles  
[NASA-CASE-LEW-13286-1] c 33 N84-14422
- SIMULATION**  
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[NASA-CASE-MS-C-20202-1] c 54 N84-16803
- SIMULATORS**  
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[NASA-CASE-MFS-12750] c 27 N71-16223
- Phonocardiogram simulator Patent  
[NASA-CASE-XKS-10804] c 05 N71-24606
- Waveform simulator Patent  
[NASA-CASE-NPO-10251] c 10 N71-27365
- Laser Doppler velocity simulator --- to induce frequency shift  
[NASA-CASE-LAR-12176-1] c 36 N80-16321
- Weightlessness simulation system and process  
[NASA-CASE-ARC-11646-1] c 14 N87-25344
- SIMULTANEOUS EQUATIONS**  
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[NASA-CASE-NPO-15920-1] c 33 N85-21493
- SINE SERIES**  
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[NASA-CASE-LAR-10503-1] c 09 N72-21248
- Function generator for synthesizing complex vibration mode patterns  
[NASA-CASE-LAR-10310-1] c 10 N73-20253
- SINE WAVES**  
Waveform simulator Patent  
[NASA-CASE-NPO-10251] c 10 N71-27365
- Wide band doubler and sine wave quadrature generator  
[NASA-CASE-NPO-11133] c 10 N72-20223
- Electro-mechanical sine/cosine generator  
[NASA-CASE-LAR-11389-1] c 33 N77-26387
- SINGLE CRYSTALS**  
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[NASA-CASE-XLA-00158] c 26 N70-36805
- Fabrication of single crystal film semiconductor devices  
[NASA-CASE-ERC-10222] c 09 N72-22199
- Hall effect magnetometer  
[NASA-CASE-LEW-11632-2] c 35 N75-13213
- Vapor phase growth of groups 3-5 compounds by hydrogen chloride transport of the elements  
[NASA-CASE-LAR-11144-1] c 25 N75-26043
- Method for the preparation of inorganic single crystal and polycrystalline electronic materials  
[NASA-CASE-XLE-02545-1] c 76 N79-21910
- Growth of silicon carbide crystals on a seed while pulling silicon crystals from a melt  
[NASA-CASE-NPO-13969-1] c 76 N79-23798
- Diamondlike flakes  
[NASA-CASE-LEW-13837-2] c 24 N85-21267
- Method of making macrocrystalline or single crystal semiconductor material  
[NASA-CASE-NPO-15904-1] c 76 N86-28760
- Total immersion crystal growth  
[NASA-CASE-NPO-15800-2] c 76 N87-23286
- Laser schlieren crystal monitor  
[NASA-CASE-MFS-28060-1] c 76 N87-25862
- Procedure to prepare transparent silica gels  
[NASA-CASE-LAR-13476-1-CU] c 76 N87-29360
- SINTERING**  
Condenser - Separator  
[NASA-CASE-XLA-08645] c 15 N69-21465
- Method of producing refractory bodies having controlled porosity Patent  
[NASA-CASE-LEW-10393-1] c 17 N71-15468
- Electrodes for solid state devices  
[NASA-CASE-NPO-15161-1] c 33 N84-16456
- Method of making a light weight battery plaque  
[NASA-CASE-LEW-13349-1] c 26 N84-22734
- SIZE (DIMENSIONS)**  
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[NASA-CASE-XLE-06461-2] c 17 N72-28535
- Torso sizing ring construction for hard space suit  
[NASA-CASE-ARC-11616-1] c 54 N86-28618
- SIZE DETERMINATION**  
Impact measuring technique  
[NASA-CASE-LAR-10913] c 14 N72-16282
- Small conductive particle sensor --- microfiber size determination  
[NASA-CASE-LAR-12552-1] c 35 N82-11431
- SIZE SEPARATION**  
Method and apparatus for precision sizing and joining of large diameter tubes Patent  
[NASA-CASE-XMF-05114-2] c 15 N71-26148
- Material handling device Patent  
[NASA-CASE-XNP-09770-3] c 11 N71-27036
- Acoustic particle separation  
[NASA-CASE-NPO-15559-1] c 71 N85-30765
- SIZING (SHAPING)**  
Method and apparatus for precision sizing and joining of large diameter tubes Patent  
[NASA-CASE-XMF-05114] c 15 N71-17650
- SIZING SCREENS**  
Method of making screen by casting Patent  
[NASA-CASE-XLE-00953] c 15 N71-15966
- Screen particle separator  
[NASA-CASE-XNP-09770-2] c 15 N72-22483
- SKENNESS**  
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[NASA-CASE-XNP-09453] c 08 N71-19420
- Automatic character skew and spacing checking network --- of digital tape drive systems  
[NASA-CASE-GSC-11925-1] c 33 N76-18353
- SKID LANDINGS**  
Nose gear steering system for vehicle with main skids Patent  
[NASA-CASE-XLA-01804] c 02 N70-34160
- SKIN (ANATOMY)**  
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[NASA-CASE-XMS-09691-1] c 18 N71-15545
- Percutaneous connector device  
[NASA-CASE-KSC-10849-1] c 52 N77-14738
- Medical diagnosis system and method with multispectral imaging --- depth of burns and optical density of the skin  
[NASA-CASE-NPO-14402-1] c 52 N81-27783
- SKIN (STRUCTURAL MEMBER)**  
Flexibly connected support and skin Patent  
[NASA-CASE-XLA-01027] c 31 N71-24035
- Fire extinguishing apparatus having a slidable mass for a penetrator nozzle --- for penetrating aircraft and shuttle orbiter skin  
[NASA-CASE-KSC-11064-1] c 31 N81-14137
- SKIN FRICTION**  
Skin friction measuring device for aircraft  
[NASA-CASE-FRC-11029-1] c 06 N81-17057
- Hot foil transducer skin friction sensor  
[NASA-CASE-LAR-12321-1] c 35 N82-24470
- Dual-beam skin friction interferometer  
[NASA-CASE-ARC-11354-1] c 74 N83-21949
- Two-axis, self-nulling skin friction balance  
[NASA-CASE-LAR-13294-1] c 35 N86-32696
- Skin friction balance  
[NASA-CASE-LAR-13710-1] c 35 N88-29145
- SKIN TEMPERATURE (BIOLOGY)**  
Thermistor holder for skin temperature measurements  
[NASA-CASE-ARC-10855-1] c 52 N77-10780
- SKIN TEMPERATURE (NON-BIOLOGICAL)**  
Heat flux measuring system Patent  
[NASA-CASE-XFR-03802] c 33 N71-23085
- SKIRTS**  
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[NASA-CASE-MFS-20619] c 28 N72-11708



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- Cloud cover sensor  
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- SLEEP**  
EEG sleep analyzer and method of operation Patent  
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- SLEEVES**  
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[NASA-CASE-XMF-10040] c 15 N71-22877  
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[NASA-CASE-MFS-22283-1] c 37 N75-33395  
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[NASA-CASE-KSC-11069-1] c 52 N79-26772  
Fire extinguishing apparatus having a slidable mass for a penetrator nozzle --- for penetrating aircraft and shuttle orbiter skin  
[NASA-CASE-KSC-11064-1] c 31 N81-14137  
Tapered, tubular polyester fabric  
[NASA-CASE-MSC-21082-1] c 27 N87-29672
- SLENDER BODIES**  
A support technique for vertically oriented launch vehicles  
[NASA-CASE-XLA-02704] c 11 N69-21540
- SLICING**  
Method and apparatus for slicing crystals  
[NASA-CASE-GSC-12291-1] c 76 N80-18951  
System for slicing silicon wafers  
[NASA-CASE-NPO-14406-1] c 37 N80-29703  
Scriber for silicon wafers  
[NASA-CASE-NPO-15539-1] c 37 N82-11469  
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[NASA-CASE-GSC-12762-1] c 37 N84-28083
- SLIDING CONTACT**  
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[NASA-CASE-XMF-04238] c 09 N69-39734  
Continuous turning slip ring assembly Patent  
[NASA-CASE-XMF-01049] c 15 N71-23049  
Electrical rotary joint apparatus for large space structures  
[NASA-CASE-MFS-23981-1] c 07 N83-20944
- SLIDING FRICTION**  
Bearing material --- composite material with low friction surface for rolling or sliding contact  
[NASA-CASE-LEW-11930-1] c 24 N76-22309
- SLIP CASTING**  
Process of casting heavy slips Patent  
[NASA-CASE-XLE-00106] c 15 N71-16076
- SLITS**  
Slit regulated gas journal bearing Patent  
[NASA-CASE-XNP-00476] c 15 N70-38620  
Method of fabricating an object with a thin wall having a precisely shaped slit  
[NASA-CASE-LAR-10409-1] c 31 N74-21059  
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[NASA-CASE-LAR-11370-1] c 35 N80-28686
- SLOPES**  
Penetrometer --- for determining load bearing characteristics of inclined surfaces  
[NASA-CASE-NPO-11103-1] c 35 N77-27367  
Family of airfoil shapes for rotating blades --- for increased power efficiency and blade stability  
[NASA-CASE-LAR-12843-1] c 02 N84-11136
- SLOT ANTENNAS**  
Virtual wall slot circularly polarized planar array antenna  
[NASA-CASE-NPO-10301] c 07 N72-11148  
Omnidirectional slot antenna for mounting on cylindrical space vehicle  
[NASA-CASE-LAR-10163-1] c 09 N72-25247  
Circularly polarized antenna  
[NASA-CASE-ERC-10214] c 09 N72-31235  
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[NASA-CASE-GSC-11428-1] c 32 N74-20864  
Horn antenna having V-shaped corrugated slots  
[NASA-CASE-LAR-11112-1] c 32 N76-15330  
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[NASA-CASE-MSC-18532-1] c 32 N82-27558
- SLOTS**  
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[NASA-CASE-XNP-09452] c 15 N69-27504  
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[NASA-CASE-LAR-10249-1] c 02 N71-26110  
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[NASA-CASE-MFS-20249] c 15 N72-11386  
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[NASA-CASE-LAR-11855-1] c 37 N81-14319
- SLUDGE**  
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- SLURRIES**  
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[NASA-CASE-LEW-13343] c 26 N83-31795

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- Apparatus for making a metal slurry product Patent  
[NASA-CASE-XLE-00010] c 15 N70-33382
- SMOKE**  
Method and construction for protecting heat sensitive bodies from thermal radiation and convective heat Patent  
[NASA-CASE-XNP-01310] c 33 N71-28852  
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[NASA-CASE-LAR-11675-1] c 45 N76-17656  
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[NASA-CASE-ARC-10905-1] c 37 N77-13418  
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[NASA-CASE-LAR-13014-1] c 09 N85-21178
- SODIUM CHLORIDES**  
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[NASA-CASE-GSC-11214-1] c 06 N73-13128  
Separator for alkaline electric batteries and method of making  
[NASA-CASE-GSC-10018-1] c 44 N82-24644
- SODIUM VAPOR**  
Method of producing silicon --- gas phase reactor multiple injector liquid feed system  
[NASA-CASE-NPO-14382-1] c 31 N80-18231
- SOFT LANDING**  
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[NASA-CASE-XLE-00810] c 15 N70-34861  
Space craft soft landing system Patent  
[NASA-CASE-XMF-02108] c 31 N70-36845  
Omnidirectional multiple impact landing system Patent  
[NASA-CASE-XLA-09881] c 31 N71-16085
- SOFT LANDING SPACECRAFT**  
Pivotal shock absorbing pad assembly Patent  
[NASA-CASE-XMF-03856] c 31 N70-34159
- SOIL MECHANICS**  
Penetrometer --- for determining load bearing characteristics of inclined surfaces  
[NASA-CASE-NPO-11103-1] c 35 N77-27367
- SOIL MOISTURE**  
Radar target for remotely sensing hydrological phenomena  
[NASA-CASE-LAR-12344-1] c 43 N80-18498
- SOIL SCIENCE**  
Soil penetrometer  
[NASA-CASE-XNP-05530] c 14 N73-32321  
System for plotting subsoil structure and method therefor  
[NASA-CASE-NPO-14191-1] c 31 N80-32584
- SOILS**  
Screen particle separator  
[NASA-CASE-XNP-09770-2] c 15 N72-22483  
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[NASA-CASE-XNP-07169] c 15 N73-32362  
Remote sensing of vegetation and soil using microwave ellipsometry  
[NASA-CASE-GSC-11976-1] c 43 N78-10529
- SOL-GEL PROCESSES**  
Alkali-metal silicate binders and methods of manufacture  
[NASA-CASE-GSC-12303-1] c 24 N79-31347
- SOLAR ACTIVITY**  
Method and apparatus for measuring solar activity and atmospheric radiation effects  
[NASA-CASE-ERC-10276] c 14 N73-26432
- SOLAR ARRAYS**  
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[NASA-CASE-NPO-10883] c 31 N72-22874  
Use of unilluminated solar cells as shunt diodes for a solar array  
[NASA-CASE-GSC-10344-1] c 03 N72-27053  
Solar energy powered heliostrop  
[NASA-CASE-GSC-10945-1] c 21 N72-31637  
Method of making silicon solar cell array --- and mounting on flexible substrate  
[NASA-CASE-LEW-11069-1] c 44 N74-14784  
Solar cell shingle  
[NASA-CASE-LEW-12587-1] c 44 N77-31601  
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[NASA-CASE-NPO-12148-1] c 44 N78-27515  
Solar array strip and a method for forming the same  
[NASA-CASE-NPO-13652-1] c 44 N79-17314  
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[NASA-CASE-LEW-12780-1] c 20 N79-20179  
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[NASA-CASE-MFS-23540-1] c 44 N79-26475  
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[NASA-CASE-NPO-13652-3] c 44 N80-14474  
Electrical rotary joint apparatus for large space structures  
[NASA-CASE-MFS-23981-1] c 07 N83-20944

- Electronic system for high power load control --- solar arrays  
[NASA-CASE-NPO-15358-1] c 33 N83-27126  
Solar powered actuator with continuously variable auxiliary power control  
[NASA-CASE-MFS-25637-1] c 44 N85-21769
- SOLAR CELLS**  
Method for producing a solar cell having an integral protective covering  
[NASA-CASE-XGS-04531] c 03 N69-24267  
Radiation direction detector including means for compensating for photocell aging Patent  
[NASA-CASE-XLA-00183] c 14 N70-40239  
Attitude control for spacecraft Patent  
[NASA-CASE-XNP-02982] c 31 N70-41855  
Voltage-current characteristic simulator Patent  
[NASA-CASE-XMS-01554] c 10 N71-10578  
Method of making a silicon semiconductor device Patent  
[NASA-CASE-XLE-02792] c 26 N71-106C7  
Solar cell including second surface mirrors Patent  
[NASA-CASE-NPO-10109] c 03 N71-11049  
Solar battery with interconnecting means for plural cells Patent  
[NASA-CASE-XNP-06506] c 03 N71-11050  
Solar cell submodule Patent  
[NASA-CASE-XNP-05821] c 03 N71-11056  
Interconnection of solar cells Patent  
[NASA-CASE-XGS-01475] c 03 N71-11058  
Solar cell matrix Patent  
[NASA-CASE-NPO-10821] c 03 N71-19545  
Roll-up solar array Patent  
[NASA-CASE-NPO-10188] c 03 N71-20273  
Method of making electrical contact on silicon solar cell and resultant product Patent  
[NASA-CASE-XLE-04787] c 03 N71-20492  
Solar cell mounting Patent  
[NASA-CASE-XNP-00826] c 03 N71-20895  
Simple method of making photovoltaic junctions Patent  
[NASA-CASE-XNP-01960] c 09 N71-23027  
Gd or Sm doped silicon semiconductor composition Patent  
[NASA-CASE-XLE-10715] c 26 N71-23292  
Protection of serially connected solar cells against open circuits by the use of shunting diode Patent  
[NASA-CASE-XLE-04535] c 03 N71-23354  
Silicon solar cell with cover glass bonded to cell by metal pattern Patent  
[NASA-CASE-XLE-08569] c 03 N71-23449  
Semiconductor material and method of making same Patent  
[NASA-CASE-XLE-02798] c 26 N71-23654  
Method of attaching a cover glass to a silicon solar cell Patent  
[NASA-CASE-XLE-08569-2] c 03 N71-24681  
Solar panel fabrication Patent  
[NASA-CASE-XNP-03413] c 03 N71-26726  
Solar cell Patent  
[NASA-CASE-ARC-10050] c 03 N71-33409  
Solar cell matrix  
[NASA-CASE-NPO-11190] c 03 N71-34044  
Recovery of radiation damaged solar cells through thermal annealing  
[NASA-CASE-XGS-04047-2] c 03 N72-11062  
Optimum performance spacecraft solar cell system  
[NASA-CASE-GSC-10669-1] c 03 N72-20031  
Solar cell assembly test method  
[NASA-CASE-NPO-10401] c 03 N72-20033  
Solid state matrices  
[NASA-CASE-NPO-10591] c 03 N72-22041  
Solar cell panels with light transmitting plate  
[NASA-CASE-NPO-10747] c 03 N72-22042  
Method of coating solar cell with borosilicate glass and resultant product  
[NASA-CASE-GSC-11514-1] c 03 N72-24037  
Apparatus for applying cover slides  
[NASA-CASE-NPO-10575] c 03 N72-25019  
Use of unilluminated solar cells as shunt diodes for a solar array  
[NASA-CASE-GSC-10344-1] c 03 N72-27053  
Stacked solar cell arrays  
[NASA-CASE-NPO-11771] c 03 N73-20040  
Method of making silicon solar cell array --- and mounting on flexible substrate  
[NASA-CASE-LEW-11069-1] c 44 N74-14784  
Covered silicon solar cells and method of manufacture --- with polymeric films  
[NASA-CASE-LEW-11065-2] c 44 N76-14600  
Fabrication of polycrystalline solar cells on low-cost substrates  
[NASA-CASE-GSC-12022-1] c 44 N76-28635  
Solar cell grid patterns  
[NASA-CASE-NPO-13087-2] c 44 N76-31666  
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[NASA-CASE-MFS-22458-1] c 44 N77-10635

- Silicon nitride coated, plastic covered solar cell  
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- Solar cell assembly --- for use under high intensity illumination  
[NASA-CASE-LEW-11549-1] c 44 N77-19571
- High voltage, high current Schottky barrier solar cell  
[NASA-CASE-NPO-13482-1] c 44 N78-13526
- Shunt regulation electric power system  
[NASA-CASE-GSC-10135] c 33 N78-17296
- Process for utilizing low-cost graphite substrates for polycrystalline solar cells  
[NASA-CASE-GSC-12022-2] c 44 N78-24609
- Method of making encapsulated solar cell modules  
[NASA-CASE-LEW-12185-1] c 44 N78-25528
- Method for producing solar energy panels by automation  
[NASA-CASE-LEW-12541-1] c 44 N78-25529
- Hexagon solar power panel  
[NASA-CASE-NPO-12148-1] c 44 N78-27515
- Application of semiconductor diffusants to solar cells by screen printing  
[NASA-CASE-LEW-12775-1] c 44 N79-11468
- Method and apparatus for measuring minority carrier lifetimes and bulk diffusion length in P-N junction solar cells  
[NASA-CASE-NPO-14100-1] c 44 N79-12541
- Back wall solar cell  
[NASA-CASE-LEW-12236-2] c 44 N79-14528
- Method for fabricating solar cells having integrated collector grids  
[NASA-CASE-LEW-12819-2] c 44 N79-18444
- Solar cell module assembly jig  
[NASA-CASE-XGS-00829-1] c 44 N79-19447
- Double-sided solar cell package  
[NASA-CASE-NPO-14199-1] c 44 N79-25482
- Solar cell with improved N-region contact and method of forming the same  
[NASA-CASE-NPO-14205-1] c 44 N79-31752
- Solar cell module  
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- Self-reconfiguring solar cell system  
[NASA-CASE-LEW-12586-1] c 44 N80-14472
- Driver for solar cell I-V characteristic plots  
[NASA-CASE-NPO-14096-1] c 44 N80-18551
- Solar cell angular position transducer  
[NASA-CASE-LAR-11999-1] c 44 N80-18552
- Method of mitigating titanium impurities effects in p-type silicon material for solar cells  
[NASA-CASE-NPO-14635-1] c 44 N80-24741
- Induced junction solar cell and method of fabrication  
[NASA-CASE-NPO-13786-1] c 44 N80-29835
- Solar cell system having alternating current output  
[NASA-CASE-LEW-12806-2] c 44 N81-12542
- Method and apparatus for fabricating improved solar cell modules  
[NASA-CASE-NPO-14416-1] c 44 N81-14389
- Copper doped polycrystalline silicon solar cell  
[NASA-CASE-NPO-14670-1] c 44 N81-19558
- Schottky barrier solar cell  
[NASA-CASE-NPO-13689-2] c 44 N81-29525
- Efficiency of silicon solar cells containing chromium  
[NASA-CASE-NPO-15179-1] c 44 N82-26777
- Method of Fabricating Schottky Barrier solar cell  
[NASA-CASE-NPO-13689-4] c 44 N82-28780
- Method of making a high voltage V-groove solar cell  
[NASA-CASE-LEW-13401-1] c 44 N82-29709
- High voltage planar multijunction solar cell  
[NASA-CASE-LEW-13400-1] c 44 N82-31764
- Solar cell having improved back surface reflector  
[NASA-CASE-LEW-13620-1] c 44 N83-13579
- Heat transparent high intensity high efficiency solar cell  
[NASA-CASE-LEW-12892-1] c 44 N83-14692
- High voltage v-groove solar cell  
[NASA-CASE-LEW-13401-2] c 44 N83-32177
- Screen printed interdigitated back contact solar cell  
[NASA-CASE-LEW-13414-1] c 44 N85-20530
- Lithium counterdoped silicon solar cell  
[NASA-CASE-LEW-14177-1] c 44 N86-32875
- High band gap 2-6 and 3-5 tunneling junctions for silicon multijunction solar cells  
[NASA-CASE-NPO-16526-1CU] c 44 N87-17399
- Floating emitter solar cell  
[NASA-CASE-NPO-16467-1-CU] c 33 N87-23879
- SOLAR COLLECTORS**
- Connector strips-positive, negative and T tabs  
[NASA-CASE-XGS-01395] c 03 N69-21539
- Device for directionally controlling electromagnetic radiation Patent  
[NASA-CASE-XLE-01716] c 09 N70-40234
- Roll-up solar array Patent  
[NASA-CASE-NPO-10188] c 03 N71-20273
- Thermally activated foaming compositions Patent  
[NASA-CASE-LAR-10373-1] c 18 N71-26155
- Solar cell Patent  
[NASA-CASE-ARC-10050] c 03 N71-33409
- Mount for continuously orienting a collector dish in a system adapted to perform both diurnal and seasonal solar tracking  
[NASA-CASE-MFS-23267-1] c 35 N77-20401
- Solar cell shingle  
[NASA-CASE-LEW-12587-1] c 44 N77-31601
- Solar energy collection system  
[NASA-CASE-NPO-13810-1] c 44 N77-32582
- Three-dimensional tracking solar energy concentrator and method for making same  
[NASA-CASE-NPO-13736-1] c 44 N77-32583
- Portable linear-focused solar thermal energy collecting system  
[NASA-CASE-NPO-13734-1] c 44 N78-10554
- Solar heating system  
[NASA-CASE-LAR-12009-1] c 44 N78-15560
- Low cost solar energy collection system  
[NASA-CASE-NPO-13579-1] c 44 N78-17460
- Selective coating for solar panels --- using black chrome and black nickel  
[NASA-CASE-LEW-12159-1] c 44 N78-19599
- Solar cell collector  
[NASA-CASE-LEW-12552-1] c 44 N78-25527
- Non-tracking solar energy collector system  
[NASA-CASE-NPO-13813-1] c 44 N78-31526
- Solar cells having integral collector grids  
[NASA-CASE-LEW-12819-1] c 44 N79-11467
- Method for making an aluminum or copper substrate panel for selective absorption of solar energy  
[NASA-CASE-MFS-23518-1] c 44 N79-11469
- Non-tracking solar energy collector system  
[NASA-CASE-NPO-13817-1] c 44 N79-11471
- Solar cell collector and method for producing same  
[NASA-CASE-LEW-12552-2] c 44 N79-11472
- Electromagnetic radiation energy arrangement --- coatings for solar energy absorption and infrared reflection  
[NASA-CASE-WOO-00428-1] c 32 N79-19186
- Horizontally mounted solar collector  
[NASA-CASE-MFS-23349-1] c 44 N79-23481
- Primary reflector for solar energy collection systems and method of making same  
[NASA-CASE-NPO-13579-3] c 44 N79-24432
- Solar energy collection system  
[NASA-CASE-NPO-13579-2] c 44 N79-24433
- Solar concentrator  
[NASA-CASE-MFS-23727-1] c 44 N80-14473
- Combined solar collector and energy storage system  
[NASA-CASE-LAR-12205-1] c 44 N80-20810
- Solar energy receiver for a Stirling engine  
[NASA-CASE-NPO-14619-1] c 44 N81-17518
- Solar tracking system  
[NASA-CASE-MFS-23999-1] c 44 N81-24520
- Automotive absorption air conditioner utilizing solar and motor waste heat  
[NASA-CASE-NPO-15183-1] c 44 N82-26776
- Method of forming oxide coatings --- for solar collector heating panels  
[NASA-CASE-LEW-13132-1] c 27 N83-29388
- Solar concentrator protective system  
[NASA-CASE-NPO-15662-1] c 44 N84-28204
- Protective telescoping shield for solar concentrator  
[NASA-CASE-NPO-16236-1] c 44 N86-27706
- SOLAR ELECTRIC PROPULSION**
- Closed Loop solar array-ion thruster system with power control circuitry  
[NASA-CASE-LEW-12780-1] c 20 N79-20179
- SOLAR ENERGY**
- Stacked solar cell arrays  
[NASA-CASE-NPO-11771] c 03 N73-20040
- Solar energy power system --- using Freon  
[NASA-CASE-MFS-21628-1] c 44 N75-32581
- Thermostatically controlled non-tracking type solar energy concentrator  
[NASA-CASE-NPO-13497-1] c 44 N76-14602
- Solar photolysis of water  
[NASA-CASE-NPO-13675-1] c 44 N77-32580
- Three-dimensional tracking solar energy concentrator and method for making same  
[NASA-CASE-NPO-13736-1] c 44 N77-32583
- Solar heating system  
[NASA-CASE-LAR-12009-1] c 44 N78-15560
- Method for producing solar energy panels by automation  
[NASA-CASE-LEW-12541-1] c 44 N78-25529
- Method for making an aluminum or copper substrate panel for selective absorption of solar energy  
[NASA-CASE-MFS-23518-1] c 44 N79-11469
- Primary reflector for solar energy collection systems  
[NASA-CASE-NPO-13579-4] c 44 N79-14529
- Method of construction of a multi-cell solar array  
[NASA-CASE-MFS-23540-1] c 44 N79-26475
- Solar cell module  
[NASA-CASE-NPO-14467-1] c 44 N79-31753
- Solar energy modulator  
[NASA-CASE-NPO-15388-1] c 44 N84-28203
- Saltless solar pond  
[NASA-CASE-NPO-15808-1] c 44 N84-34792
- SOLAR ENERGY ABSORBERS**
- Panel for selectively absorbing solar thermal energy and the method of producing said panel  
[NASA-CASE-MFS-22562-1] c 44 N76-14595
- Solar energy absorber  
[NASA-CASE-MFS-22743-1] c 44 N76-22657
- Solar energy trap  
[NASA-CASE-MFS-22744-1] c 44 N76-24696
- Solar cell shingle  
[NASA-CASE-LEW-12587-1] c 44 N77-31601
- Low cost solar energy collection system  
[NASA-CASE-NPO-13579-1] c 44 N78-17460
- Electromagnetic radiation energy arrangement --- coatings for solar energy absorption and infrared reflection  
[NASA-CASE-WOO-00428-1] c 32 N79-19186
- Aluminum or copper substrate panel for selective absorption of solar energy  
[NASA-CASE-MFS-23518-3] c 44 N80-16452
- SOLAR ENERGY CONVERSION**
- Solar energy power system  
[NASA-CASE-MFS-21628-2] c 44 N76-23675
- High voltage, high current Schottky barrier solar cell  
[NASA-CASE-NPO-13482-1] c 44 N78-13526
- Process for utilizing low-cost graphite substrates for polycrystalline solar cells  
[NASA-CASE-GSC-12022-2] c 44 N78-24609
- Solar photolysis of water  
[NASA-CASE-NPO-14126-1] c 44 N79-11470
- Thermal energy transformer  
[NASA-CASE-NPO-14058-1] c 44 N79-18443
- Solar concentrator  
[NASA-CASE-MFS-23727-1] c 44 N80-14473
- Copper doped polycrystalline silicon solar cell  
[NASA-CASE-NPO-14670-1] c 44 N81-19558
- Solar energy control system --- temperature measurement  
[NASA-CASE-MFS-25287-1] c 44 N82-18686
- Solar engine  
[NASA-CASE-LAR-12148-1] c 44 N82-24640
- Solar driven liquid metal MHD power generator  
[NASA-CASE-LAR-12495-1] c 44 N83-28573
- Photoelectrochemical electrodes  
[NASA-CASE-NPO-15458-1] c 25 N84-12262
- Solar pumped laser  
[NASA-CASE-LAR-12870-1] c 36 N84-16542
- Wind and solar powered turbine  
[NASA-CASE-NPO-15496-1] c 44 N84-23018
- Solar energy converter using surface plasma waves  
[NASA-CASE-LEW-13827-1] c 44 N85-21768
- Bidirectional control system for energy flow in solar powered flywheel  
[NASA-CASE-MFS-25978-1] c 44 N87-21410
- SOLAR FLUX DENSITY**
- Solar energy modulator  
[NASA-CASE-NPO-15388-1] c 44 N84-28203
- SOLAR FURNACES**
- High temperature lens construction Patent  
[NASA-CASE-XNP-04111] c 14 N71-15622
- SOLAR GENERATORS**
- GaAs solar detector using manganese as a doping agent Patent  
[NASA-CASE-XNP-01328] c 26 N71-18064
- Wind and solar powered turbine  
[NASA-CASE-NPO-15496-1] c 44 N84-23018
- SOLAR GRAVITATION**
- Means for visually indicating flight paths of vehicles between the Earth, Venus, and Mercury Patent  
[NASA-CASE-XNP-00708] c 14 N70-35394
- SOLAR HEATING**
- Portable linear-focused solar thermal energy collecting system  
[NASA-CASE-NPO-13734-1] c 44 N78-10554
- Solar heating system  
[NASA-CASE-LAR-12009-1] c 44 N78-15560
- Combined solar collector and energy storage system  
[NASA-CASE-LAR-12205-1] c 44 N80-20810
- Multi-channel temperature measurement amplification system --- solar heating systems  
[NASA-CASE-MFS-23775-1] c 44 N82-16474
- Solar heated fluidized bed gasification system  
[NASA-CASE-NPO-15071-1] c 44 N82-16475
- Solar energy control system --- temperature measurement  
[NASA-CASE-MFS-25287-1] c 44 N82-18686
- SOLAR OBSERVATORIES**
- Solar optical telescope dome control system Patent  
[NASA-CASE-MSC-10966] c 14 N71-19568
- SOLAR PONDS (HEAT STORAGE)**
- Solar pond  
[NASA-CASE-NPO-13581-2] c 44 N78-31525
- Saltless solar pond  
[NASA-CASE-NPO-15808-1] c 44 N84-34792

**SOLAR POSITION**

- Sun angle calculator  
[NASA-CASE-MSC-12617-1] c 35 N76-29552
- Solar tracking system  
[NASA-CASE-MFS-23999-1] c 44 N81-24520
- SOLAR POWERED AIRCRAFT**  
Solar powered aircraft  
[NASA-CASE-LAR-12615-1] c 05 N84-12154
- SOLAR RADIATION**  
Space simulator Patent  
[NASA-CASE-XNP-00459] c 11 N70-38675
- Solar vane actuator Patent  
[NASA-CASE-XNP-05535] c 14 N71-23040
- Compact solar still Patent  
[NASA-CASE-XMS-04533] c 15 N71-23086
- Wide angle sun sensor --- consisting of cylinder, insulation and pair of detectors  
[NASA-CASE-NPO-13327-1] c 35 N75-23910
- Particulate and solar radiation stable coating for spacecraft  
[NASA-CASE-LAR-10805-2] c 34 N77-18382
- Solar concentrator protective system  
[NASA-CASE-NPO-15662-1] c 44 N84-28204
- Stable density stratification solar pond  
[NASA-CASE-NPO-15419-2] c 44 N85-30474
- Long gain length solar pumped box laser  
[NASA-CASE-LAR-13256-1] c 36 N86-29204
- SOLAR RADIATION SHIELDING**  
High temperature glass thermal control structure and coating --- for application to spacecraft reusable heat shielding  
[NASA-CASE-ARC-11164-1] c 44 N83-34448
- Variable anodic thermal control coating  
[NASA-CASE-LAR-12719-1] c 44 N83-34449
- Protective telescoping shield for solar concentrator  
[NASA-CASE-NPO-16236-1] c 44 N86-27706
- Sun shield  
[NASA-CASE-MSC-20162-1] c 37 N87-17036
- SOLAR RADIO EMISSION**  
Sidereal frequency generator Patent  
[NASA-CASE-XGS-02610] c 14 N71-23174
- SOLAR REFLECTORS**  
Foldable solar concentrator Patent  
[NASA-CASE-XLA-04622] c 03 N70-41580
- Solar cell including second surface mirrors Patent  
[NASA-CASE-NPO-10109] c 03 N71-11049
- Method and apparatus for making curved reflectors Patent  
[NASA-CASE-XLE-08917] c 15 N71-15597
- Thermal pump-compressor for space use Patent  
[NASA-CASE-XLA-00377] c 33 N71-17610
- Apparatus for making curved reflectors Patent  
[NASA-CASE-XLE-08917-2] c 15 N71-24836
- Inorganic thermal control coatings  
[NASA-CASE-MFS-20011] c 18 N72-22566
- Lightweight reflector assembly  
[NASA-CASE-NPO-13707-1] c 74 N77-28933
- Primary reflector for solar energy collection systems  
[NASA-CASE-NPO-13579-4] c 44 N79-14529
- Primary reflector for solar energy collection systems and method of making same  
[NASA-CASE-NPO-13579-3] c 44 N79-24432
- Solar energy collection system  
[NASA-CASE-NPO-13579-2] c 44 N79-24433
- SOLAR SAILS**  
Strong thin membrane structure --- solar sails  
[NASA-CASE-NPO-14021-2] c 27 N80-16163
- Speed control device for a heavy duty shaft --- solar sails for spacecraft propulsion  
[NASA-CASE-NPO-14170-1] c 37 N81-15364
- SOLAR SENSORS**  
Plurality of photosensitive cells on a pyramidal base for planetary trackers  
[NASA-CASE-XNP-04180] c 07 N69-39736
- Space vehicle attitude control Patent  
[NASA-CASE-XNP-00465] c 21 N70-35395
- Sun tracker with rotatable plane-parallel plate and two photocells Patent  
[NASA-CASE-XGS-01159] c 21 N71-10678
- Solar sensor having coarse and fine sensing with matched preirradiated cells and method of selecting cells Patent  
[NASA-CASE-XLA-01584] c 14 N71-23269
- Sun direction detection system  
[NASA-CASE-NPO-13722-1] c 74 N77-22951
- Sun tracking solar energy collector  
[NASA-CASE-NPO-13921-1] c 44 N79-14526
- Solar tracking system  
[NASA-CASE-MFS-23999-1] c 44 N81-24520
- Sun sensing guidance system for high altitude aircraft  
[NASA-CASE-FRC-11052-1] c 04 N82-23231
- Cloud cover sensor  
[NASA-CASE-NPO-14936-1] c 47 N83-32232
- Airborne tracking sunphotometer apparatus and system  
[NASA-CASE-ARC-11622-1] c 44 N88-14492

**SOLAR SIMULATORS**

- High temperature lens construction Patent  
[NASA-CASE-XNP-04111] c 14 N71-15622
- High powered arc electrodes --- producing solar simulator radiation  
[NASA-CASE-LEW-11162-1] c 33 N74-12913
- SOLAR-PUMPED LASERS**  
Long gain length solar pumped box laser  
[NASA-CASE-LAR-13256-1] c 36 N86-29204
- SOLDERED JOINTS**  
Soldering device Patent  
[NASA-CASE-XLA-08911] c 15 N71-27214
- SOLDERING**  
Solder flux which leaves corrosion-resistant coating Patent  
[NASA-CASE-XNP-03459-2] c 18 N71-15688
- Soldering with solder flux which leaves corrosion resistant coating Patent  
[NASA-CASE-XNP-03459] c 15 N71-21078
- Method of plating copper on aluminum Patent  
[NASA-CASE-XLA-08966-1] c 17 N71-25903
- Resistance soldering apparatus  
[NASA-CASE-GSC-10913] c 15 N72-22491
- Positive contact resistance soldering unit  
[NASA-CASE-KSC-10242] c 15 N72-23497
- Bonding machine for forming a solar array strip  
[NASA-CASE-NPO-13652-2] c 44 N79-24431
- SOLDERS**  
Method of coating circuit paths on printed circuit boards with solder Patent  
[NASA-CASE-XMF-01599] c 09 N71-20705
- Method for attaching a fused-quartz mirror to a conductive metal substrate  
[NASA-CASE-MFS-23405-1] c 26 N77-29260
- SOLENOID VALVES**  
Two-step rocket engine bipropellant valve Patent  
[NASA-CASE-XMS-04890-1] c 15 N70-22192
- Automatic recording McLeod gauge Patent  
[NASA-CASE-XLE-03280] c 14 N71-23093
- Solenoid valve including guide for armature and valve member  
[NASA-CASE-GSC-10607-1] c 15 N72-20442
- Remote fire stack igniter --- with solenoid-controlled valve  
[NASA-CASE-MFS-21675-1] c 25 N74-33378
- Automatically operable self-leveling load table  
[NASA-CASE-MFS-22039-1] c 09 N75-12968
- Self-compensating solenoid valve  
[NASA-CASE-ARC-11620-1] c 37 N87-25573
- SOLENOIDS**  
Solenoid construction Patent  
[NASA-CASE-XNP-01951] c 09 N70-41929
- Drive circuit for minimizing power consumption in inductive load Patent  
[NASA-CASE-NPO-10716] c 09 N71-24892
- Rotary solenoid shutter drive assembly and rotary inertia damper and stop plate assembly --- for use with cameras mounted in satellites  
[NASA-CASE-GSC-11560-1] c 33 N74-20861
- Sprag solenoid brake --- development and operations of electrically controlled brake  
[NASA-CASE-MFS-21846-1] c 37 N74-26976
- Low temperature latching solenoid  
[NASA-CASE-MSC-18106-1] c 33 N82-11357
- SOLID CRYOGEN COOLING**  
Cooling by conversion of para to ortho-hydrogen  
[NASA-CASE-GSC-12770-1] c 25 N83-29324
- SOLID ELECTRODES**  
Polymeric electrolytic hygrometer  
[NASA-CASE-NPO-13948-1] c 35 N78-25391
- Additive for zinc electrodes --- electric automobiles  
[NASA-CASE-LEW-13286-1] c 33 N84-14422
- SOLID LUBRICANTS**  
Bonded solid lubricant coating Patent  
[NASA-CASE-XMS-00259] c 18 N70-36400
- Method of lubricating rolling element bearings Patent  
[NASA-CASE-XLE-09527] c 15 N71-17688
- Inorganic solid film lubricants Patent  
[NASA-CASE-XMF-03988] c 15 N71-21403
- Rolling element bearings Patent  
[NASA-CASE-XLE-09527-2] c 15 N71-26189
- Method of making bearing materials --- self-lubricating, oxidation resistant composites for high temperature applications  
[NASA-CASE-LEW-11930-4] c 24 N79-17916
- SOLID PHASES**  
Solid electrolyte cell  
[NASA-CASE-NPO-15269-1] c 44 N82-29710
- SOLID PROPELLANT IGNITION**  
Apparatus for igniting solid propellants Patent  
[NASA-CASE-XLE-00207] c 28 N70-33375
- Method of igniting solid propellants Patent  
[NASA-CASE-XLE-01988] c 27 N71-15634
- Molded composite pyrogen igniter for rocket motors --- solid propellant ignition  
[NASA-CASE-LAR-12018-1] c 20 N78-24275

- Method and apparatus for suppressing ignition overpressure in solid rocket propulsion systems  
[NASA-CASE-MFS-25843-1] c 20 N83-17588
- SOLID PROPELLANT ROCKET ENGINES**  
Spherical solid-propellant rocket motor Patent  
[NASA-CASE-XLA-00105] c 28 N70-33331
- Mandrel for shaping solid propellant rocket fuel into a motor casing Patent  
[NASA-CASE-XLA-00304] c 27 N70-34783
- Spherically-shaped rocket motor Patent  
[NASA-CASE-XHQ-01897] c 28 N70-35381
- Propellant grain for rocket motors Patent  
[NASA-CASE-XGS-03556] c 27 N70-35534
- Apparatus and method for control of a solid fueled rocket vehicle Patent  
[NASA-CASE-XNP-00217] c 28 N70-38181
- Steerable solid propellant rocket motor Patent  
[NASA-CASE-XNP-00234] c 28 N70-38645
- Method of making a solid propellant rocket motor Patent  
[NASA-CASE-XLA-04126] c 28 N71-26779
- Electrical apparatus for detection of thermal decomposition of insulation Patent  
[NASA-CASE-XMF-03968] c 14 N71-27186
- Solid propellant rocket motor  
[NASA-CASE-XNP-03282] c 28 N72-20758
- Solid propellant rocket motor nozzle  
[NASA-CASE-NPO-11458] c 28 N72-23810
- Solid propellant rocket motor  
[NASA-CASE-NPO-11559] c 28 N73-24784
- Space vehicle  
[NASA-CASE-MFS-22734-1] c 18 N75-19329
- Solid propellant rocket motor and method of making same  
[NASA-CASE-XLA-01349] c 20 N77-17143
- Molded composite pyrogen igniter for rocket motors --- solid propellant ignition  
[NASA-CASE-LAR-12018-1] c 20 N78-24275
- Solid propellant motor  
[NASA-CASE-NPO-11458A] c 20 N78-32179
- Method and apparatus for suppressing ignition overpressure in solid rocket propulsion systems  
[NASA-CASE-MFS-25843-1] c 20 N83-17588
- Space Shuttle with rail system and aft thrust structure securing solid rocket boosters to external tank  
[NASA-CASE-MFS-25853-1] c 16 N84-27784
- SOLID PROPELLANTS**  
Variable thrust ion engine utilizing thermally decomposable solid fuel Patent  
[NASA-CASE-XMF-00923] c 28 N70-368C2
- Means and method of measuring viscoelastic strain Patent  
[NASA-CASE-XNP-01153] c 32 N71-17645
- Processing for producing a sterilized instrument Patent  
[NASA-CASE-XNP-09763] c 14 N71-20461
- Method of forming difunctional polyisobutylene  
[NASA-CASE-NPO-10893] c 27 N73-22710
- SOLID ROCKET BINDERS**  
Solid propellant liner Patent  
[NASA-CASE-XNP-09744] c 27 N71-16392
- Silicone containing solid propellant  
[NASA-CASE-NPO-14477-1] c 28 N80-28536
- SOLID ROCKET PROPELLANTS**  
Process for preparing sterile solid propellants Patent  
[NASA-CASE-XNP-01749] c 27 N70-41897
- Burning rate control of solid propellants Patent  
[NASA-CASE-XLE-03494] c 27 N71-21819
- Hydrazinium nitroformate propellant stabilized with nitroguanidine  
[NASA-CASE-NPO-12000] c 27 N72-25699
- Hydrazinium nitroformate propellant with saturated polymeric hydrocarbon binder  
[NASA-CASE-NPO-12015] c 27 N73-16764
- Preparing oxidizer coated metal fuel particles  
[NASA-CASE-XMF-11975-1] c 28 N74-33209
- Casting propellant in rocket engine  
[NASA-CASE-LAR-11995-1] c 28 N77-10213
- Solid propellant rocket motor and method of making same  
[NASA-CASE-XLA-01349] c 20 N77-17143
- High performance ammonium nitrate propellant  
[NASA-CASE-NPO-14260-1] c 28 N79-28342
- Process for the leaching of AP from propellant  
[NASA-CASE-NPO-14109-1] c 28 N80-23471
- Silicone containing solid propellant  
[NASA-CASE-NPO-14477-1] c 28 N80-28536
- SOLID STATE**  
Solid state chemical source for ammonia beam maser Patent  
[NASA-CASE-XGS-01504] c 16 N70-41578
- SOLID STATE DEVICES**  
Solid state switch  
[NASA-CASE-XNP-09228] c 09 N69-27500

- Temperature compensated solid state differential amplifier Patent  
[NASA-CASE-XAC-00435] c 09 N70-35440
- Operational integrator Patent  
[NASA-CASE-NPO-10230] c 09 N71-12520
- Microwave power receiving antenna Patent  
[NASA-CASE-MFS-20333] c 09 N71-13486
- Counter and shift register Patent  
[NASA-CASE-XNP-01753] c 08 N71-22897
- Solid state television camera system Patent  
[NASA-CASE-XMF-06092] c 07 N71-24612
- Switching circuit Patent  
[NASA-CASE-XNP-06505] c 10 N71-24799
- Transverse piezoresistance and pinch effect electromechanical transducers Patent  
[NASA-CASE-ERC-10088] c 26 N71-25490
- A solid state acoustic variable time delay line Patent  
[NASA-CASE-ERC-10032] c 10 N71-25900
- Broadband stable power multiplier Patent  
[NASA-CASE-XNP-10854] c 10 N71-26331
- Solid state remote circuit selector switch  
[NASA-CASE-LEW-10387] c 09 N72-22201
- RF controlled solid state switch  
[NASA-CASE-ARC-10136-1] c 09 N72-22202
- Thermal to electrical power conversion system with solid-state switches with Seebeck effect compensation  
[NASA-CASE-NPO-11388] c 03 N72-23048
- Radiation sensitive solid state switch  
[NASA-CASE-NPO-10817-1] c 08 N73-30135
- Full wave modulator-demodulator amplifier apparatus --- for generating rectified output signal  
[NASA-CASE-FRC-10072-1] c 33 N74-14939
- Traveling wave solid state amplifier utilizing a semiconductor with negative differential mobility  
[NASA-CASE-HQN-10069] c 33 N75-27251
- Solid-state current transformer  
[NASA-CASE-MFS-22560-1] c 33 N77-14335
- Space-charge-limited solid-state triode  
[NASA-CASE-NPO-13064-1] c 33 N79-11314
- Control means for a solid state crossbar switch  
[NASA-CASE-NPO-15066-1] c 33 N82-29538
- Self-correcting electronically scanned pressure sensor  
[NASA-CASE-LAR-12686-1] c 35 N84-14491
- Imaging X-ray spectrometer  
[NASA-CASE-GSC-12682-1] c 35 N84-33765
- Solar energy converter using surface plasma waves  
[NASA-CASE-LEW-13827-1] c 44 N85-21768
- Hermetically sealable package for hybrid solid-state electronic devices and the like  
[NASA-CASE-MSC-20181-1] c 33 N88-23941
- SOLID SURFACES**  
Dye penetrant for surfaces subsequently contacted by liquid oxygen Patent  
[NASA-CASE-XMF-02221] c 18 N71-27170
- SOLID WASTES**  
Process of forming catalytic surfaces for wet oxidation reactions  
[NASA-CASE-MSC-14831-1] c 25 N78-10225
- SOLID-SOLID INTERFACES**  
Coal-shale interface detection  
[NASA-CASE-MFS-23720-3] c 43 N79-25443
- Coal-rock interface detector  
[NASA-CASE-MFS-23725-1] c 43 N79-31706
- SOLIDIFICATION**  
Method and apparatus for supercooling and solidifying substances  
[NASA-CASE-MFS-25242-1] c 35 N83-29650
- Hot melt adhesive attachment pad  
[NASA-CASE-LAR-12894-1] c 27 N85-20125
- SOLIDIFIED GASES**  
Cooling by conversion of para to ortho-hydrogen  
[NASA-CASE-GSC-12770-1] c 25 N83-29324
- SOLIDS FLOW**  
Use of glow discharge in fluidized beds  
[NASA-CASE-ARC-11245-1] c 28 N82-18401
- SOLUBILITY**  
Fire resistant coating composition Patent  
[NASA-CASE-GSC-10072] c 18 N71-14014
- Insoluble polyelectrolyte and ion-exchange hollow fiber impregnated therewith  
[NASA-CASE-NPO-13530-1] c 25 N81-17187
- Method for the preparation of thin-skinned asymmetric reverse osmosis membranes and products thereof  
[NASA-CASE-ARC-11359-1] c 51 N84-28361
- Method for growth of crystals by pressure reduction of supercritical or subcritical solution  
[NASA-CASE-NPO-15772-1] c 76 N85-29800
- SOLUTES**  
Specific wavelength colorimeter --- for measuring given solute concentration in test sample  
[NASA-CASE-MSC-14081-1] c 35 N74-27860
- SOLUTIONS**  
Method and apparatus for minimizing convection during crystal growth from solution  
[NASA-CASE-NPO-15811-1] c 76 N84-12968
- Preparation of dilute magnetic semiconductor films by metalorganic chemical vapor deposition  
[NASA-CASE-NPO-17399-1-CU] c 76 N89-14120
- SOLVENT EXTRACTION**  
Recovery of aluminum from composite propellants  
[NASA-CASE-NPO-14110-1] c 28 N81-15119
- Supercritical multicomponent solvent coal extraction  
[NASA-CASE-NPO-15767-1] c 23 N84-16255
- Infusion extractor  
[NASA-CASE-MSC-20761-1] c 37 N87-15465
- SOLVENTS**  
Coal desulfurization --- using iron pentacarbonyl  
[NASA-CASE-NPO-14272-1] c 25 N81-33246
- Supercritical solvent coal extraction  
[NASA-CASE-NPO-15210-1] c 25 N84-22709
- Process for producing tris s(n-methylamino) methylsilane  
[NASA-CASE-MFS-25721-1] c 25 N85-21280
- Method for growth of crystals by pressure reduction of supercritical or subcritical solution  
[NASA-CASE-NPO-15772-1] c 76 N85-29800
- Production of butanol by fermentation in the presence of cocultures of clostridium  
[NASA-CASE-NPO-16203-1] c 23 N85-35227
- SONAR**  
Method for shaping and aiming narrow beams --- sonar mapping and target identification  
[NASA-CASE-NPO-14632-1] c 32 N82-18443
- Echo tracker/range finder for radars and sonars  
[NASA-CASE-NPO-14361-1] c 32 N82-23376
- SONIC BOOMS**  
Instrumentation for measurement of aircraft noise and sonic boom  
[NASA-CASE-LAR-11173-1] c 35 N75-19614
- Instrumentation for measuring aircraft noise and sonic boom  
[NASA-CASE-LAR-11476-1] c 07 N76-27232
- SORBATES**  
Apparatus for measuring a sorbate dispersed in a fluid stream  
[NASA-CASE-ARC-10896-1] c 35 N78-19465
- SORET COEFFICIENT**  
Method of growing composites of the type exhibiting the Soret effect --- improved structure of eutectic alloy crystals  
[NASA-CASE-MFS-22926-1] c 24 N77-27187
- SORPTION**  
Two stage sorption type cryogenic refrigerator including heat regeneration system  
[NASA-CASE-NPO-17630-1-CU] c 31 N89-29577
- SOUND GENERATORS**  
Ejectable underwater sound source recovery assembly  
[NASA-CASE-LAR-10595-1] c 35 N74-16135
- Acoustic suspension system  
[NASA-CASE-NPO-15435-1] c 71 N83-36846
- Acoustic agglomeration methods and apparatus  
[NASA-CASE-NPO-15466-1] c 71 N85-22104
- SOUND LOCALIZATION**  
Resolution enhanced sound detecting apparatus  
[NASA-CASE-NPO-14134-1] c 71 N79-23753
- SOUND PRESSURE**  
Instrumentation for measurement of aircraft noise and sonic boom  
[NASA-CASE-LAR-11173-1] c 35 N75-19614
- Differential sound level meter  
[NASA-CASE-LAR-12106-1] c 71 N78-14867
- SOUND PROPAGATION**  
System for plotting subsoil structure and method therefor  
[NASA-CASE-NPO-14191-1] c 31 N80-32584
- SOUND RANGING**  
Echo tracker/range finder for radars and sonars  
[NASA-CASE-NPO-14361-1] c 32 N82-23376
- SOUND TRANSDUCERS**  
Method for detecting hydrogen gas  
[NASA-CASE-XMF-03873] c 06 N69-39733
- Cosmic dust sensor  
[NASA-CASE-GSC-10503-1] c 14 N72-20381
- Resolution enhanced sound detecting apparatus  
[NASA-CASE-NPO-14134-1] c 71 N79-23753
- Pulse transducer with artifact signal attenuator --- heart rate sensors  
[NASA-CASE-FRC-11012-1] c 52 N80-23969
- Acoustic system for material transport  
[NASA-CASE-NPO-15453-1] c 71 N83-32515
- Vibrating-chamber levitation systems  
[NASA-CASE-NPO-16142-1-CU] c 35 N86-20752
- SOUND WAVES**  
Phonocardiograph transducer Patent  
[NASA-CASE-XMS-05365] c 14 N71-22993
- Material suspension within an acoustically excited resonant chamber --- at near weightless conditions  
[NASA-CASE-NPO-13263-1] c 12 N75-24774
- Acoustic energy shaping  
[NASA-CASE-NPO-13802-1] c 71 N78-10837
- Acoustic driving of rotor  
[NASA-CASE-NPO-14005-1] c 71 N79-20827
- Acoustic bubble removal method  
[NASA-CASE-NPO-15334-1] c 71 N83-35781
- Acoustic ground impedance meter  
[NASA-CASE-LAR-12995-1] c 35 N84-22933
- Acoustic rotation control  
[NASA-CASE-NPO-15689-1] c 71 N84-23233
- Acoustic agglomeration methods and apparatus  
[NASA-CASE-NPO-15466-1] c 71 N85-22104
- Dual differential interferometer  
[NASA-CASE-LAR-12966-1] c 35 N85-30282
- Acoustic particle separation  
[NASA-CASE-NPO-15559-1] c 71 N85-30765
- Acoustic radiation stress measurement  
[NASA-CASE-LAR-13440-1] c 71 N87-21653
- SOUNDING ROCKETS**  
Attitude control system for sounding rockets Patent  
[NASA-CASE-XGS-01654] c 31 N71-24750
- Method and system for ejecting fairing sections from a rocket vehicle  
[NASA-CASE-GSC-10590-1] c 31 N73-14853
- SPACE CAPSULES**  
Assembly for recovering a capsule Patent  
[NASA-CASE-XMF-00641] c 31 N70-36410
- Space capsule Patent  
[NASA-CASE-XLA-01332] c 31 N71-15664
- Space capsule ejection assembly Patent  
[NASA-CASE-XMF-03169] c 31 N71-15675
- SPACE CHARGE**  
Space-charge-limited solid-state triode  
[NASA-CASE-NPO-13064-1] c 33 N79-11314
- SPACE COMMUNICATION**  
Multiple input radio receiver Patent  
[NASA-CASE-XLA-00901] c 07 N71-10775
- Tracking receiver Patent  
[NASA-CASE-XGS-08679] c 10 N71-21473
- Apparatus providing a directive field pattern and attitude sensing of a spin stabilized satellite Patent  
[NASA-CASE-XGS-02607] c 31 N71-23009
- Space communication system for compressed data with a concatenated Reed-Solomon-Viterbi coding channel  
[NASA-CASE-NPO-13545-1] c 32 N77-12240
- SPACE ENVIRONMENT SIMULATION**  
Voltage-current characteristic simulator Patent  
[NASA-CASE-XMS-01554] c 10 N71-10578
- Fluid dispensing apparatus and method Patent  
[NASA-CASE-XLE-01182] c 27 N71-15635
- Reduced gravity simulator Patent  
[NASA-CASE-XLA-01787] c 11 N71-16028
- Apparatus for measuring electric field strength on the surface of a model vehicle Patent  
[NASA-CASE-XLE-02038] c 09 N71-16086
- Optical characteristics measuring apparatus Patent  
[NASA-CASE-XNP-08840] c 23 N71-16365
- Omni-directional anisotropic molecular trap Patent  
[NASA-CASE-XGS-00783] c 30 N71-17788
- Space environmental work simulator Patent  
[NASA-CASE-XMF-07488] c 11 N71-18773
- Mechanical simulator of low gravity conditions Patent  
[NASA-CASE-MFS-10555] c 11 N71-19494
- Self-lubricating fluoride metal composite materials Patent  
[NASA-CASE-XLE-08511] c 18 N71-23710
- Autoignition test cell Patent  
[NASA-CASE-KSC-10198] c 11 N71-28629
- Illumination system including a virtual light source Patent  
[NASA-CASE-HQN-10781] c 23 N71-30292
- Underwater space suit pressure control regulator  
[NASA-CASE-MFS-20332] c 05 N72-20097
- Diffuser/ejector system for a very high vacuum environment  
[NASA-CASE-MFS-25791-1] c 09 N84-27749
- Variable energy, high flux, ground-state atomic oxygen source  
[NASA-CASE-NPO-16640-1-CU] c 72 N87-21661
- SPACE ERECTABLE STRUCTURES**  
Flexible foam erectable space structures Patent  
[NASA-CASE-XLA-00686] c 31 N70-34135
- Erectable modular space station Patent  
[NASA-CASE-XLA-00678] c 31 N70-34296
- Manned space station Patent  
[NASA-CASE-XLA-00258] c 31 N70-38676
- Collapsible loop antenna for space vehicle Patent  
[NASA-CASE-XMF-00437] c 07 N70-40202
- Passive communication satellite Patent  
[NASA-CASE-XLA-00210] c 30 N70-40309
- Flexible wing deployment device Patent  
[NASA-CASE-XLA-01220] c 02 N70-41863
- Capillary radiator Patent  
[NASA-CASE-XLE-03307] c 33 N71-14035
- Space manufacturing machine Patent  
[NASA-CASE-MFS-20410] c 15 N71-19214
- Roll-up solar array Patent  
[NASA-CASE-NPO-10188] c 03 N71-20273

Collapsible reflector Patent  
[NASA-CASE-XMS-03454] c 09 N71-20658  
Inflatable support structure Patent  
[NASA-CASE-XLA-01731] c 32 N71-21045  
Radiator deployment actuator Patent  
[NASA-CASE-MSC-11817-1] c 15 N71-26611  
Inflatable tether Patent  
[NASA-CASE-XMS-10993] c 15 N71-28936  
Expandable space frames  
[NASA-CASE-ERC-10365-1] c 31 N73-32749  
Apparatus for assembling space structure  
[NASA-CASE-MFS-23579-1] c 18 N79-11108  
Lightweight structural columns --- space erectable trusses  
[NASA-CASE-LAR-12095-1] c 31 N81-25258  
Telescoping columns --- parabolic antenna support  
[NASA-CASE-LAR-12195-1] c 31 N81-27324  
Joint for deployable structures  
[NASA-CASE-NPO-16038-1] c 37 N86-19605  
Foldable self-erecting joint  
[NASA-CASE-MSC-20635-1] c 18 N87-14373  
Bi-stem gripping apparatus  
[NASA-CASE-MFS-28185-1] c 37 N88-23979  
Clevis joint for deployable space structures  
[NASA-CASE-LAR-13898-1] c 37 N88-30130  
Space station erectable manipulator placement system  
[NASA-CASE-MSC-21096-1] c 18 N89-12621  
Antenna surface contour control system  
[NASA-CASE-LAR-13798-1] c 32 N89-25363

**SPACE EXPLORATION**

Vehicle for use in planetary exploration  
[NASA-CASE-NPO-11366] c 11 N73-26238

**SPACE FLIGHT**

Portable environmental control system Patent  
[NASA-CASE-XMS-09632-1] c 05 N71-11203  
Television simulation for aircraft and space flight Patent  
[NASA-CASE-XFR-03107] c 09 N71-19449

**SPACE FLIGHT FEEDING**

Helmet feedport  
[NASA-CASE-XMS-09653] c 54 N78-17680  
Self-charging metering and dispensing device for fluids  
[NASA-CASE-MSC-20275-1] c 35 N85-21595

**SPACE INDUSTRIALIZATION**

Apparatus for assembling space structure  
[NASA-CASE-MFS-23579-1] c 18 N79-11108

**SPACE MAINTENANCE**

Thruster maintenance system Patent  
[NASA-CASE-MFS-20325] c 28 N71-27095  
Hot melt recharge system --- repairing damaged or missing tiles on space shuttle orbiter  
[NASA-CASE-LAR-12881-1] c 27 N84-14323

**SPACE MANUFACTURING**

Material suspension within an acoustically excited resonant chamber --- at near weightless conditions  
[NASA-CASE-NPO-13263-1] c 12 N75-24774  
Method for manufacturing mirrors in zero gravity environment  
[NASA-CASE-MSC-12611-1] c 12 N76-15189  
Apparatus for assembling space structure  
[NASA-CASE-MFS-23579-1] c 18 N79-11108  
Structural members, method and apparatus  
[NASA-CASE-MSC-16217-1] c 31 N81-27323  
Low gravity exothermic heating/cooling apparatus  
[NASA-CASE-MSC-25707-1] c 35 N85-29214

**SPACE MISSIONS**

Method of planetary atmospheric investigation using a split-trajectory dual flyby mode Patent  
[NASA-CASE-XAC-08494] c 30 N71-15990  
Deep space monitor communication satellite system Patent  
[NASA-CASE-XAC-06029-1] c 31 N71-24813  
A method of delivering a vehicle to earth orbit and returning the reusable portion thereof to earth  
[NASA-CASE-MSC-12391] c 30 N73-12884

**SPACE NAVIGATION**

Trigonometric vehicle guidance assembly which aligns the three perpendicular axes of two three-axes systems Patent  
[NASA-CASE-XMF-00684] c 21 N71-21688  
Dual purpose momentum wheels for spacecraft with magnetic recording  
[NASA-CASE-NPO-11481] c 21 N73-13644  
Star tracking reticles and process for the production thereof  
[NASA-CASE-GSC-11188-2] c 21 N73-19630

**SPACE ORIENTATION**

Method and apparatus for determining satellite orientation utilizing spatial energy sources Patent  
[NASA-CASE-XGS-00466] c 21 N70-34297

**SPACE PLATFORMS**

Joint for deployable structures  
[NASA-CASE-NPO-16038-1] c 37 N86-19605

Mobile remote manipulator vehicle system  
[NASA-CASE-LAR-13393-1] c 54 N87-29118  
Expandable pallet for space station interface attachments  
[NASA-CASE-MSC-21117-1] c 18 N88-28958

**SPACE PROBES**

Space probe/satellite ejection apparatus for spacecraft  
[NASA-CASE-MFS-15429-1] c 18 N84-22609

**SPACE PROCESSING**

Exothermic furnace module  
[NASA-CASE-MFS-25707-1] c 35 N82-26631  
High gradient directional solidification furnace  
[NASA-CASE-MFS-25963-1] c 35 N86-20750  
Infusion extractor  
[NASA-CASE-MSC-20761-1] c 37 N87-15465  
Space ultra-vacuum facility and method of operation  
[NASA-CASE-MFS-28139-1] c 29 N87-18679  
Sample levitation and melt in microgravity  
[NASA-CASE-NPO-17022-1-CU] c 29 N87-25489  
Method of dispensing reagent chemicals in space  
[NASA-CASE-LAR-13607-1-CU] c 29 N88-29048  
Spiral vane bioreactor  
[NASA-CASE-MSC-21361-1] c 51 N89-25557

**SPACE RENDEZVOUS**

Method and apparatus for securing to a spacecraft Patent  
[NASA-CASE-MFS-11133] c 31 N71-16222  
Apparatus for releasably connecting first and second objects in predetermined space relationship  
[NASA-CASE-MSC-18969-1] c 18 N84-22605  
Rotatable electric cable connecting system  
[NASA-CASE-GSC-12899-1] c 33 N86-20669

**SPACE SHUTTLE BOOSTERS**

Space Shuttle with rail system and aft thrust structure securing solid rocket boosters to external tank  
[NASA-CASE-MFS-25853-1] c 16 N84-27784

**SPACE SHUTTLE ORBITERS**

Surface conforming thermal/pressure seal --- tail assemblies of space shuttle orbiters  
[NASA-CASE-MSC-18422-1] c 37 N82-16408  
CAM controlled retractable door latch  
[NASA-CASE-MSC-20304-1] c 37 N82-31690  
High temperature glass thermal control structure and coating --- for application to spacecraft reusable heat shielding  
[NASA-CASE-ARC-11164-1] c 44 N83-34448  
Hot melt recharge system --- repairing damaged or missing tiles on space shuttle orbiter  
[NASA-CASE-LAR-12881-1] c 27 N84-14323  
Pre-stressed thermal protection systems  
[NASA-CASE-MSC-20254-1] c 16 N84-22601  
Space Shuttle with rail system and aft thrust structure securing solid rocket boosters to external tank  
[NASA-CASE-MFS-25853-1] c 16 N84-27784  
Shell tile thermal protection system  
[NASA-CASE-LAR-12862-1] c 27 N84-27886

**SPACE SHUTTLE PAYLOADS**

Space station architecture, module, berthing hub, shell assembly, berthing mechanism and utility connection channel  
[NASA-CASE-ARC-11505-1] c 18 N84-22612  
Shuttle-launch triangular space station  
[NASA-CASE-MSC-20676-1] c 18 N86-24729  
Payload deployment method and system  
[NASA-CASE-MSC-21330-1] c 16 N88-24660

**SPACE SHUTTLES**

Flight craft Patent  
[NASA-CASE-XAC-02058] c 02 N71-16087  
A method of delivering a vehicle to earth orbit and returning the reusable portion thereof to earth  
[NASA-CASE-MSC-12391] c 30 N73-12884  
Space shuttle vehicle and system  
[NASA-CASE-MSC-12433] c 31 N73-14854  
Variable ratio mixed-mode bilateral master-slave control system for shuttle remote manipulator system  
[NASA-CASE-MSC-14245-1] c 18 N75-27041  
Fused silicide coatings containing discrete particles for protecting niobium alloys --- used in space shuttle thermal protection systems and turbine engine components  
[NASA-CASE-LEW-11179-1] c 27 N76-16229  
Device for coupling a first vehicle to a second vehicle  
[NASA-CASE-GSC-12429-1] c 37 N81-14320  
System for sterilizing objects --- cleaning space vehicle systems  
[NASA-CASE-KSC-11085-1] c 54 N81-24724  
Terminal guidance sensor system --- space shuttle coupling to orbiting satellites  
[NASA-CASE-NPO-14521-1] c 37 N81-27519  
Adjustable high emittance gap filler --- reentry shielding for space shuttle vehicles  
[NASA-CASE-ARC-11310-1] c 27 N82-24339  
Hemispherical latching apparatus  
[NASA-CASE-MFS-25837-1] c 18 N85-29991

Slide release mechanism --- for space shuttle orbiter/external tank connection device  
[NASA-CASE-MSC-20080-1] c 37 N85-30334  
Preloaded brake disc  
[NASA-CASE-MSC-21132-1] c 37 N88-29181  
Emergency egress fixed rocket package  
[NASA-CASE-MSC-21332-1] c 03 N89-11724  
Docking mechanism for spacecraft  
[NASA-CASE-MSC-21386-1] c 18 N89-28552

**SPACE SIMULATORS**

Space simulator Patent  
[NASA-CASE-XNP-00459] c 11 N70-38675  
Variable geometry manned orbital vehicle Patent  
[NASA-CASE-XLA-03691] c 31 N71-15674  
Space simulation and radiative property testing system and method Patent  
[NASA-CASE-MFS-20096] c 14 N71-30026  
Biocentrifuge system capable of exchanging specimen cages while in operational mode  
[NASA-CASE-MFS-23825-1] c 51 N81-32829

**SPACE STATION STRUCTURES**

Mobile remote manipulator system for a tetrahedral truss  
[NASA-CASE-MSC-20985-1] c 18 N88-26398  
Smart tunnel: Docking mechanism  
[NASA-CASE-MSC-21360-1] c 18 N89-25263  
Expandable pallet for space station interface attachments  
[NASA-CASE-MSC-21117-2] c 18 N89-28554

**SPACE STATIONS**

Manned space station Patent  
[NASA-CASE-XLA-00258] c 31 N70-38676  
Radial module space station Patent  
[NASA-CASE-XMS-01906] c 31 N70-41373  
Serpentuator Patent  
[NASA-CASE-XMF-05344] c 31 N71-16345  
Space manufacturing machine Patent  
[NASA-CASE-MFS-20410] c 15 N71-19214  
Meteoroid impact position locator aid for manned space station  
[NASA-CASE-LAR-10629-1] c 35 N75-33367  
Multiple in-line docking capability for rotating space stations  
[NASA-CASE-MFS-20855-1] c 15 N77-10112  
Space station architecture, module, berthing hub, shell assembly, berthing mechanism and utility connection channel  
[NASA-CASE-ARC-11505-1] c 18 N84-22612  
Shuttle-launch triangular space station  
[NASA-CASE-MSC-20676-1] c 18 N86-24729  
Vapor fragrances  
[NASA-CASE-LAR-13680-1] c 35 N87-25561  
Locking hinge  
[NASA-CASE-MSC-21056-1] c 18 N88-23827  
Expandable pallet for space station interface attachments  
[NASA-CASE-MSC-21117-1] c 18 N88-28958  
Collet lock joint for space station truss  
[NASA-CASE-MSC-21207-1] c 37 N88-29180  
Space station erectable manipulator placement system  
[NASA-CASE-MSC-21096-1] c 18 N89-12621  
Quick-disconnect inflatable seal assembly  
[NASA-CASE-KSC-11368-1] c 37 N89-13786  
Space station architecture, module, berthing hub, shell assembly, berthing mechanism and utility connection channel  
[NASA-CASE-ARC-11505-2] c 18 N89-25265  
Docking mechanism for spacecraft  
[NASA-CASE-MSC-21386-1] c 18 N89-28552

**SPACE STORAGE**

Hemispherical latching apparatus  
[NASA-CASE-MFS-25837-1] c 18 N85-29991

**SPACE SUITS**

Universal pilot restraint suit and body support therefor Patent  
[NASA-CASE-XAC-00405] c 05 N70-41819  
Space suit pressure stabilizer Patent  
[NASA-CASE-XLA-05332] c 05 N71-11194  
Equipotential space suit Patent  
[NASA-CASE-LAR-10007-1] c 05 N71-11195  
Biological isolation garment Patent  
[NASA-CASE-MSC-12206-1] c 05 N71-17599  
Space environmental work simulator Patent  
[NASA-CASE-XMF-07488] c 11 N71-18773  
Space suit heat exchanger Patent  
[NASA-CASE-XMS-09571] c 05 N71-19439  
G conditioning suit Patent  
[NASA-CASE-XLA-02898] c 05 N71-20268  
Hard space suit Patent  
[NASA-CASE-XAC-07043] c 05 N71-23161  
Evacuation port seal Patent  
[NASA-CASE-XMF-03290] c 15 N71-23256  
Fabric for micrometeoroid protection garment Patent  
[NASA-CASE-MSC-12109] c 18 N71-26285

- Venting device for pressurized space suit helmet Patent  
[NASA-CASE-XMS-09652-1] c 05 N71-26333
- Automatic control of liquid cooling garment by cutaneous and external auditory meatus temperatures  
[NASA-CASE-MSC-13917-1] c 05 N72-15098
- Underwater space suit pressure control regulator  
[NASA-CASE-MFS-20332] c 05 N72-20097
- Space suit having improved waist and torso movement  
[NASA-CASE-ARC-10275-1] c 05 N72-22092
- Underwater space suit pressure control regulator  
[NASA-CASE-MFS-20332-2] c 05 N73-25125
- Temperature controller for a fluid cooled garment  
[NASA-CASE-ARC-10599-1] c 05 N73-26071
- Space suit  
[NASA-CASE-MSC-12609-1] c 05 N73-32012
- Non-flammable elastomeric fiber from a fluorinated elastomer and containing an halogenated flame retardant  
[NASA-CASE-MSC-14331-1] c 27 N76-24405
- Protective garment ventilation system  
[NASA-CASE-XMS-04928] c 54 N78-17679
- Emergency space-suit helmet  
[NASA-CASE-MSC-10954-1] c 54 N78-18761
- Spacesuit mobility joints  
[NASA-CASE-ARC-11058-1] c 54 N78-31735
- Spacesuit torso closure  
[NASA-CASE-ARC-11100-1] c 54 N78-31736
- Cooling system for removing metabolic heat from an hermetically sealed spacesuit  
[NASA-CASE-ARC-11059-1] c 54 N78-32721
- Spacesuit mobility knee joints  
[NASA-CASE-ARC-11058-2] c 54 N79-24651
- Absorbent product to absorb fluids --- for collection of human wastes  
[NASA-CASE-MSC-18223-1] c 24 N82-29362
- Torso sizing ring construction for hard space suit  
[NASA-CASE-ARC-11616-1] c 54 N86-28618
- Elbow and knee joint for hard space suits  
[NASA-CASE-ARC-11610-1] c 54 N86-28619
- Shoulder and hip joint for hard space suits  
[NASA-CASE-ARC-11543-1] c 54 N86-28620
- Shoulder and hip joints for hard space suits and the like  
[NASA-CASE-ARC-11534-1] c 54 N86-29507
- Weightlessness simulation system and process  
[NASA-CASE-ARC-11646-1] c 14 N87-25344
- Tapered, tubular polyester fabric  
[NASA-CASE-MSC-21082-1] c 27 N87-29672
- Hazards protection for space suits and spacecraft  
[NASA-CASE-MSC-21366-1] c 54 N89-12206
- Don/doff support stand for use with rear entry space suits  
[NASA-CASE-MSC-21364-1] c 54 N89-13889
- SPACE TOOLS**
- Pneumatic inflatable end effector  
[NASA-CASE-MFS-23696-1] c 54 N81-26718
- SPACE TRANSPORTATION SYSTEM**
- Coupling device for moving vehicles  
[NASA-CASE-GSC-12322-1] c 37 N80-14398
- Three stage rocket vehicle with parallel staging  
[NASA-CASE-MFS-25878-1] c 18 N84-27787
- SPACE VEHICLE CHECKOUT PROGRAM**
- Hydraulic support for dynamic testing Patent  
[NASA-CASE-XMF-03248] c 11 N71-10604
- Electronic checkout system for space vehicles Patent  
[NASA-CASE-XKS-08012-2] c 31 N71-15566
- High pressure gas filter system Patent  
[NASA-CASE-MFS-12806] c 14 N71-17588
- SPACEBORNE EXPERIMENTS**
- Space ultra-vacuum facility and method of operation  
[NASA-CASE-MFS-28139-1] c 29 N87-18679
- SPACEBORNE TELESCOPES**
- Anastigmatic three-mirror telescope  
[NASA-CASE-MFS-23675-1] c 89 N79-10969
- Cooled echelle grating spectrometer --- for space telescope applications  
[NASA-CASE-NPO-14372-1] c 35 N80-26635
- Extended range X-ray telescope  
[NASA-CASE-MFS-25282-1] c 34 N83-19015
- Dual aperture multispectral Schmidt objective  
[NASA-CASE-GSC-12756-1] c 74 N84-23248
- Spectral slicing X-ray telescope with variable magnification  
[NASA-CASE-MFS-25942-1] c 74 N86-20124
- Self indexing latch system  
[NASA-CASE-MFS-25956-1] c 37 N87-21333
- SPACECRAFT**
- Interconnection of solar cells Patent  
[NASA-CASE-XGS-01475] c 03 N71-11058
- Attitude sensor for space vehicles Patent  
[NASA-CASE-XLA-00793] c 21 N71-22880
- Solar cell and circuit array and process for nullifying magnetic fields Patent  
[NASA-CASE-XGS-03390] c 03 N71-23187
- High efficiency ionizer assembly Patent  
[NASA-CASE-XNP-01954] c 28 N71-28850
- Altitude simulation chamber for rocket engine testing  
[NASA-CASE-MFS-20620] c 11 N72-27262
- Space probe/satellite ejection apparatus for spacecraft  
[NASA-CASE-MFS-15429-1] c 18 N84-22609
- SPACECRAFT ANTENNAS**
- Parasitic probe antenna Patent  
[NASA-CASE-XKS-09348] c 09 N71-13521
- Millimeter wave antenna system Patent Application  
[NASA-CASE-GSC-10949-1] c 07 N71-28965
- Integrated thermoelectric generator/space antenna combination  
[NASA-CASE-XER-09521] c 09 N72-12136
- Omnidirectional slot antenna for mounting on cylindrical space vehicle  
[NASA-CASE-LAR-10163-1] c 09 N72-25247
- Singly-curved reflector for use in high-gain antennas  
[NASA-CASE-NPO-11361] c 07 N72-32169
- Collapsible structure for an antenna reflector  
[NASA-CASE-NPO-11751] c 07 N73-24176
- Multi-channel rotating optical interface for data transmission  
[NASA-CASE-NPO-14066-1] c 74 N79-34011
- Antenna deployment mechanism for use with a spacecraft --- extensible and retractable telescopic antenna mast  
[NASA-CASE-GSC-12331-1] c 18 N80-14183
- Spiral slotted phased antenna array  
[NASA-CASE-MSC-18532-1] c 32 N82-27558
- SPACECRAFT CABIN ATMOSPHERES**
- Thermal control wall panel Patent  
[NASA-CASE-XLA-01243] c 33 N71-22792
- Nonflammable coating compositions --- for use in high oxygen environments  
[NASA-CASE-MFS-20486-2] c 27 N74-17283
- Regenerable device for scrubbing breathable air of CO<sub>2</sub> and moisture without special heat exchanger equipment  
[NASA-CASE-MSC-14771-1] c 54 N77-32722
- SPACECRAFT COMMUNICATION**
- Time division multiplex system  
[NASA-CASE-XGS-05918] c 07 N69-39974
- Phase-shift data transmission system having a pseudo-noise SYNC code modulated with the data in a single channel Patent  
[NASA-CASE-XNP-00911] c 08 N70-41961
- Tracking receiver Patent  
[NASA-CASE-XGS-08679] c 10 N71-21473
- Omnidirectional microwave spacecraft antenna Patent  
[NASA-CASE-XLA-03114] c 09 N71-22888
- VHF/UHF parasitic probe antenna Patent  
[NASA-CASE-XKS-09340] c 07 N71-24614
- Rapid sync acquisition system Patent  
[NASA-CASE-NPO-10214] c 10 N71-26577
- Turnstile slot antenna  
[NASA-CASE-GSC-11428-1] c 32 N74-20864
- Switchable beamwidth monopulse method and system  
[NASA-CASE-GSC-11924-1] c 33 N76-27472
- Antenna feed system for receiving circular polarization and transmitting linear polarization  
[NASA-CASE-NPO-14362-1] c 32 N80-16261
- Common data buffer system --- communication with computational equipment utilized in spacecraft operations  
[NASA-CASE-KSC-11048-1] c 62 N81-24779
- Apparatus and method for determining the position of a radiant energy source  
[NASA-CASE-GSC-12147-1] c 32 N81-27341
- Measurement apparatus and procedure for the determination of surface emissivities  
[NASA-CASE-LAR-13455-1] c 32 N87-21206
- Reed-Solomon decoder  
[NASA-CASE-NPO-15982-1] c 60 N87-21591
- SPACECRAFT COMPONENTS**
- Electrical connector Patent Application  
[NASA-CASE-MFS-14741] c 09 N70-20737
- Vibration damping system Patent  
[NASA-CASE-XMS-01620] c 23 N71-15673
- Intermittent type silica gel adsorption refrigerator Patent  
[NASA-CASE-XNP-00920] c 15 N71-15906
- Omni-directional anisotropic molecular trap Patent  
[NASA-CASE-XGS-00783] c 30 N71-17788
- Spacecraft airlock Patent  
[NASA-CASE-XLA-02050] c 31 N71-22968
- Docking structure for spacecraft Patent  
[NASA-CASE-XMF-05941] c 31 N71-23912
- Redundant actuating mechanism Patent  
[NASA-CASE-XGS-08718] c 15 N71-24600
- Space simulator Patent  
[NASA-CASE-NPO-10141] c 11 N71-24964
- Spacecraft Patent  
[NASA-CASE-MSC-13047-1] c 31 N71-25434
- Peak acceleration limiter for vibrational tester Patent  
[NASA-CASE-NPO-10556] c 14 N71-27185
- Solid state thermal control polymer coating Patent  
[NASA-CASE-XLA-01745] c 33 N71-28903
- Scientific experiment flexible mount  
[NASA-CASE-MSC-12372-1] c 31 N72-25842
- Airlock  
[NASA-CASE-MFS-20922-1] c 18 N74-22136
- Thrust-isolating mounting --- characteristics of support for loads mounted in spacecraft  
[NASA-CASE-MFS-21680-1] c 18 N74-27397
- Variable ratio mixed-mode bilateral master-slave control system for shuttle remote manipulator system  
[NASA-CASE-MSC-14245-1] c 18 N75-27041
- High temperature penetrator assembly with bayonet plug and ramp-activated lock  
[NASA-CASE-MSC-18526-1] c 37 N82-24494
- Apparatus for releasably connecting first and second objects in predetermined space relationship  
[NASA-CASE-MSC-18969-1] c 18 N84-22605
- Aerospace vehicle**
- [NASA-CASE-LAR-13155-1] c 05 N86-19310
- Spacecraft component heater control system  
[NASA-CASE-MFS-28327-1] c 18 N89-28556
- SPACECRAFT CONFIGURATIONS**
- Inflatable honeycomb Patent  
[NASA-CASE-XLA-00204] c 32 N70-36536
- Space and atmospheric reentry vehicle Patent  
[NASA-CASE-XGS-00260] c 31 N70-37924
- Spacecraft separation system for spinning vehicles and/or payloads Patent  
[NASA-CASE-XLA-02132] c 31 N71-10582
- Space shuttle vehicle and system  
[NASA-CASE-MSC-12433] c 31 N73-14854
- Space vehicle  
[NASA-CASE-MFS-22734-1] c 18 N75-19329
- Space station architecture, module, berthing hub, shell assembly, berthing mechanism and utility connection channel  
[NASA-CASE-ARC-11505-1] c 18 N84-22612
- Space Shuttle with rail system and aft thrust structure securing solid rocket boosters to external tank  
[NASA-CASE-MFS-25853-1] c 16 N84-27784
- SPACECRAFT CONSTRUCTION MATERIALS**
- Pressurized cell micrometeoroid detector Patent  
[NASA-CASE-XLA-00936] c 14 N71-14996
- Fluid impervious barrier including liquid metal alloy and method of making same Patent  
[NASA-CASE-XNP-08881] c 17 N71-28747
- Method of making a composite sandwich lattice structure  
[NASA-CASE-LAR-11898-2] c 24 N78-17149
- Fixture for environmental exposure of structural materials under compression load  
[NASA-CASE-LAR-12602-1] c 39 N83-32081
- Oxidation protection coatings for polymers  
[NASA-CASE-LEW-14072-3] c 27 N87-23736
- Aluminum alloy  
[NASA-CASE-LAR-13924-1-CU] c 26 N89-28621
- SPACECRAFT CONTROL**
- Light sensitive digital aspect sensor Patent  
[NASA-CASE-XGS-00359] c 14 N70-34158
- Space vehicle attitude control Patent  
[NASA-CASE-XNP-00465] c 21 N70-35395
- Parachute glider Patent  
[NASA-CASE-XLA-00898] c 02 N70-36804
- Attitude control for spacecraft Patent  
[NASA-CASE-XNP-00294] c 21 N70-36938
- Attitude orientation of spin-stabilized space vehicles Patent  
[NASA-CASE-XLA-00281] c 21 N70-36943
- Hypersonic reentry vehicle Patent  
[NASA-CASE-XMS-04142] c 31 N70-41631
- Roll attitude star sensor system Patent  
[NASA-CASE-XNP-01307] c 21 N70-41856
- Canopus detector including automotive gain control of photomultiplier tube Patent  
[NASA-CASE-XNP-03914] c 21 N71-10771
- Spacecraft experiment pointing and attitude control system Patent  
[NASA-CASE-XLA-05464] c 21 N71-14132
- Attitude control system Patent  
[NASA-CASE-XGS-04393] c 21 N71-14159
- Reactance control system Patent  
[NASA-CASE-XMF-01598] c 21 N71-15583
- Spacecraft attitude detection system by stellar reference Patent  
[NASA-CASE-XGS-03431] c 21 N71-15642
- Inertial reference apparatus Patent  
[NASA-CASE-XAC-03107] c 23 N71-16098
- Construction and method of arranging a plurality of ion engines to form a cluster Patent  
[NASA-CASE-NXP-02923] c 28 N71-23081
- Ion beam deflector Patent  
[NASA-CASE-LEW-10689-1] c 28 N71-26173
- Heated porous plug microthruster  
[NASA-CASE-GSC-10640-1] c 28 N72-18766



- Flight control system  
[NASA-CASE-MSC-13397-1] c 21 N72-25595
- All sky pointing attitude control system  
[NASA-CASE-ARC-10716-1] c 35 N77-20399
- Propulsion apparatus and method using boil-off gas from a cryogenic liquid  
[NASA-CASE-MFS-25946-1] c 20 N86-26368
- Three axis attitude control system  
[NASA-CASE-GSC-12970-1] c 08 N88-23808
- SPACECRAFT DESIGN**
- Lunar landing flight research vehicle Patent  
[NASA-CASE-XFR-00929] c 31 N70-34966
- Space capsule Patent  
[NASA-CASE-XLA-01332] c 31 N71-15664
- Spacecraft radiator cover Patent  
[NASA-CASE-MSC-12049] c 31 N71-16080
- Method and apparatus for securing to a spacecraft Patent  
[NASA-CASE-MFS-11133] c 31 N71-16222
- Aerodynamic protection for space flight vehicles Patent  
[NASA-CASE-XNP-02507] c 31 N71-17679
- Self supporting space vehicle Patent  
[NASA-CASE-XLA-00117] c 31 N71-17680
- Multi-mission module Patent  
[NASA-CASE-XMF-01543] c 31 N71-17730
- Docking structure for spacecraft Patent  
[NASA-CASE-XMF-05941] c 31 N71-23912
- Spacecraft Patent  
[NASA-CASE-MSC-13047-1] c 31 N71-25434
- Emergency earth orbital escape device  
[NASA-CASE-MSC-13281] c 31 N72-18859
- Space vehicle  
[NASA-CASE-MFS-22734-1] c 18 N75-19329
- Space vehicle system  
[NASA-CASE-MSC-12561-1] c 18 N76-17185
- Method and apparatus for neutralizing potentials induced on spacecraft surfaces  
[NASA-CASE-GSC-11963-1] c 33 N77-10429
- Space station architecture, module, berthing hub, shell assembly, berthing mechanism and utility connection channel  
[NASA-CASE-ARC-11505-1] c 18 N84-22612
- Aerospace vehicle  
[NASA-CASE-LAR-13155-1] c 05 N86-19310
- SPACECRAFT DOCKING**
- Expanding center probe and drogue Patent  
[NASA-CASE-XMS-03613] c 31 N71-16346
- Docking structure for spacecraft Patent  
[NASA-CASE-XMF-05941] c 31 N71-23912
- Latching mechanism Patent  
[NASA-CASE-MSC-15474-1] c 15 N71-26162
- Docking structure for spacecraft  
[NASA-CASE-MFS-20863] c 31 N73-26876
- Latch mechanism  
[NASA-CASE-MSC-12549-1] c 37 N74-27903
- Spacecraft docking and alignment system --- using television camera system  
[NASA-CASE-MSC-12559-1] c 18 N76-14186
- Multiple in-line docking capability for rotating space stations  
[NASA-CASE-MFS-20855-1] c 15 N77-10112
- Combined docking and grasping device  
[NASA-CASE-MFS-23088-1] c 37 N77-23483
- Terminal guidance sensor system --- space shuttle coupling to orbiting satellites  
[NASA-CASE-NPO-14521-1] c 37 N81-27519
- Satellite retrieval system  
[NASA-CASE-MFS-25403-1] c 18 N83-29303
- Apparatus for releasably connecting first and second objects in predetermined space relationship  
[NASA-CASE-MSC-18969-1] c 18 N84-22605
- Space station architecture, module, berthing hub, shell assembly, berthing mechanism and utility connection channel  
[NASA-CASE-ARC-11505-1] c 18 N84-22612
- Rotatable electric cable connecting system  
[NASA-CASE-GSC-12899-1] c 33 N86-20669
- Preloadable vector sensitive latch  
[NASA-CASE-MSC-20910-1] c 37 N87-25582
- Range and rate system  
[NASA-CASE-MSC-20867-1] c 36 N88-24958
- Smart tunnel: Docking mechanism  
[NASA-CASE-MSC-21360-1] c 18 N89-25263
- Space station architecture, module, berthing hub, shell assembly, berthing mechanism and utility connection channel  
[NASA-CASE-ARC-11505-2] c 18 N89-25266
- Docking mechanism for spacecraft  
[NASA-CASE-MSC-21386-1] c 18 N89-28552
- Space module assembly apparatus with docking alignment flexibility and restraint  
[NASA-CASE-MSC-21211-1] c 18 N89-28553
- SPACECRAFT ELECTRONIC EQUIPMENT**
- Dynamic Doppler simulator Patent  
[NASA-CASE-XMS-05454-1] c 07 N71-12391
- Vacuum deposition apparatus Patent  
[NASA-CASE-XMF-01667] c 15 N71-17647
- Nose cone mounted heat resistant antenna Patent  
[NASA-CASE-XMS-04312] c 07 N71-22984
- Electrical self-aligning connector --- orbital service vehicles  
[NASA-CASE-MFS-25211-2] c 33 N84-14423
- Space station architecture, module, berthing hub, shell assembly, berthing mechanism and utility connection channel  
[NASA-CASE-ARC-11505-1] c 18 N84-22612
- SPACECRAFT ENVIRONMENTS**
- Portable environmental control system Patent  
[NASA-CASE-XMS-09632-1] c 05 N71-11203
- Quick disconnect latch and handle combination Patent  
[NASA-CASE-MFS-11132] c 15 N71-17649
- Dual solid cryogenics for spacecraft refrigeration Patent  
[NASA-CASE-GSC-10188-1] c 23 N71-24725
- Dual stage check valve  
[NASA-CASE-MSC-13587-1] c 15 N73-30459
- Metering gun for dispensing precisely measured charges of fluid  
[NASA-CASE-MFS-21163-1] c 54 N74-17853
- Automatic thermal switch --- spacecraft applications  
[NASA-CASE-GSC-12553-1] c 34 N83-28356
- SPACECRAFT EQUIPMENT**
- Four-terminal electrical testing device --- initiator bridge wire resistance  
[NASA-CASE-MSC-21166-1] c 35 N87-25555
- Acoustic convective system  
[NASA-CASE-NPO-17278-1-CU] c 31 N88-24818
- Range and rate system  
[NASA-CASE-MSC-20867-1] c 36 N88-24958
- Capillary heat transport and fluid management device  
[NASA-CASE-MFS-28217-1] c 34 N89-14392
- Surface tension confined liquid cryogen cooler  
[NASA-CASE-GSC-13112-1] c 31 N89-29578
- SPACECRAFT GUIDANCE**
- Ejection unit Patent  
[NASA-CASE-XNP-00676] c 15 N70-38996
- Trigonometric vehicle guidance assembly which aligns the three perpendicular axes of two three-axes systems Patent  
[NASA-CASE-XMF-00684] c 21 N71-21688
- Solar vane actuator Patent  
[NASA-CASE-XNP-05535] c 14 N71-23040
- Azimuth laying system Patent  
[NASA-CASE-XMF-01669] c 21 N71-23289
- Hermetic sealed vibration damper Patent  
[NASA-CASE-MSC-10959] c 15 N71-26243
- Echo tracker/range finder for radars and sonars  
[NASA-CASE-NPO-14361-1] c 32 N82-23376
- SPACECRAFT INSTRUMENTS**
- Mechanical coordinate converter Patent  
[NASA-CASE-XNP-00614] c 14 N70-36907
- Air bearing Patent  
[NASA-CASE-XMF-00339] c 15 N70-39896
- Folding boom assembly Patent  
[NASA-CASE-XGS-00938] c 32 N70-41367
- Pressurized cell micrometeoroid detector Patent  
[NASA-CASE-XLA-00936] c 14 N71-14996
- Guidance and maneuver analyzer Patent  
[NASA-CASE-XNP-09572] c 14 N71-15621
- Clamping assembly for inertial components Patent  
[NASA-CASE-XMS-02184] c 15 N71-20813
- Optical projector system Patent  
[NASA-CASE-XNP-03853] c 23 N71-21882
- Combined optical attitude and altitude indicating instrument Patent  
[NASA-CASE-XLA-01907] c 14 N71-23268
- Method and apparatus for mapping planets  
[NASA-CASE-NPO-11001] c 07 N72-21118
- Spacecraft attitude control method and apparatus  
[NASA-CASE-HQN-10439] c 21 N72-21624
- Pump for delivering heated fluids  
[NASA-CASE-NPO-11417] c 15 N73-24513
- Deployable pressurized cell structure for a micrometeoroid detector  
[NASA-CASE-LAR-10295-1] c 35 N74-21062
- Distributed-switch Dicke radiometers  
[NASA-CASE-GSC-12219-1] c 35 N80-18359
- Real-time multiple-look synthetic aperture radar processor for spacecraft applications  
[NASA-CASE-NPO-14054-1] c 32 N82-12297
- Stirling cycle cryogenic cooler  
[US-PATENT-4,389,849] c 44 N83-28574
- Vibration isolation and pressure compensation apparatus for sensitive instrumentation  
[NASA-CASE-LAR-12728-1] c 35 N83-32026
- Optical system  
[NASA-CASE-NPO-15801-1] c 74 N85-23396
- Fully redundant mechanical release actuator  
[NASA-CASE-LAR-13198-1] c 37 N87-23983
- SPACECRAFT LANDING**
- Non-reusable kinetic energy absorber Patent  
[NASA-CASE-XLE-00810] c 15 N70-34861
- Foam generator Patent  
[NASA-CASE-XLA-00838] c 03 N70-36778
- Discrete local altitude sensing device Patent  
[NASA-CASE-XMS-03792] c 14 N70-41812
- SPACECRAFT LAUNCHING**
- Passive caging mechanism Patent  
[NASA-CASE-GSC-10306-1] c 15 N71-24694
- Disconnect unit  
[NASA-CASE-NPO-11330] c 33 N73-26958
- SPACECRAFT MODELS**
- Apparatus for measuring electric field strength on the surface of a model vehicle Patent  
[NASA-CASE-XLE-02038] c 09 N71-16086
- SPACECRAFT MODULES**
- Radial module space station Patent  
[NASA-CASE-XMS-01906] c 31 N70-41373
- Multi-mission module Patent  
[NASA-CASE-XMF-01543] c 31 N71-17730
- Spacecraft Patent  
[NASA-CASE-MSC-13047-1] c 31 N71-25434
- Thermal control system for a spacecraft modular housing  
[NASA-CASE-GSC-11018-1] c 31 N73-30829
- SPACECRAFT MOTION**
- Magnetic suspension and pointing system --- on a carrier vehicle  
[NASA-CASE-LAR-11889-1] c 35 N79-26372
- SPACECRAFT POSITION INDICATORS**
- Device for determining relative angular position between a spacecraft and a radiation emitting celestial body  
[NASA-CASE-GSC-11444-1] c 14 N73-28490
- Spacecraft attitude sensor  
[NASA-CASE-GSC-10890-1] c 21 N73-30640
- SPACECRAFT POWER SUPPLIES**
- Spacecraft battery seals  
[NASA-CASE-XGS-03864] c 15 N69-24320
- Space vehicle electrical system Patent  
[NASA-CASE-XMF-00517] c 03 N70-34157
- Ionospheric battery Patent  
[NASA-CASE-XGS-01593] c 03 N70-35408
- Generator for a space power system Patent  
[NASA-CASE-XLE-04250] c 09 N71-20446
- Monostable multivibrator  
[NASA-CASE-GSC-10082-1] c 10 N72-20221
- Stacked solar cell arrays  
[NASA-CASE-NPO-11771] c 03 N73-20040
- Thermoelectric power system --- for spacecraft  
[NASA-CASE-MFS-22002-1] c 44 N76-16612
- Solar energy power system  
[NASA-CASE-MFS-21628-2] c 44 N76-23675
- Module failure isolation circuit for paralleled inverters --- preventing system failure during power conditioning for spacecraft applications  
[NASA-CASE-NPO-14000-1] c 33 N79-24254
- Linear magnetic motor/generator --- to generate electric energy using magnetic flux for spacecraft power supply  
[NASA-CASE-GSC-12518-1] c 33 N82-24421
- Solar driven liquid metal MHD power generator  
[NASA-CASE-LAR-12495-1] c 44 N83-28573
- Rotatable electric cable connecting system  
[NASA-CASE-GSC-12899-1] c 33 N86-20669
- Liquid hydrogen polygeneration system and process  
[NASA-CASE-KSC-11304-2] c 28 N86-23744
- Bidirectional control system for energy flow in solar powered flywheel  
[NASA-CASE-MFS-25978-1] c 44 N87-21410
- Arcjet power supply and start circuit  
[NASA-CASE-LEW-14374-1] c 09 N88-28939
- SPACECRAFT PROPULSION**
- Colloid propulsion method and apparatus Patent  
[NASA-CASE-XLE-00817] c 28 N70-33265
- Trajectory-correction propulsion system Patent  
[NASA-CASE-XNP-01104] c 28 N70-39931
- Ion engine casing construction and method of making same Patent  
[NASA-CASE-XNP-06942] c 28 N71-23293
- Voice operated controller Patent  
[NASA-CASE-XLA-04063] c 31 N71-33160
- Solid propellant motor  
[NASA-CASE-NPO-11458A] c 20 N78-32179
- General purpose rocket furnace  
[NASA-CASE-MFS-23460-1] c 12 N79-26075
- Speed control device for a heavy duty shaft --- solar sails for spacecraft propulsion  
[NASA-CASE-NPO-14170-1] c 37 N81-15364
- SPACECRAFT RADIATORS**
- Thermal control canister  
[NASA-CASE-GSC-12253-1] c 34 N79-31523
- Thermal control system --- removing waste heat from industrial process spacecraft  
[NASA-CASE-GSC-12771-1] c 34 N84-14461
- Radiative cooler --- spacecraft radiators  
[NASA-CASE-NPO-15465-1] c 34 N84-22903
- Multi-leg heat pipe evaporator  
[NASA-CASE-MSC-20812-1] c 34 N86-27593

Space vehicle thermal rejection system  
[NASA-CASE-LAR-13738-1] c 18 N87-29586

Gas particle radiator  
[NASA-CASE-LEW-14297-1] c 35 N89-12048

Liquid sheet radiator apparatus  
[NASA-CASE-LEW-14295-1] c 31 N89-14348

**SPACECRAFT RECOVERY**

Assembly for recovering a capsule Patent  
[NASA-CASE-XMF-00641] c 31 N70-36410

Wing deployment method and apparatus Patent  
[NASA-CASE-XMS-00907] c 02 N70-41630

Satellite retrieval system  
[NASA-CASE-MFS-25403-1] c 18 N83-29303

Apparatus and method of capturing an orbiting spacecraft  
[NASA-CASE-MSC-20979-1] c 37 N87-22985

**SPACECRAFT REENTRY**

Space capsule Patent  
[NASA-CASE-XLA-00149] c 31 N70-37938

Event recorder Patent  
[NASA-CASE-XLA-01832] c 14 N71-21006

Ceramic-ceramic shell tile thermal protection system and method thereof  
[NASA-CASE-ARC-11641-1] c 24 N88-18628

**SPACECRAFT SHIELDING**

Aerodynamic protection for space flight vehicles Patent  
[NASA-CASE-XNP-02507] c 31 N71-17679

Isothermal cover with thermal reservoirs Patent  
[NASA-CASE-MFS-20355] c 33 N71-25353

Stabilized zinc oxide coating compositions Patent  
[NASA-CASE-XMF-07770-2] c 18 N71-26772

Electrically conductive thermal control coatings  
[NASA-CASE-GSC-12207-1] c 24 N79-14156

Thermal insulation protection means  
[NASA-CASE-MSC-12737-1] c 24 N79-25142

Thermal barrier pressure seal --- shielding junctions between spacecraft control surfaces and structures  
[NASA-CASE-MSC-18134-1] c 37 N81-15363

High temperature glass thermal control structure and coating --- for application to spacecraft reusable heat shielding  
[NASA-CASE-ARC-11164-1] c 44 N83-34448

Variable anodic thermal control coating  
[NASA-CASE-LAR-12719-1] c 44 N83-34449

Shell tile thermal protection system  
[NASA-CASE-LAR-12862-1] c 27 N84-27886

Mechanical fastener  
[NASA-CASE-LAR-12738-2] c 37 N85-30335

**SPACECRAFT STABILITY**

Reaction wheel scanner Patent  
[NASA-CASE-XGS-02629] c 14 N71-21082

Attitude sensor  
[NASA-CASE-LAR-10586-1] c 19 N74-15089

Annular momentum control device used for stabilization of space vehicles and the like  
[NASA-CASE-LAR-11051-1] c 15 N76-14158

Tetherline system for orbiting satellites  
[NASA-CASE-MFS-23564-1] c 15 N78-25119

Active nutation controller  
[NASA-CASE-GSC-12273-1] c 35 N80-21719

Method of damping nutation motion with minimum spin axis attitude disturbance  
[NASA-CASE-GSC-12551-1] c 18 N83-28064

**SPACECRAFT STRUCTURES**

Collapsible loop antenna for space vehicle Patent  
[NASA-CASE-XMF-00437] c 07 N70-40202

Electro-optical alignment control system Patent  
[NASA-CASE-XMF-00908] c 14 N70-40238

Spacecraft radiator cover Patent  
[NASA-CASE-MSC-12049] c 31 N71-16080

Satellite appendage tie down cord Patent  
[NASA-CASE-XGS-02554] c 31 N71-21064

Thermal control panel Patent  
[NASA-CASE-XLA-07728] c 33 N71-22890

Inflatable tether Patent  
[NASA-CASE-XMS-10993] c 15 N71-28936

Delayed simultaneous release mechanism  
[NASA-CASE-GSC-10814-1] c 03 N73-20039

Pressurized panel  
[NASA-CASE-XLA-08916-2] c 14 N73-28487

Structural heat pipe --- for spacecraft wall thermal insulation system  
[NASA-CASE-GSC-11619-1] c 34 N75-12222

Auger attachment method for insulation --- of spacecraft  
[NASA-CASE-MSC-12615-1] c 37 N76-19437

Particulate and solar radiation stable coating for spacecraft  
[NASA-CASE-LAR-10805-2] c 34 N77-18382

Pneumatic inflatable end effector  
[NASA-CASE-MFS-23696-1] c 54 N81-26718

Curved cap corrugated sheet  
[NASA-CASE-LAR-12884-1] c 18 N84-33450

Elastomer toughened polyimide adhesives --- bonding metal and composite material structures for aircraft and spacecraft  
[NASA-CASE-LAR-12775-2] c 27 N85-21349

**SPACECRAFT TELEVISION**

Electrically-operated rotary shutter Patent  
[NASA-CASE-XNP-00637] c 14 N70-40273

Television signal scan rate conversion system Patent  
[NASA-CASE-XMS-07168] c 07 N71-11300

Optical conversion method --- for spacecraft television  
[NASA-CASE-MSC-12618-1] c 74 N78-17865

**SPACECRAFT TEMPERATURE**

Space vehicle thermal rejection system  
[NASA-CASE-LAR-13738-1] c 18 N87-29586

Capillary heat transport and fluid management device  
[NASA-CASE-MFS-28217-1] c 34 N89-14392

**SPACECRAFT TRACKING**

Ranging system Patent  
[NASA-CASE-NPO-10066] c 09 N71-18598

Deep space monitor communication satellite system Patent  
[NASA-CASE-XAC-06029-1] c 31 N71-24813

Optical tracking mount Patent  
[NASA-CASE-MFS-14017] c 14 N71-26627

Orbital and entry tracking accessory for globes --- to provide range requirements for reentry vehicles to any landing site  
[NASA-CASE-LAR-10626-1] c 19 N74-21015

Conical scan tracking system employing a large antenna  
[NASA-CASE-NPO-14009-1] c 32 N79-13214

**SPACECREWS**

Orbital escape device Patent  
[NASA-CASE-XMS-06162] c 31 N71-28851

**SPACELAB PAYLOADS**

Hemispherical latching apparatus  
[NASA-CASE-MFS-25837-1] c 18 N85-29991

**SPALLATION**

Method of producing I-123 --- by bombardment of cesium causing spallation  
[NASA-CASE-LEW-11390-2] c 25 N76-27383

**SPARK CHAMBERS**

Laser measuring system for incremental assemblies --- measuring wire-wrapped frame assemblies in spark chambers  
[NASA-CASE-GSC-12321-1] c 36 N82-16396

Inorganic spark chamber frame and method of making the same  
[NASA-CASE-GSC-12354-1] c 35 N82-24471

**SPARK GAPS**

Protective circuit of the spark gap type  
[NASA-CASE-XAC-08981] c 09 N69-39897

Measurement of time differences between luminous events Patent  
[NASA-CASE-XLA-01987] c 23 N71-23976

**SPARK IGNITION**

High temperature spark plug Patent  
[NASA-CASE-XLE-00660] c 28 N70-39925

Plasma igniter for internal combustion engine  
[NASA-CASE-NPO-13828-1] c 37 N79-11405

**SPARK PLUGS**

High temperature spark plug Patent  
[NASA-CASE-XLE-00660] c 28 N70-39925

**SPATIAL DISTRIBUTION**

Propellant mass distribution metering apparatus Patent  
[NASA-CASE-NPO-10185] c 10 N71-26339

**SPATIAL FILTERING**

Spatial filter for Q-switched lasers  
[NASA-CASE-LEW-12164-1] c 36 N77-32478

Real-time optical multiple object recognition and tracking system and method  
[NASA-CASE-NPO-17139-1-CU] c 74 N88-25301

**SPATIAL RESOLUTION**

Wide-angle flat field telescope  
[NASA-CASE-GSC-12825-1] c 74 N86-28732

**SPECIMENS**

Method of radiographic inspection of wooden members  
[NASA-CASE-LAR-13724-1] c 38 N88-23983

Low temperature storage container for transporting perishables to space station  
[NASA-CASE-MFS-28248-1] c 31 N88-24817

**SPECKLE PATTERNS**

Method and apparatus for reducing speckle  
[NASA-CASE-LAR-13771-1] c 36 N89-14428

**SPECTRAL BANDS**

Multispectral linear array multiband selection device  
[NASA-CASE-GSC-12911-1] c 74 N86-29650

**SPECTRAL CORRELATION**

Correlation spectrometer having high resolution and multiplexing capability  
[NASA-CASE-NPO-15558-1] c 35 N84-34705

**SPECTRAL REFLECTANCE**

Single reflector interference spectrometer and drive system therefor  
[NASA-CASE-NPO-11932-1] c 35 N74-23040

**SPECTRAL SENSITIVITY**

Method and apparatus for enhancing laser absorption sensitivity  
[NASA-CASE-NPO-16567-1-CU] c 36 N87-28006

**SPECTRAL SIGNATURES**

Multispectral imaging and analysis system --- using charge coupled devices and linear arrays  
[NASA-CASE-NPO-13691-1] c 43 N79-17288

**SPECTROMETERS**

Photoelectric energy spectrometer Patent  
[NASA-CASE-XNP-04161] c 14 N71-15599

Variable frequency nuclear magnetic resonance spectrometer Patent  
[NASA-CASE-XNP-09830] c 14 N71-26266

Maksutov spectrograph Patent  
[NASA-CASE-XLA-10402] c 14 N71-29041

Dual purpose optical instrument capable of simultaneously acting as spectrometer and diffractometer  
[NASA-CASE-XNP-05231] c 14 N73-28491

Compton scatter attenuation gamma ray spectrometer  
[NASA-CASE-MFS-21441-1] c 14 N73-30392

Mossbauer spectrometer radiation detector  
[NASA-CASE-LAR-11155-1] c 35 N74-15091

Single reflector interference spectrometer and drive system therefor  
[NASA-CASE-NPO-11932-1] c 35 N74-23040

Spectrometer integrated with a facsimile camera  
[NASA-CASE-LAR-11207-1] c 35 N75-19613

Resonant waveguide stark cell --- using microwave spectrometers  
[NASA-CASE-LAR-11352-1] c 33 N75-26245

Ion and electron detector for use in an ICR spectrometer  
[NASA-CASE-NPO-13479-1] c 35 N77-10492

Frequency-scanning particle size spectrometer  
[NASA-CASE-NPO-13606-2] c 35 N80-18364

Velocity servo for continuous scan Fourier interference spectrometer  
[NASA-CASE-NPO-14093-1] c 35 N80-20563

Visible and infrared polarization ratio spectrophotometer  
[NASA-CASE-LAR-12285-1] c 35 N80-28687

Portable reflectance spectrometer  
[NASA-CASE-NPO-13556-1] c 35 N84-33766

Correlation spectrometer having high resolution and multiplexing capability  
[NASA-CASE-NPO-15558-1] c 35 N84-34705

FET charge sensor and voltage probe  
[NASA-CASE-NPO-16045-1] c 76 N87-13313

Method of fabricating an imaging X-ray spectrometer  
[NASA-CASE-GSC-12956-1] c 35 N87-14671

A compact fast wide angle broad band spectrometer optical system  
[NASA-CASE-NPO-17562-1-CU] c 74 N89-24153

**SPECTROPHOTOMETERS**

Apparatus for producing three-dimensional recordings of fluorescence spectra Patent  
[NASA-CASE-XGS-01231] c 14 N70-41676

High resolution Fourier interferometer-spectrophotopolarimeter  
[NASA-CASE-NPO-13604-1] c 35 N76-31490

Differential optoacoustic absorption detector  
[NASA-CASE-NPO-13759-1] c 74 N78-17867

**SPECTRORADIOMETERS**

Compact spectroradiometer  
[NASA-CASE-HQN-10683] c 14 N71-34389

**SPECTROSCOPIC ANALYSIS**

Spectroscope equipment using a slender cylindrical reflector as a substitute for a slit Patent  
[NASA-CASE-XGS-08269] c 23 N71-26206

Method and apparatus for determining optical absorption and emission characteristics of a crystal or non-crystalline fiber  
[NASA-CASE-LAR-13963-1] c 76 N89-14119

**SPECTRUM ANALYSIS**

Photoelectric energy spectrometer Patent  
[NASA-CASE-XNP-04161] c 14 N71-15599

Spectral method for monitoring atmospheric contamination of inert-gas welding shields Patent  
[NASA-CASE-XMF-02039] c 15 N71-15871

Method and apparatus for high resolution spectral analysis  
[NASA-CASE-NPO-10748] c 08 N72-20177

Stark cell optoacoustic detection of constituent gases in sample  
[NASA-CASE-NPO-14143-1] c 25 N81-14015

Method and circuit for controlling the evolution time interval of a laser output pulse  
[NASA-CASE-LAR-13772-1] c 36 N89-28816

## SPECULAR REFLECTION

Real time reflectometer --- measurement of specular reflectance  
[NASA-CASE-MFS-23118-1] c 35 N77-31465

## SPEECH BASEBAND COMPRESSION

Method and apparatus for telemetry adaptive bandwidth compression  
[NASA-CASE-MSC-20821-1] c 17 N87-25348

## SPEECH RECOGNITION

Speech analyzer  
[NASA-CASE-GSC-11898-1] c 32 N77-30309

## SPEED CONTROL

System for maintaining a motor at a predetermined speed utilizing digital feedback means Patent  
[NASA-CASE-XMF-06892] c 09 N71-24805  
Optimal control system for an electric motor driven vehicle

[NASA-CASE-NPO-11210] c 11 N72-20244  
Two speed drive system --- mechanical device for changing speed on rotating vehicle wheel

[NASA-CASE-MFS-20645-1] c 37 N74-23070  
Low speed phaselock speed control system --- for brushless dc motor

[NASA-CASE-GSC-11127-1] c 09 N75-24758  
Speed control device for a heavy duty shaft --- solar sails for spacecraft propulsion

[NASA-CASE-NPO-14170-1] c 37 N81-15364  
Variable speed drive

[NASA-CASE-GSC-12643-1] c 37 N83-26078

## SPEED INDICATORS

Miniature electrooptical air flow sensor  
[NASA-CASE-LAR-13065-1] c 35 N85-20295

## SPEED REGULATORS

A dc motor speed control system Patent  
[NASA-CASE-MFS-14610] c 09 N71-28886

## SPHERES

Guidance and maneuver analyzer Patent  
[NASA-CASE-XNP-09572] c 14 N71-15621  
Radar calibration sphere

[NASA-CASE-XLA-11154] c 07 N72-21117  
Method of forming frozen spheres in a force-free drop tower

[NASA-CASE-NPO-14845-1] c 27 N82-28442  
Sphere forming method and apparatus

[NASA-CASE-NPO-15070-1] c 31 N83-35176  
Contactless pellet fabrication

[NASA-CASE-NPO-15592-1] c 71 N84-16940

## SPHERICAL SHELLS

Electrode and insulator with shielded dielectric junction  
[NASA-CASE-XLE-03778] c 09 N69-21542  
Spherical measurement device

[NASA-CASE-XLA-06683] c 14 N72-28436  
Method and apparatus for growing crystals

[NASA-CASE-MFS-28137-1] c 76 N88-24544  
Multi-element spherical shell generation

[NASA-CASE-NPO-17203-1-CU] c 34 N89-13728

## SPHERICAL TANKS

Spherical tank gauge Patent  
[NASA-CASE-XMS-06236] c 14 N71-21007

## SPHERICAL WAVES

Shock wave convergence apparatus  
[NASA-CASE-MFS-20890] c 14 N72-22439

## SPHYGMOGRAPHY

Logic-controlled occlusive cuff system  
[NASA-CASE-MSC-14836-1] c 52 N82-11770

## SPIKE NOZZLES

Aerodynamic spike nozzle Patent  
[NASA-CASE-XGS-01143] c 31 N71-15647

## SPIKE POTENTIALS

Elimination of current spikes in buck power converters  
[NASA-CASE-NPO-14505-1] c 33 N81-19393

## SPILLING

Spillage detector for liquid chromatography systems  
[NASA-CASE-MSC-20206-1] c 25 N86-27431

## SPIN DYNAMICS

Nutation damper  
[NASA-CASE-GSC-11205-1] c 15 N73-25513  
Stabilization of He2(a 3 Sigma u+ molecules in liquid helium by optical pumping for vacuum UV laser 6

[NASA-CASE-NPO-13993-1] c 72 N79-13826  
Dual towline spin-recovery device

[NASA-CASE-LAR-13076-1] c 08 N85-35200

## SPIN REDUCTION

Optical spin compensator  
[NASA-CASE-XGS-02401] c 14 N69-27485  
Despin weight release Patent

[NASA-CASE-XLA-00679] c 15 N70-38601  
Stretch de-spin mechanism Patent

[NASA-CASE-XGS-00619] c 30 N70-40016  
Spacecraft separation system for spinning vehicles and/or payloads Patent

[NASA-CASE-XLA-02132] c 31 N71-10582  
Method and means for damping nutation in a satellite Patent

[NASA-CASE-XMF-00442] c 31 N71-10747

## SPIN STABILIZATION

Dynamic precession damper for spin stabilized vehicles Patent  
[NASA-CASE-XLA-01989] c 21 N70-34295

Attitude orientation of spin-stabilized space vehicles Patent  
[NASA-CASE-XLA-00281] c 21 N70-36943

Spacecraft attitude detection system by stellar reference Patent  
[NASA-CASE-XGS-03431] c 21 N71-15642

Cartwheel satellite synchronization system Patent  
[NASA-CASE-XGS-05579] c 31 N71-15676

Velocity package Patent  
[NASA-CASE-XLA-01339] c 31 N71-15692

Passive dual spin misalignment compensators --- gyrostabilized device  
[NASA-CASE-GSC-11479-1] c 35 N74-28097

Deployable flexible ventral fins for use as an emergency spin recovery device in aircraft  
[NASA-CASE-LAR-10753-1] c 08 N74-30421

Active nutation controller  
[NASA-CASE-GSC-12273-1] c 35 N80-21719

Thrust augmented spin recovery device  
[NASA-CASE-LAR-11970-2] c 08 N81-19130

Scanner --- photography from a spin stabilized synchronous satellite  
[NASA-CASE-GSC-12032-2] c 43 N82-13465

## SPINDLES

Variable contour securing system  
[NASA-CASE-MSC-16270-1] c 37 N78-27423

## SPINE

Spine immobilization apparatus  
[NASA-CASE-ARC-11167-1] c 52 N81-25662

## SPIRAL ANTENNAS

Spiral slotted phased antenna array  
[NASA-CASE-MSC-18532-1] c 32 N82-27558

## SPIRAL WRAPPING

Adjustable tension wire guide Patent  
[NASA-CASE-XMS-02383] c 15 N71-15918

Continuous self-locking spiral wound seal --- for maintaining pressure between chambers in cryogenic wind tunnels  
[NASA-CASE-LAR-12315-1] c 37 N82-24490

Modified spiral wound retaining ring  
[NASA-CASE-LAR-12361-1] c 37 N83-19091

## SPIRALS (CONCENTRATORS)

Spiral groove seal --- for hydraulic rotating shaft  
[NASA-CASE-LEW-10326-3] c 37 N74-10474

## SPIROMETERS

Balanced bellows spirometer  
[NASA-CASE-XAR-01547] c 05 N69-21473

## SPlicing

Optimized bolted joint  
[NASA-CASE-LAR-13250-1] c 37 N86-27630

## SPINTS

Stretcher Patent  
[NASA-CASE-XMF-06589] c 05 N71-23159

## SPLITTING

Long wavelength infrared detector  
[NASA-CASE-NPO-17543-1-CU] c 74 N89-30044

## SPOILERS

Hydraulic actuator mechanism to control aircraft spoiler movements through dual input commands  
[NASA-CASE-LAR-12412-1] c 08 N82-24205

## SPORES

Lyophilized spore dispenser  
[NASA-CASE-LAR-10544-1] c 37 N74-13178

## SPOT WELDS

Electric arc welding Patent  
[NASA-CASE-XMF-00392] c 15 N70-34814

Automatic closed circuit television arc guidance control Patent  
[NASA-CASE-MFS-13046] c 07 N71-19433

## SPRAY CHARACTERISTICS

Constant-output atomizer --- Inhalation therapy and aerosol research  
[NASA-CASE-MFS-25631-1] c 34 N84-12406

## SPRAY NOZZLES

Rocket injector head  
[NASA-CASE-XMF-04592-1] c 20 N79-21125

Fire extinguishing apparatus having a slidable mass for a penetrator nozzle --- for penetrating aircraft and shuttle orbiter skin  
[NASA-CASE-KSC-11064-1] c 31 N81-14137

Controlled overspray spray nozzle  
[NASA-CASE-MFS-25139-1] c 34 N82-13376

Remotely controlled spray gun  
[NASA-CASE-MFS-28110-1] c 37 N87-24689

## SPRAYED COATINGS

Method of making a diffusion bonded refractory coating Patent  
[NASA-CASE-XLE-01604-2] c 15 N71-15610

Thermal protection ablation spray system Patent  
[NASA-CASE-XLA-04251] c 18 N71-26100

Peen plating  
[NASA-CASE-GSC-11163-1] c 15 N73-32360

Sprayable low density ablator and application process  
[NASA-CASE-MFS-23506-1] c 24 N78-24290

Spray coating apparatus having a rotatable workpiece holder  
[NASA-CASE-ARC-11110-1] c 37 N82-24492

Thermal barrier coating system having improved adhesion  
[NASA-CASE-LEW-1335901] c 27 N83-31855

Spray applicator for spraying coatings and other fluids in space  
[NASA-CASE-MSC-18852-1] c 37 N85-29283

Method of coating a substrate with a rapidly solidified metal  
[NASA-CASE-GSC-12880-1] c 26 N86-32550

## SPRAYERS

External liquid-spray cooling of turbine blades Patent  
[NASA-CASE-XLE-00037] c 28 N70-33372

Method and apparatus for attaching physiological monitoring electrodes Patent  
[NASA-CASE-XFR-07658-1] c 05 N71-26293

Liquid spray cooling method Patent  
[NASA-CASE-XLE-00027] c 33 N71-29152

Closed loop spray cooling apparatus --- for particle accelerator targets  
[NASA-CASE-LEW-11981-1] c 31 N78-17237

Spray coating apparatus having a rotatable workpiece holder  
[NASA-CASE-ARC-11110-1] c 37 N82-24492

Spray applicator for spraying coatings and other fluids in space  
[NASA-CASE-MSC-18852-1] c 37 N85-29283

Liquid seeding atomizer  
[NASA-CASE-ARC-11631-1] c 34 N87-21255

Remotely controlled spray gun  
[NASA-CASE-MFS-28110-1] c 37 N87-24689

Warm fog dissipation using large volume water sprays  
[NASA-CASE-MFS-25962-1] c 09 N89-25242

## SPRAYING

Aircraft wheel spray drag alleviator Patent  
[NASA-CASE-XLA-01583] c 02 N70-36825

Closed loop spray cooling apparatus  
[NASA-CASE-LEW-11981-2] c 34 N79-20336

Method and apparatus for suppressing ignition overpressure in solid rocket propulsion systems  
[NASA-CASE-MFS-25843-1] c 20 N83-17588

## SPREAD SPECTRUM TRANSMISSION

Navigation system and method  
[NASA-CASE-GSC-12508-1] c 04 N84-22546

## SPREADING

Tool attachment for spreading loose elements away from work Patent  
[NASA-CASE-XMF-02107] c 15 N71-10809

## SPRINGS (ELASTIC)

Belleville spring assembly with elastic guides  
[NASA-CASE-XNP-09452] c 15 N69-27504

Multiple Belleville spring assembly Patent  
[NASA-CASE-XNP-00840] c 15 N70-38225

Switching mechanism with energy storage means Patent  
[NASA-CASE-XGS-00473] c 03 N70-38713

Load cell protection device Patent  
[NASA-CASE-XMS-06782] c 32 N71-15974

Vibration isolation system using compression springs  
[NASA-CASE-NPO-11012] c 15 N72-11391

Spring operated accelerator and constant force spring mechanism therefor  
[NASA-CASE-ARC-10898-1] c 35 N77-18417

Natural turbulence electrical power generator --- using wave action or random motion  
[NASA-CASE-LAR-11551-1] c 44 N80-29834

Resilient seal ring assembly with spring means applying force to wedge member --- cryogenic applications  
[NASA-CASE-MFS-25678-1] c 37 N84-11497

Unidirectional flexural pivot  
[NASA-CASE-GSC-12622-1] c 37 N84-12492

Segmented tubular cushion springs and spring assembly  
[NASA-CASE-ARC-11349-1] c 37 N86-20797

Rotary stepping device with memory metal actuator  
[NASA-CASE-NPO-15482-1] c 37 N87-23970

Locking hinge  
[NASA-CASE-MSC-21056-1] c 18 N88-23827

## SPUTTERING

A method for the deposition of beta-silicon carbide by isoeptitaxy  
[NASA-CASE-ERC-10120] c 26 N69-33482

Method of forming transparent films of ZnO  
[NASA-CASE-FRC-10019] c 15 N73-12487

Method and apparatus for sputtering utilizing an apertured electrode and a pulsed substrate bias  
[NASA-CASE-LEW-10920-1] c 17 N73-24569

Sputtering holes with ion beamlets  
[NASA-CASE-LEW-11646-1] c 20 N74-31269

Multitarget sequential sputtering apparatus  
[NASA-CASE-NPO-13345-1] c 37 N75-19684

Method of cold welding using ion beam technology  
[NASA-CASE-LEW-12982-1] c 37 N81-19455

Refractory coatings and method of producing the same  
[NASA-CASE-LEW-13169-1] c 26 N82-29415

Ion sputter textured graphite --- anode collector plates in electron tube devices  
[NASA-CASE-LEW-12919-1] c 24 N83-10117

Mechanical bonding of metal method  
[NASA-CASE-LEW-12941-1] c 26 N83-10170

Diamondlike flake composites  
[NASA-CASE-LEW-13837-1] c 24 N84-22695

Method of making an ion beam sputter-etched ventricular catheter for hydrocephalus shunt  
[NASA-CASE-LEW-13107-2] c 52 N84-23095

Ion sputter textured graphite electrode plates  
[NASA-CASE-LEW-12919-2] c 70 N84-28565

Diamondlike flakes  
[NASA-CASE-LEW-13837-2] c 24 N85-21267

Liquid crystal light valve structures  
[NASA-CASE-MSC-20036-1] c 76 N85-33826

Oxidation protection coatings for polymers  
[NASA-CASE-LEW-14072-1] c 27 N86-19458

Textured carbon surfaces on copper by sputtering  
[NASA-CASE-LEW-14130-1] c 31 N86-32587

Ion beam sputter etching  
[NASA-CASE-LEW-13899-1] c 31 N87-21160

**SQUARE WAVES**  
High speed phase detector Patent  
[NASA-CASE-XNP-01306-2] c 09 N71-24596

**SQUARES (MATHEMATICS)**  
Apparatus for computing square roots Patent  
[NASA-CASE-XGS-04768] c 08 N71-19437

**SQUEEZE FILMS**  
Dual clearance squeeze film damper  
[NASA-CASE-LEW-13506-1] c 37 N85-33490

**SQUIBS**  
Separation nut Patent  
[NASA-CASE-XGS-01971] c 15 N71-15922

**SQUID (DETECTORS)**  
Planar thin film SQUID with integral flux concentrator  
[NASA-CASE-MFS-28282-1] c 76 N88-29602

**STABILITY**  
Variable friction secondary seal for face seals  
[NASA-CASE-LEW-14170-1] c 37 N86-25790

Optical distance measuring instrument  
[NASA-CASE-GSC-12761-1] c 74 N86-32266

**STABILITY AUGMENTATION**  
Velocity vector control system augmented with direct lift control  
[NASA-CASE-LAR-12268-1] c 08 N81-24106

Leading edge flap system for aircraft control augmentation  
[NASA-CASE-LAR-12787-2] c 08 N85-19985

**STABILITY TESTS**  
Method and apparatus for checking the stability of a setup for making reflection type holograms  
[NASA-CASE-MFS-21455-1] c 35 N74-15146

**STABILIZATION**  
Ultraprecise calibrated light source  
[NASA-CASE-MSC-12293-1] c 14 N72-27411

System for stabilizing torque between a balloon and gondola  
[NASA-CASE-GSC-11077-1] c 02 N73-13008

Suppression of flutter  
[NASA-CASE-LAR-10682-1] c 02 N73-26004

Radiation hardening of MOS devices by boron --- for stabilizing gate threshold potential  
[NASA-CASE-GSC-11425-2] c 76 N75-25730

Arc control in compact arc lamps  
[NASA-CASE-NPO-10870-1] c 33 N77-22386

Self-stabilizing radial face seal  
[NASA-CASE-LEW-12991-1] c 37 N81-24442

Method and apparatus for transfer function simulator for testing complex systems  
[NASA-CASE-NPO-15696-1] c 33 N85-34333

Stabilization and oscillation of an acoustically levitated object  
[NASA-CASE-NPO-16896-1-CU] c 71 N89-13236

**STABILIZED PLATFORMS**  
Hydraulic drive mechanism Patent  
[NASA-CASE-XMS-03252] c 15 N71-10658

Failure detection and control means for improved drift performance of a gimbaled platform system  
[NASA-CASE-MFS-23551-1] c 04 N76-26175

Rotary leveling base platform  
[NASA-CASE-ARC-10981-1] c 37 N78-27425

Magnetic bearing and motor  
[NASA-CASE-GSC-12726-1] c 37 N83-34323

**STABILIZERS**  
Satellite despin device Patent  
[NASA-CASE-XMF-08523] c 31 N71-20396

**STABILIZERS (AGENTS)**  
Hydrazinium nitroformate propellant stabilized with nitroguanidine  
[NASA-CASE-NPO-12000] c 27 N72-25699

**STABILIZERS (FLUID DYNAMICS)**

Assembly for recovering a capsule Patent  
[NASA-CASE-XMF-00641] c 31 N70-36410

Mechanical stability augmentation system Patent  
[NASA-CASE-XLA-06339] c 02 N71-13422

Apparatus for automatically stabilizing the attitude of a nonguided vehicle  
[NASA-CASE-ARC-10134] c 30 N72-17873

Life raft stabilizer  
[NASA-CASE-MSC-12393-1] c 02 N73-26006

Externally supported internally stabilized flexible duct joint  
[NASA-CASE-MFS-19194-1] c 37 N76-14460

**STABLE OSCILLATIONS**

Amplifier drift tester  
[NASA-CASE-XMS-05562-1] c 09 N69-39986

**STACKS**

Remote fire stack igniter --- with solenoid-controlled valve  
[NASA-CASE-MFS-21675-1] c 25 N74-33378

**STAGE SEPARATION**

Tubular coupling having frangible connecting means  
[NASA-CASE-XLA-02854] c 15 N69-27490

Missile stage separation indicator and stage initiator Patent  
[NASA-CASE-XLA-00791] c 03 N70-39930

Quick release separation mechanism Patent  
[NASA-CASE-XLA-01441] c 15 N70-41679

Spacecraft separation system for spinning vehicles and/or payloads Patent  
[NASA-CASE-XLA-02132] c 31 N71-10582

Payload/burned-out motor case separation system Patent  
[NASA-CASE-XLA-05369] c 31 N71-15687

Single action separation mechanism Patent  
[NASA-CASE-XLA-00188] c 15 N71-22874

Lateral displacement system for separated rocket stages Patent  
[NASA-CASE-XLA-04804] c 31 N71-23008

Separation simulator Patent  
[NASA-CASE-XKS-04631] c 10 N71-23663

Frangible link  
[NASA-CASE-MSC-11849-1] c 15 N72-22488

Tanker orbit transfer vehicle and method  
[NASA-CASE-MSC-20543-1] c 18 N84-22610

**STAGNATION PRESSURE**

Traversing probe Patent  
[NASA-CASE-XFR-02007] c 12 N71-24692

Stagnation pressure probe --- for measuring pressure of supersonic gas streams  
[NASA-CASE-LAR-11139-1] c 35 N74-32878

**STAGNATION TEMPERATURE**

Enthalpy and stagnation temperature determination of a high temperature laminar flow gas stream Patent  
[NASA-CASE-XLE-00266] c 14 N70-34156

**STAINING**

Automated single-slide staining device  
[NASA-CASE-LAR-11649-1] c 51 N77-27677

**STAINLESS STEELS**

Method of joining aluminum to stainless steel Patent  
[NASA-CASE-MFS-07369] c 15 N71-20443

Ultrasonic scanning system for in-place inspection of brazed tube joints  
[NASA-CASE-MFS-20767-1] c 38 N74-15130

Method of forming a wick for a heat pipe  
[NASA-CASE-NPO-13391-1] c 34 N76-27515

Method of making reinforced composite structure  
[NASA-CASE-LEW-12619-1] c 24 N77-19171

Moving body velocity arresting line --- stainless steel cables with energy absorbing sleeves  
[NASA-CASE-LAR-12372-1] c 37 N82-18601

Method of forming dynamic membrane on stainless steel support  
[NASA-CASE-MSC-18172-3] c 31 N88-29052

**STAMPING**

Holding fixture for a hot stamping press  
[NASA-CASE-GSC-12619-1] c 37 N84-12491

Ultrasonic angle beam standard reflector --- ultrasonic nondestructive inspection  
[NASA-CASE-LAR-13153-1] c 71 N86-21276

**STANDARDS**

Microwave integrated circuit for Josephson voltage standards  
[NASA-CASE-MFS-23845-1] c 33 N81-17348

Ultrasonic angle beam standard reflector --- ultrasonic nondestructive inspection  
[NASA-CASE-LAR-13153-1] c 71 N86-21276

A reference standard for bidirectional reflection distribution function and bidirectional transmission distribution function measurement  
[NASA-CASE-MFS-28183-1] c 74 N89-13253

**STANDING WAVES**

Method and apparatus for shaping and enhancing acoustical levitation forces  
[NASA-CASE-MFS-25050-1] c 71 N81-15767

Image readout device with electronically variable spatial resolution  
[NASA-CASE-LAR-12633-1] c 33 N82-24416

Acoustic levitation methods and apparatus  
[NASA-CASE-NPO-15562-1] c 71 N82-27086

System for controlled acoustic rotation of objects  
[NASA-CASE-NPO-15522-1] c 71 N83-32516

Vibrating-chamber levitation systems  
[NASA-CASE-NPO-16142-1-CU] c 35 N86-20752

**STAR TRACKERS**

Roll attitude star sensor system Patent  
[NASA-CASE-XNP-01307] c 21 N70-41856

Sun tracker with rotatable plane-parallel plate and two photocells Patent  
[NASA-CASE-XGS-01159] c 21 N71-10678

Canopus detector including automotive gain control of photomultiplier tube Patent  
[NASA-CASE-NXP-03914] c 21 N71-10771

Spacecraft attitude detection system by stellar reference Patent  
[NASA-CASE-XGS-03431] c 21 N71-15642

Reference voltage switching unit  
[NASA-CASE-NPO-11253] c 09 N72-17157

Star tracking reticles and process for the production thereof  
[NASA-CASE-GSC-11188-2] c 21 N73-19630

Star tracking reticles  
[NASA-CASE-GSC-11188-1] c 14 N73-32320

Formation of star tracking reticles  
[NASA-CASE-GSC-11188-3] c 74 N74-20008

Star scanner --- with a reticle with a pair of slits having differing separation  
[NASA-CASE-GSC-11569-1] c 89 N74-30886

Programmable scan/read circuitry for charge coupled device imaging detectors --- spacecraft attitude control and star trackers  
[NASA-CASE-NPO-15345-1] c 74 N84-23247

**STARK EFFECT**

Resonant waveguide stark cell --- using microwave spectrometers  
[NASA-CASE-LAR-11352-1] c 33 N75-26245

Stark-effect modulation of CO<sub>2</sub> laser with NH<sub>2</sub>D  
[NASA-CASE-NPO-11945-1] c 36 N76-18427

Stark cell optoacoustic detection of constituent gases in sample  
[NASA-CASE-NPO-14143-1] c 25 N81-14015

Stark effect spectrophone for continuous absorption spectra monitoring --- a technique for gas analysis  
[NASA-CASE-NPO-15102-1] c 25 N81-25159

**STARTERS**

Starting circuit for vapor lamps and the like Patent  
[NASA-CASE-XNP-01058] c 09 N71-12540

Motor run-up system --- power lines  
[NASA-CASE-NPO-13374-1] c 33 N75-19524

Motor power factor controller with a reduced voltage starter  
[NASA-CASE-MFS-25586-1] c 33 N82-11360

**STARTING**

Portable device for use in starting air-start-units for aircraft and having cable lead testing capability  
[NASA-CASE-FRC-10113-1] c 33 N80-26599

Arcjet power supply and start circuit  
[NASA-CASE-LEW-14374-1] c 09 N88-28939

**STATIC DEFORMATION**

Acoustic radiation stress measurement  
[NASA-CASE-LAR-13440-1] c 71 N87-21653

**STATIC DISCHARGES**

Use of glow discharge in fluidized beds  
[NASA-CASE-ARC-11245-1] c 28 N82-18401

**STATIC FRICTION**

Friction measuring apparatus Patent  
[NASA-CASE-XNP-08680] c 14 N71-22995

Static coefficient test method and apparatus  
[NASA-CASE-GSC-11893-1] c 35 N76-31489

**STATIC INVERTERS**

Static inverters which sum a plurality of waves Patent  
[NASA-CASE-XMF-00663] c 08 N71-18752

Static inverter Patent  
[NASA-CASE-XGS-05289] c 09 N71-19470

**STATIC LOADS**

Instrument for measuring torsional creep and recovery Patent  
[NASA-CASE-XLE-01481] c 14 N71-10781

Tension measurement device Patent  
[NASA-CASE-XMS-04545] c 15 N71-22878

**STATIC PRESSURE**

Aerodynamic measuring device Patent  
[NASA-CASE-XLA-00481] c 14 N70-36824

Check valve assembly for a probe Patent  
[NASA-CASE-XLA-00128] c 15 N70-37925

Static pressure probe  
[NASA-CASE-LAR-11552-1] c 35 N76-14429

Static pressure orifice system testing method and apparatus  
[NASA-CASE-LAR-12269-1] c 35 N80-18358

- Apparatus and method for jet noise suppression  
[NASA-CASE-LAR-11903-2] c 71 N84-14873  
Porous plug for reducing orifice induced pressure error  
in airfoils  
[NASA-CASE-LAR-13569-1] c 35 N89-12841

**STATIONKEEPING**

- Station keeping of a gravity gradient stabilized satellite  
Patent  
[NASA-CASE-XLA-03132] c 31 N71-22969

**STATISTICAL CORRELATION**

- Optical probing of supersonic flows with statistical  
correlation  
[NASA-CASE-MFS-20642] c 14 N72-21407

**STATOR BLADES**

- Stator rotor tools  
[NASA-CASE-MSC-16000-1] c 37 N78-24544

**STATORS**

- Nickel base alloy --- for gas turbine engine stator  
vanes  
[NASA-CASE-LEW-12270-1] c 26 N77-32280

- Natural turbulence electrical power generator --- using  
wave action or random motion  
[NASA-CASE-LAR-11551-1] c 44 N80-29834

- Brushless DC motor control system responsive to control  
signals generated by a computer or the like  
[NASA-CASE-NPO-16420-1] c 33 N86-20681

- Damping seal for turbomachinery  
[NASA-CASE-MFS-25842-2] c 37 N86-20788

- Radial and torsionally controlled magnetic bearing  
[NASA-CASE-GSC-12957-1] c 37 N87-17038

- Turbomachinery rotor support with damping  
[NASA-CASE-MFS-28345-1] c 37 N89-28841

**STEADY STATE**

- Steady state thermal radiometers  
[NASA-CASE-MFS-21108-1] c 34 N74-27861

**STEAM TURBINES**

- Boiler for generating high quality vapor Patent  
[NASA-CASE-XLE-00785] c 33 N71-16104

**STEELS**

- Potassium silicate zinc coatings  
[NASA-CASE-GSC-10361-1] c 18 N72-23581

- Ion-beam nitriding of steels  
[NASA-CASE-LEW-14104-2] c 26 N88-14179

- Method and apparatus for non-destructive testing of  
temper embrittlement in steels  
[NASA-CASE-LAR-13817-1] c 26 N88-29012

**STEERABLE ANTENNAS**

- Array phasing device Patent  
[NASA-CASE-ERC-10046] c 10 N71-18722

- Satellite communication system Patent  
[NASA-CASE-XNP-02389] c 07 N71-28900

- Amplitude steered array  
[NASA-CASE-GSC-11446-1] c 33 N74-20860

- Phased array antenna control  
[NASA-CASE-MSC-14939-1] c 32 N79-11264

- Switched steerable multiple beam antenna system  
[NASA-CASE-MSC-20873-1-SB] c 32 N89-11961

**STEERING**

- Steerable solid propellant rocket motor Patent  
[NASA-CASE-XNP-00234] c 28 N70-38645

**STELLAR LUMINOSITY**

- Radiant energy intensity measurement system Patent  
[NASA-CASE-XNP-06510] c 14 N71-23797

**STELLAR SPECTRA**

- Radiant energy intensity measurement system Patent  
[NASA-CASE-XNP-06510] c 14 N71-23797

**STENCIL PROCESSES**

- Method of tracing contour patterns for use in making  
gradual contour resin matrix composites  
[NASA-CASE-ARC-11246-1] c 31 N83-34073

**STEPPING MOTORS**

- Scanner --- photography from a spin stabilized  
synchronous satellite  
[NASA-CASE-GSC-12032-2] c 43 N82-13465

**STEREOPHOTOGRAPHY**

- Stereo photomicrography system  
[NASA-CASE-LAR-10176-1] c 14 N72-20380

- Optical stereo video signal processor  
[NASA-CASE-MFS-25752-1] c 74 N86-21348

**STEREOSCOPIC VISION**

- Stereoscopic television system and apparatus  
[NASA-CASE-ARC-10160-1] c 23 N72-27728

- Television monitor field shifter and an opto-electronic  
method for obtaining a stereo image of optimal depth  
resolution and reduced depth distortion on a single  
screen  
[NASA-CASE-NPO-17249-1-CU] c 32 N89-28676

**STEREOSCOPY**

- Real-time 3-D X-ray and gamma-ray viewer  
[NASA-CASE-GSC-12640-1] c 74 N84-11920

**STERILIZATION**

- Process for preparing sterile solid propellants Patent  
[NASA-CASE-XNP-01749] c 27 N70-41897

- Processing for producing a sterilized instrument  
Patent  
[NASA-CASE-XNP-09763] c 14 N71-20461

- Air conditioned suit  
[NASA-CASE-LAR-10076-1] c 05 N73-20137

- Protein sterilization method of firefly luciferase using  
reduced pressure and molecular sieves  
[NASA-CASE-GSC-10225-1] c 06 N73-27086

- Heat sterilizable patient ventilator  
[NASA-CASE-NPO-13313-1] c 54 N75-27761

- Portable heatable container  
[NASA-CASE-NPO-14237-1] c 44 N80-20808

- System for sterilizing objects --- cleaning space vehicle  
systems  
[NASA-CASE-KSC-11085-1] c 54 N81-24724

**STERILIZATION EFFECTS**

- Electrical connector  
[NASA-CASE-NPO-10694] c 09 N72-20200

**STIFFENING**

- Metal matrix composite structural panel construction  
[NASA-CASE-LAR-12807-1] c 24 N84-11214

**STIFFNESS**

- Modified face seal for positive film stiffness  
[NASA-CASE-LEW-12989-1] c 37 N82-12442

**STILBENE**

- Vinyl stilbazoles  
[NASA-CASE-ARC-11429-3CU] c 27 N87-16908

**STIMULATED EMISSION**

- Repetitively pulsed, wavelength selective laser Patent  
[NASA-CASE-ERC-10178] c 16 N71-24832

**STIRLING CYCLE**

- Stirling cycle engine and refrigeration systems  
[NASA-CASE-NPO-13613-1] c 37 N76-29590

- Power control for hot gas engines  
[NASA-CASE-NPO-14220-1] c 37 N81-14318

- Phase-angle controller for Stirling engines  
[NASA-CASE-NPO-14388-1] c 37 N81-17432

- Solar energy receiver for a Stirling engine  
[NASA-CASE-NPO-14619-1] c 44 N81-17518

- Hot gas engine with dual crankshafts  
[NASA-CASE-NPO-14221-1] c 37 N81-25370

- Stirling cycle cryogenic cooler  
[US-PATENT-4,389,849] c 44 N83-28574

- Magnetically actuated compressor  
[NASA-CASE-GSC-12799-1] c 31 N85-21404

**STIRLING ENGINES**

- Phase-angle controller for Stirling engines  
[NASA-CASE-NPO-14388-1] c 37 N81-17432

- Solar energy receiver for a Stirling engine  
[NASA-CASE-NPO-14619-1] c 44 N81-17518

**STIRRING**

- Stirring apparatus for plural test tubes Patent  
[NASA-CASE-XAC-06956] c 15 N71-21177

- Planar oscillatory stirring apparatus  
[NASA-CASE-MFS-26002-1-CU] c 35 N86-26598

**STOICHIOMETRY**

- Sulfone-ester polymers containing pendent ethynyl  
groups  
[NASA-CASE-LAR-13316-1] c 27 N86-27450

- The 5-(4-Ethynylphenoxy) isophthalic chloride  
[NASA-CASE-LAR-13316-2] c 27 N87-14515

**STORAGE**

- Fluid sample collector Patent  
[NASA-CASE-XMS-06767-1] c 14 N71-20435

- Sodium storage and injection system  
[NASA-CASE-NPO-14384-1] c 37 N80-10494

**STORAGE BATTERIES**

- Bonded elastomeric seal for electrochemical cells  
Patent  
[NASA-CASE-XGS-02631] c 03 N71-23006

- Automatic battery charger Patent  
[NASA-CASE-XNP-04758] c 03 N71-24605

- Electric battery and method for operating same Patent  
[NASA-CASE-XGS-01674] c 03 N71-29129

- Electric storage battery  
[NASA-CASE-NPO-11021] c 03 N72-20032

- Hydrogen-bromine secondary battery  
[NASA-CASE-NPO-13237-1] c 44 N76-18641

- Rechargeable battery which combats shape change of  
the zinc anode  
[NASA-CASE-HQN-10862-1] c 44 N76-29699

- Electrically rechargeable REDOX flow cell  
[NASA-CASE-LEW-12220-1] c 44 N77-14581

- Formulated plastic separators for soluble electrode cells  
--- rubber-ion transport membranes  
[NASA-CASE-LEW-12358-1] c 44 N79-17313

- Toroidal cell and battery --- storage battery for high  
amp-hour load applications  
[NASA-CASE-LEW-12918-1] c 44 N81-24521

**STORAGE STABILITY**

- Thermally activated foaming compositions Patent  
[NASA-CASE-LAR-10373-1] c 18 N71-26155

- Gas diffusion liquid storage bag and method of use for  
storing blood  
[NASA-CASE-NPO-13930-1] c 52 N79-14749

- Method for retarding dye fading during archival storage  
of developed color photographic film --- inert  
atmosphere  
[NASA-CASE-MFS-23250-1] c 35 N82-11432

**STORAGE TANKS**

- Expulsion bladder-equipped storage tank structure  
Patent  
[NASA-CASE-XNP-00612] c 11 N70-38182

- Method for leakage testing of tanks Patent  
[NASA-CASE-XMF-02392] c 32 N71-24285

- Zero gravity shadow shield aligner  
[NASA-CASE-KSC-10622-1] c 31 N72-21893

- Cryogenic container compound suspension strap  
[NASA-CASE-ARC-11157-1] c 37 N80-18393

**STOWAGE (ONBOARD EQUIPMENT)**

- Hemispherical latching apparatus  
[NASA-CASE-MFS-25837-1] c 18 N85-29991

- Locking hinge  
[NASA-CASE-MSC-21056-1] c 18 N88-23827

- Expandable pallet for space  
attachments  
[NASA-CASE-MSC-21117-1] c 18 N88-28958

**STRAIN GAGE ACCELEROMETERS**

- Accelerometer with FM output Patent  
[NASA-CASE-XLA-00492] c 14 N70-34799

- Angular accelerometer Patent  
[NASA-CASE-XMS-05936] c 14 N70-41682

**STRAIN GAGE BALANCES**

- Self-balancing strain gage transducer Patent  
[NASA-CASE-MFS-12827] c 14 N71-17656

**STRAIN GAGES**

- Semiconductor p-n junction stress and strain sensor  
[NASA-CASE-XLA-04980] c 09 N69-27422

- Wire grid forming apparatus Patent  
[NASA-CASE-XLE-00023] c 15 N70-33330

- Force measuring instrument Patent  
[NASA-CASE-XMF-00456] c 14 N70-34705

- Strain gage Patent Application  
[NASA-CASE-FRC-10053] c 14 N70-35587

- Difference circuit Patent  
[NASA-CASE-XNP-08274] c 10 N71-13537

- Strain sensor for high temperatures Patent  
[NASA-CASE-XNP-09205] c 14 N71-17657

- Extensometer Patent  
[NASA-CASE-XMF-04680] c 15 N71-19489

- Strain gauge measuring techniques Patent  
[NASA-CASE-XGS-04478] c 14 N71-24233

- Method of temperature compensating semiconductor  
strain gages Patent  
[NASA-CASE-XLA-04555-1] c 14 N71-25892

- Pulsed excitation voltage circuit for transducers  
[NASA-CASE-FRC-10036] c 09 N72-22200

- Method of making semiconductor p-n junction stress  
and strain sensor  
[NASA-CASE-XLA-04980-2] c 14 N72-28438

- Device for monitoring a change in mass in varying  
gravimetric environments  
[NASA-CASE-MFS-21556-1] c 35 N74-26945

- Strain gauge ambiguity sensor for segmented mirror  
active optical system  
[NASA-CASE-MFS-20506-1] c 35 N75-12273

- Subminiature insertable force transducer --- including a  
strain gage to measure forces in muscles  
[NASA-CASE-NPO-13423-1] c 33 N75-31329

- Self-supporting strain transducer  
[NASA-CASE-LAR-11263-1] c 35 N75-33369

- Strain gage mounting assembly  
[NASA-CASE-NPO-13170-1] c 35 N76-14430

- High temperature strain gage calibration fixture  
[NASA-CASE-LAR-11500-1] c 35 N76-24523

- Miniature biaxial strain transducer  
[NASA-CASE-LAR-11648-1] c 35 N77-14407

- CW ultrasonic bolt tensioning monitor  
[NASA-CASE-LAR-12016-1] c 39 N78-15512

- Attaching of strain gages to substrates  
[NASA-CASE-FRC-10093-1] c 35 N80-20560

- Photomechanical transducer  
[NASA-CASE-NPO-14363-1] c 39 N81-25400

- Pulsed phase locked loop strain monitor --- voltage  
controlled oscillators  
[NASA-CASE-LAR-12772-1] c 33 N83-16626

- Inflatable device for installing strain gage bridges  
[NASA-CASE-FRC-11068-1] c 35 N84-12443

- Thin film strain transducer  
[NASA-CASE-WLP-10055-1] c 35 N84-28015

- Strain gage calibration  
[NASA-CASE-LAR-12743-1] c 35 N84-28019

- Thin film strain transducer --- suitable for in-flight  
measurement of scientific balloon strain  
[NASA-CASE-WLP-10055-2] c 35 N85-21598

- Method of attaching strain gauges to various materials  
[NASA-CASE-LAR-13797-1] c 35 N88-30108

**STRAIN MEASUREMENT**

- Thin film strain transducer --- suitable for in-flight  
measurement of scientific balloon strain  
[NASA-CASE-WLP-10055-2] c 35 N85-21598

- Radio Frequency (RF) strain monitor  
[NASA-CASE-LAR-13705-1] c 39 N88-25011

**STRAIN RATE**

- Light intensity strain analysis  
[NASA-CASE-LAR-10765-1] c 32 N73-20740  
Strain gage calibration  
[NASA-CASE-LAR-12743-1] c 35 N84-28019

**STRAKES**

- Helicopter anti-torque system using strakes  
[NASA-CASE-LAR-13233-1] c 05 N84-33400  
Helicopter anti-torque system using fuselage strakes  
[NASA-CASE-LAR-13630-1] c 08 N88-23809  
Actuated forebody strakes  
[NASA-CASE-LAR-13983-1] c 05 N88-24628

**STRAPDOWN INERTIAL GUIDANCE**

- All sky pointing attitude control system  
[NASA-CASE-ARC-10716-1] c 35 N77-20399

**STRAPS**

- Meter for use in detecting tension in straps having predetermined elastic characteristics  
[NASA-CASE-MFS-22189-1] c 35 N75-19615  
Cryogenic container compound suspension strap  
[NASA-CASE-ARC-11157-1] c 37 N80-18393

**STRATIGRAPHY**

- System for plotting subsoil structure and method therefor  
[NASA-CASE-NPO-14191-1] c 31 N80-32584

**STREAMS**

- Apparatus for measuring a sorbate dispersed in a fluid stream  
[NASA-CASE-ARC-10896-1] c 35 N78-19465

**STRESS ANALYSIS**

- Method and apparatus for measuring the damping characteristics of a structure  
[NASA-CASE-ARC-10154-1] c 14 N72-22440  
Light intensity strain analysis  
[NASA-CASE-LAR-10765-1] c 32 N73-20740  
High temperature strain gage calibration fixture  
[NASA-CASE-LAR-11500-1] c 35 N76-24523

**STRESS CONCENTRATION**

- Self-supporting strain transducer  
[NASA-CASE-LAR-11263-1] c 35 N75-33369

**STRESS CORROSION**

- Method of inhibiting stress corrosion cracks in titanium alloys Patent  
[NASA-CASE-NPO-10271] c 17 N71-16393  
Controlled glass bead peening Patent  
[NASA-CASE-XLA-07390] c 15 N71-18616

**STRESS MEASUREMENT**

- Semiconductor p-n junction stress and strain sensor  
[NASA-CASE-XLA-04980] c 09 N69-27422  
Force measuring instrument Patent  
[NASA-CASE-XMF-00456] c 14 N70-34705  
Self-balancing strain gage transducer Patent  
[NASA-CASE-MFS-12827] c 14 N71-17656  
Strain coupled servo control system Patent  
[NASA-CASE-XLA-08530] c 32 N71-25360  
Amplifying ribbon extensometer  
[NASA-CASE-LAR-11825-1] c 35 N77-22449  
CW ultrasonic bolt tensioning monitor  
[NASA-CASE-LAR-12016-1] c 39 N78-15512  
Acoustic radiation stress measurement  
[NASA-CASE-LAR-13440-1] c 71 N87-21653

**STRESS RELAXATION**

- Method for alleviating thermal stress damage in laminates --- metal matrix composites  
[NASA-CASE-LEW-12493-1] c 24 N81-17170

**STRESS RELIEVING**

- All-directional fastener Patent  
[NASA-CASE-XLA-01807] c 15 N71-10799

**STRESSES**

- Tape recorder Patent  
[NASA-CASE-XGS-08259] c 14 N71-23698  
Strain gage measuring techniques Patent  
[NASA-CASE-XGS-04478] c 14 N71-24233  
Strain arrestor plate for fused silica tile --- bonding of thermal insulation to metallic plates or structural parts  
[NASA-CASE-MSC-14182-1] c 27 N76-14264  
Fixture for environmental exposure of structural materials under compression load  
[NASA-CASE-LAR-12602-1] c 39 N83-32081

**STRETCHERS**

- Rescue litter flotation assembly Patent  
[NASA-CASE-XMS-04170] c 05 N71-22748  
Stretcher Patent  
[NASA-CASE-XMF-06589] c 05 N71-23159

**STRETCHING**

- Fastener stretcher  
[NASA-CASE-GSC-11149-1] c 15 N73-30457

**STRINGERS**

- Preloaded space structural coupling joints  
[NASA-CASE-LAR-13489-1] c 18 N87-27713

**STRINGS**

- Omnidirectional joint Patent  
[NASA-CASE-XMS-09635] c 05 N71-24623

**STRIP TRANSMISSION LINES**

- Microwave integrated circuit for Josephson voltage standards  
[NASA-CASE-MFS-23845-1] c 33 N81-17348  
Microwave switching power divider --- antenna feeds  
[NASA-CASE-GSC-12420-1] c 33 N82-16340

**STRUCTURAL ANALYSIS**

- Window defect planar mapping technique  
[NASA-CASE-MSC-19442-1] c 74 N77-10899

**STRUCTURAL DESIGN**

- Life raft Patent  
[NASA-CASE-XMS-00863] c 05 N70-34857  
High pressure regulator valve Patent  
[NASA-CASE-XNP-00710] c 15 N71-10778  
Lifting body Patent Application  
[NASA-CASE-FRC-10063] c 01 N71-12217  
Ring wing tension vehicle Patent  
[NASA-CASE-XLA-04901] c 31 N71-24315  
Opto-mechanical subsystem with temperature compensation through isothermal design  
[NASA-CASE-GSC-12059-1] c 35 N77-27366  
Lightweight reflector assembly  
[NASA-CASE-NPO-13707-1] c 74 N77-28933  
Horizontally mounted solar collector  
[NASA-CASE-MFS-23349-1] c 44 N79-23481  
Fluid flow meter for measuring the rate of fluid flow in a conduit  
[NASA-CASE-MFS-28030-1] c 35 N86-25752  
Remotely controlled spray gun  
[NASA-CASE-MFS-28110-1] c 37 N87-24689  
Improved method and apparatus for waste collection and storage  
[NASA-CASE-MSC-21025-1] c 31 N87-25495  
Smart tunnel: Docking mechanism  
[NASA-CASE-MSC-21360-1] c 18 N89-25263  
Space station architecture, module, berthing hub, shell assembly, berthing mechanism and utility connection channel  
[NASA-CASE-ARC-11505-2] c 18 N89-25266

**STRUCTURAL DESIGN CRITERIA**

- Compliant hydrodynamic fluid journal bearing  
[NASA-CASE-LEW-13670-1] c 37 N86-19606  
Geometries for roughness shapes in laminar flow  
[NASA-CASE-LAR-13255-1] c 02 N87-16793

**STRUCTURAL ENGINEERING**

- Beam connector apparatus and assembly  
[NASA-CASE-MFS-25134-1] c 31 N83-31895

**STRUCTURAL FAILURE**

- Method and apparatus for nondestructive testing of pressure vessels  
[NASA-CASE-NPO-12142-1] c 38 N76-28563

**STRUCTURAL MEMBERS**

- Broadband choke for antenna structure  
[NASA-CASE-XMS-05303] c 07 N69-27462  
Optical alignment system Patent  
[NASA-CASE-XNP-02029] c 14 N70-41955  
All-directional fastener Patent  
[NASA-CASE-XLA-01807] c 15 N71-10799  
Frictionless universal joint Patent  
[NASA-CASE-NPO-10646] c 15 N71-28467  
Fastener stretcher  
[NASA-CASE-GSC-11149-1] c 15 N73-30457  
Method of laminating structural members  
[NASA-CASE-XLA-11028-1] c 24 N74-27035  
Folding structure fabricated of rigid panels  
[NASA-CASE-XHQ-02146] c 18 N75-27040  
Strain arrestor plate for fused silica tile --- bonding of thermal insulation to metallic plates or structural parts  
[NASA-CASE-MSC-14182-1] c 27 N76-14264  
Mechanical end joint system for structural column elements  
[NASA-CASE-LAR-12482-1] c 37 N82-32732  
Daze fasteners  
[NASA-CASE-LAR-13009-1] c 37 N85-29285  
Synchronously deployable double fold beam and planar truss structure  
[NASA-CASE-LAR-13490-1] c 18 N87-14413  
Daze fasteners  
[NASA-CASE-LAR-13009-2] c 37 N87-22976

**STRUCTURAL STABILITY**

- Latching device  
[NASA-CASE-MFS-21606-1] c 37 N75-19685  
Flanged major modular assembly jig  
[NASA-CASE-MSC-19372-1] c 39 N76-31562  
Deployable M-braced truss structure  
[NASA-CASE-LAR-13081-1] c 37 N86-32737

**STRUCTURAL VIBRATION**

- Electrical connector Patent Application  
[NASA-CASE-MFS-14741] c 09 N70-20737  
Seismic displacement transducer Patent  
[NASA-CASE-XMF-00479] c 14 N70-34794  
Vibrating structure displacement measuring instrument Patent  
[NASA-CASE-XLA-03135] c 32 N71-16428

- Active notch filter network with variable notch depth, width and frequency  
[NASA-CASE-FRC-11055-1] c 33 N80-29583

**STRUCTURES**

- Arbitrarily shaped model survey system Patent  
[NASA-CASE-LAR-10098] c 32 N71-26681

**STRUTS**

- Energy absorbing structure Patent Application  
[NASA-CASE-MSC-12279-1] c 15 N70-35679  
Collapsible structure for an antenna reflector  
[NASA-CASE-NPO-11751] c 07 N73-24176  
Locking redundant link  
[NASA-CASE-LAR-11900-1] c 37 N79-14382  
Multiple pure tone elimination strut assembly --- air breathing engines  
[NASA-CASE-FRC-11062-1] c 71 N82-16800  
Variable length strut with longitudinal compliance and locking capability  
[NASA-CASE-MFS-25907-1] c 37 N85-34401

**STUDS (STRUCTURAL MEMBERS)**

- Safety-type locking pin  
[NASA-CASE-MFS-18495] c 15 N72-11385  
Stud-bonding gun  
[NASA-CASE-MFS-20299] c 15 N72-11392  
Insert facing tool --- manually operated cutting tool for forming studs in honeycomb material  
[NASA-CASE-MFS-21485-1] c 37 N74-25968

**STYRENES**

- Heat resistant polymers of oxidized styrylphosphine  
[NASA-CASE-MSC-14903-1] c 27 N78-32256  
Compound oxidized styrylphosphine --- flame resistant vinyl polymers  
[NASA-CASE-MSC-14903-2] c 27 N80-10358  
Heat resistant polymers of oxidized styrylphosphine  
[NASA-CASE-MSC-14903-3] c 27 N80-24438  
Stabilized unsaturated polyesters  
[NASA-CASE-NPO-16103-1] c 27 N85-29043

**SUBASSEMBLIES**

- Multistage spent particle collector and a method for making same  
[NASA-CASE-LEW-13914-1] c 37 N85-33489

**SUBCRITICAL FLOW**

- Method for growth of crystals by pressure reduction of supercritical or subcritical solution  
[NASA-CASE-NPO-15772-1] c 76 N85-29800

**SUBLIMATION**

- Tubular sublimatory evaporator heat sink  
[NASA-CASE-ARC-10912-1] c 34 N77-19353  
Polymeric compositions and their method of manufacture --- forming filled polymer systems using cryogenics  
[NASA-CASE-NPO-10424-1] c 27 N81-24258

**SUBMARINES**

- Low density bismaleimide-carbon microballoon composites --- aircraft and submarine compartment safety  
[NASA-CASE-ARC-11040-2] c 24 N78-27184

**SUBMERGING**

- Liquid immersion apparatus for minute articles  
[NASA-CASE-MFS-25363-1] c 37 N82-12441  
Liquid-immersible electrostatic ultrasonic transducer  
[NASA-CASE-LAR-12465-1] c 33 N82-26572

**SUBMILLIMETER WAVES**

- Ladder supported ring bar circuit  
[NASA-CASE-LEW-13570-1] c 33 N84-16452  
Double photon excitation of high-Rydberg atoms as a long-lived submillimeter detector  
[NASA-CASE-NPO-16372-1] c 72 N86-33127

**SUBMINIATURIZATION**

- Micro current measuring device using plural logarithmic response heated filamentary type diodes Patent  
[NASA-CASE-XNP-00384] c 09 N71-13530

**SUBREFLECTORS**

- Dish antenna having switchable beamwidth --- with truncated concave ellipsoid subreflector  
[NASA-CASE-GSC-11760-1] c 33 N75-19516

**SUBSONIC SPEED**

- Landing arrangement for aerospace vehicle Patent  
[NASA-CASE-XLA-00805] c 31 N70-38010  
Leading edge curvature based on convective heating Patent  
[NASA-CASE-XLA-01486] c 01 N71-23497  
Airfoil shape for flight at subsonic speeds --- design analysis and aerodynamic characteristics of the GAW-1 airfoil  
[NASA-CASE-LAR-10585-1] c 02 N76-22154  
Self stabilizing sonic inlet  
[NASA-CASE-LEW-11890-1] c 05 N79-24976

**SUBSONIC WIND TUNNELS**

- Variable geometry wind tunnels  
[NASA-CASE-XLA-07430] c 11 N72-22246

**SUBSTRATES**

- Means and methods of depositing thin films on substrates Patent  
[NASA-CASE-XNP-00595] c 15 N70-34967



Solar cell mounting Patent  
[NASA-CASE-XNP-00826] c 03 N71-20895

Solar panel fabrication Patent  
[NASA-CASE-XNP-03413] c 03 N71-26726

Fabrication of polycrystalline solar cells on low-cost substrates  
[NASA-CASE-GSC-12022-1] c 44 N76-28635

Process for producing a well-adhered durable optical coating on an optical plastic substrate --- abrasion resistant polymethyl methacrylate lenses  
[NASA-CASE-ARC-11039-1] c 74 N78-32854

Attaching of strain gages to substrates  
[NASA-CASE-FRC-10093-1] c 35 N80-20560

Method for applying photographic resists to otherwise incompatible substrates  
[NASA-CASE-MS-C-18107-1] c 27 N81-25209

Refractory coatings  
[NASA-CASE-LEW-13169-2] c 26 N82-30371

Pyroelectric detector arrays  
[NASA-CASE-LAR-12363-1] c 35 N82-31659

Method for depositing an oxide coating  
[NASA-CASE-LEW-13131-1] c 44 N83-10494

Densification of porous refractory substrates --- space shuttle orbiter tiles  
[NASA-CASE-MS-C-18737-1] c 24 N83-13171

Method of forming oxide coatings --- for solar collector heating panels  
[NASA-CASE-LEW-13132-1] c 27 N83-29388

Method and apparatus for coating substrates using a laser  
[NASA-CASE-LEW-13526-1] c 36 N84-22944

Coating with overlay metallic-cermet alloy systems  
[NASA-CASE-LEW-13639-2] c 26 N84-27855

Overlay metallic-cermet alloy coating systems  
[NASA-CASE-LEW-13639-1] c 26 N84-33555

Increased voltage photovoltaic cell  
[NASA-CASE-NPO-16155-1] c 44 N85-30475

Liquid crystal light valve structures  
[NASA-CASE-MS-C-20036-1] c 76 N85-33826

Thermal barrier coating system  
[NASA-CASE-LEW-14057-1] c 24 N85-35233

Oxidation resistant slurry coating for carbon-based materials  
[NASA-CASE-LEW-13923-1] c 26 N85-35267

Oxygen diffusion barrier coating  
[NASA-CASE-LAR-13474-1-SB] c 26 N87-25455

**SUBSTRUCTURES**

Support structure for irradiated elements Patent  
[NASA-CASE-XNP-06031] c 15 N71-15606

Opto-mechanical subsystem with temperature compensation through isothermal design  
[NASA-CASE-GSC-12059-1] c 35 N77-27366

System for detecting substructure microfractures and method therefore  
[NASA-CASE-NPO-14192-1] c 39 N80-10507

Elevated waterproof access floor system and method of making the same  
[NASA-CASE-ARC-11363-1] c 31 N87-16918

**SUCTION**

Method for maintaining precise suction strip porosities  
[NASA-CASE-LAR-13638-1] c 31 N88-29051

**SUGARS**

Production of butanol by fermentation in the presence of cocultures of clostridium  
[NASA-CASE-NPO-16203-1] c 23 N85-35227

**SULFATES**

Intumescent paints Patent  
[NASA-CASE-ARC-10099-1] c 18 N71-15469

**SULFIDES**

Stabilized lanthanum sulphur compounds --- thermoelectric materials  
[NASA-CASE-NPO-16135-1] c 25 N83-24572

**SULFONES**

Electrolytic cell structure  
[NASA-CASE-LAR-11042-1] c 33 N75-27252

Solvent resistant thermoplastic aromatic poly(imidesulfone) and process for preparing same  
[NASA-CASE-LAR-12858-1] c 27 N83-34041

Ethynyl and substituted ethynyl-terminated polysulfones  
[NASA-CASE-LAR-12931-1] c 27 N84-22747

Process for preparing solvent resistant, thermoplastic aromatic poly(imidesulfone)  
[NASA-CASE-LAR-12858-2] c 27 N85-20124

Ethynyl and substituted ethynyl-terminated polysulfones  
[NASA-CASE-LAR-12931-2] c 27 N86-21675

Sulfone-ester polymers containing pendent ethynyl groups  
[NASA-CASE-LAR-13316-1] c 27 N86-27450

Semi-2-interpenetrating networks of high temperature systems  
[NASA-CASE-LAR-13450-1] c 27 N87-28657

**SULFONIC ACID**

Intumescent coatings containing 4,4'-dinitrosulfanilide  
[NASA-CASE-ARC-11042-1] c 24 N78-14096

The 1,1,1-triaryl-2,2,2-trifluoroethanes and process for their synthesis  
[NASA-CASE-ARC-11097-1] c 25 N82-24312

**SULFUR COMPOUNDS**

Polymeric vehicles as carriers for sulfonic acid salt of nitrosubstituted aromatic amines  
[NASA-CASE-ARC-10325] c 06 N72-25147

**SULFUR DIOXIDES**

Stack plume visualization system  
[NASA-CASE-LAR-11675-1] c 45 N76-17656

Simultaneous treatment of SO<sub>2</sub> containing stack gases and waste water  
[NASA-CASE-MS-C-16258-1] c 45 N79-12584

**SULFURIC ACID**

Synthesis of 2,4,8,10-tetroxaspiro[5.5]undecane  
[NASA-CASE-ARC-11243-2] c 23 N85-33187

**SUM RULES**

Computing apparatus Patent  
[NASA-CASE-XGS-04765] c 08 N71-18693

**SUN**

Sun tracking solar energy collector  
[NASA-CASE-NPO-13921-1] c 44 N79-14526

**SUNGLASSES**

Soft frame adjustable eyeglasses Patent  
[NASA-CASE-XMS-06064] c 05 N71-23096

**SUNLIGHT**

Illumination system including a virtual light source Patent  
[NASA-CASE-HQN-10781] c 23 N71-30292

Illumination control apparatus for compensating solar light  
[NASA-CASE-KSC-11010-1] c 74 N79-12890

Cloud cover sensor  
[NASA-CASE-NPO-14936-1] c 47 N83-32232

Sun shield  
[NASA-CASE-MS-C-20162-1] c 37 N87-17036

**SUPERCARGERS**

Supercharged topping rocket propellant feed system  
[NASA-CASE-XLE-02062-1] c 20 N80-14188

Diesel engine catalytic combustor system --- aircraft engines  
[NASA-CASE-LEW-12995-1] c 37 N84-33808

**SUPERCONDUCTING MAGNETS**

Cryogenic apparatus for measuring the intensity of magnetic fields  
[NASA-CASE-XAC-02407] c 14 N69-27423

Superconducting alternator  
[NASA-CASE-XLE-02824] c 03 N69-39890

Segmented superconducting magnet for a broadband traveling wave maser Patent  
[NASA-CASE-XGS-10518] c 16 N71-28554

Superconducting magnet Patent  
[NASA-CASE-XNP-06503] c 23 N71-29049

Magnetometer using superconducting rotating body  
[NASA-CASE-NPO-13388-1] c 35 N76-16390

Stable superconducting magnet --- high current levels below critical temperature  
[NASA-CASE-XMF-05373-1] c 33 N79-21264

Reciprocating magnetic refrigerator employing tandem porous matrices within a reciprocating displacer  
[NASA-CASE-NPO-16257-1] c 31 N85-29082

**SUPERCONDUCTIVITY**

Superconducting alternator Patent  
[NASA-CASE-XLE-02823] c 09 N71-23443

System for improving signal-to-noise ratio of a communication signal  
[NASA-CASE-MS-C-12259-2] c 07 N72-33146

Superconductive magnetic-field-trapping device  
[NASA-CASE-XNP-01185] c 26 N73-28710

Doped Josephson tunneling junction for use in a sensitive IR detector  
[NASA-CASE-NPO-13348-1] c 33 N75-31332

Method of producing high T(subc) superconducting NBN films  
[NASA-CASE-NPO-16681-1-CU] c 76 N88-24543

Planar thin film SQUID with integral flux concentrator  
[NASA-CASE-MFS-28282-1] c 76 N88-29602

**SUPERCONDUCTORS**

Superconductive accelerometer Patent  
[NASA-CASE-XMF-01099] c 14 N71-15969

Twisted multifilament superconductor  
[NASA-CASE-LEW-11726-1] c 26 N73-26752

Method of fabricating a twisted composite superconductor  
[NASA-CASE-LEW-11015] c 26 N73-32571

Germanium coated microbridge and method  
[NASA-CASE-MFS-23274-1] c 33 N78-13320

Oxidation of semiconductors and superconductors  
[NASA-CASE-NPO-17534-1-CU] c 76 N89-30076

**SUPERCOOLING**

Method and apparatus for supercooling and solidifying substances  
[NASA-CASE-MFS-25242-1] c 35 N83-29650

**SUPERCritical FLUIDS**

Method for growth of crystals by pressure reduction of supercritical or subcritical solution  
[NASA-CASE-NPO-15772-1] c 76 N85-29800

**SUPERCritical PRESSURES**

Oil shale extraction using super-critical extraction  
[NASA-CASE-NPO-15656-1] c 43 N84-23012

**SUPERFLUIDITY**

Helium refining by superfluidity Patent  
[NASA-CASE-XNP-00733] c 06 N70-34946

Method and apparatus for generating coherent radiation in the ultra-violet region and above by use of distributed feedback  
[NASA-CASE-NPO-13346-1] c 36 N76-29575

**SUPERHEATING**

Thermal energy storage system --- operating on superheating of liquids  
[NASA-CASE-MFS-23167-1] c 44 N76-31667

**SUPERHIGH FREQUENCIES**

Dual band combiner for horn antenna  
[NASA-CASE-NPO-14519-1] c 32 N80-23524

**SUPERLATTICES**

Tailorable infrared sensing device with strain layer superlattice structure  
[NASA-CASE-NPO-16607-1-CU] c 76 N88-14836

**SUPERPLASTICITY**

Superplastically formed diffusion bonded metallic structure  
[NASA-CASE-FRC-11026-1] c 24 N82-24296

**SUPERSONIC AIRCRAFT**

Variable sweep wing configuration Patent  
[NASA-CASE-XLA-00230] c 02 N70-33255

Variable sweep aircraft wing Patent  
[NASA-CASE-XLA-00350] c 02 N70-38011

Variable sweep aircraft Patent  
[NASA-CASE-XLA-03659] c 02 N71-11041

Translating horizontal tail Patent  
[NASA-CASE-XLA-08801-1] c 02 N71-11043

Supersonic aircraft Patent  
[NASA-CASE-XLA-04451] c 02 N71-12243

Absorptive splitter for closely spaced supersonic engine air inlets Patent  
[NASA-CASE-XLA-02865] c 28 N71-15568

Oblique-wing supersonic aircraft  
[NASA-CASE-ARC-10470-3] c 05 N76-29217

Passive venting technique for shallow cavities  
[NASA-CASE-LAR-14031-1] c 05 N89-14232

Passive venting technique for shallow cavities  
[NASA-CASE-LAR-13875-1] c 05 N89-14233

**SUPERSONIC COMBUSTION**

Supersonic-combustion rocket  
[NASA-CASE-LEW-11058-1] c 20 N74-13502

Hypersonic airbreathing missile  
[NASA-CASE-LAR-12264-1] c 15 N78-32168

**SUPERSONIC DRAG**

Annular supersonic decelerator or drogue Patent  
[NASA-CASE-XLE-00222] c 02 N70-37939

**SUPERSONIC FLIGHT**

Variable sweep wing aircraft Patent  
[NASA-CASE-XLA-00221] c 02 N70-33266

High speed flight vehicle control Patent  
[NASA-CASE-XLA-08967] c 02 N71-27088

**SUPERSONIC FLOW**

Optical probing of supersonic flows with statistical correlation  
[NASA-CASE-MFS-20642] c 14 N72-21407

Stagnation pressure probe --- for measuring pressure of supersonic gas streams  
[NASA-CASE-LAR-11139-1] c 35 N74-32876

Multi-body aircraft with an all-movable center fuselage actively controlling fuselage pressure drag  
[NASA-CASE-LAR-13511-1] c 05 N88-23765

Compression pylon  
[NASA-CASE-LAR-13777-1] c 05 N88-29786

**SUPERSONIC INLETS**

Airflow control system for supersonic inlets  
[NASA-CASE-LEW-11188-1] c 02 N74-20646

Shock position sensor for supersonic inlets --- measuring pressure in the throat of a supersonic inlet  
[NASA-CASE-LEW-11915-1] c 35 N76-1443

Hypersonic airbreathing missile  
[NASA-CASE-LAR-12264-1] c 15 N78-32168

**SUPERSONIC NOZZLES**

Penshape exhaust nozzle for supersonic engine Patent  
[NASA-CASE-XLE-00057] c 28 N70-38711

Telescoping-spike supersonic inlet for aircraft engines Patent  
[NASA-CASE-XLE-00005] c 28 N70-39899

Electric arc apparatus Patent  
[NASA-CASE-XAC-01677] c 09 N71-20816

Aircraft engine nozzle  
[NASA-CASE-ARC-10977-1] c 07 N80-32392

**SUPERSONIC SPEED**

- Continuously operating induction plasma accelerator Patent  
[NASA-CASE-XLA-01354] c 25 N70-36946
- Static pressure probe  
[NASA-CASE-LAR-11552-1] c 35 N76-14429

**SUPERSONIC TRANSPORTS**

- Position location system and method Patent  
[NASA-CASE-GSC-10087-2] c 21 N71-13958
- Traffic control system and method Patent  
[NASA-CASE-GSC-10087-1] c 02 N71-19287
- Position location system and method  
[NASA-CASE-GSC-10087-3] c 07 N72-12080
- Doppler compensation by shifting transmitted object frequency within limits  
[NASA-CASE-GSC-10087-4] c 07 N73-20174
- Supersonic transport --- using canard surfaces  
[NASA-CASE-LAR-11932-1] c 05 N78-32086

**SUPERSONIC WIND TUNNELS**

- Wind tunnel  
[NASA-CASE-LAR-10135-1] c 09 N79-21083
- Sound shield  
[NASA-CASE-LAR-12883-1] c 71 N83-17235

**SUPPORT INTERFERENCE**

- Spherical bearing --- to reduce vibration effects  
[NASA-CASE-MFS-23447-1] c 37 N79-11404

**SUPPORT SYSTEMS**

- Hydraulic support for dynamic testing Patent  
[NASA-CASE-XMF-03248] c 11 N71-10604
- Support structure for irradiated elements Patent  
[NASA-CASE-XNP-06031] c 15 N71-15606
- Multilegged support system Patent  
[NASA-CASE-XLA-01326] c 11 N71-21481
- Adjustable support  
[NASA-CASE-NPO-10721] c 15 N72-27484
- Hydrostatic bearing support  
[NASA-CASE-LEW-11158-1] c 37 N77-28486
- Metric half-span model support system  
[NASA-CASE-LAR-12441-1] c 09 N82-23254

**SUPPORTS**

- A support technique for vertically oriented launch vehicles  
[NASA-CASE-XLA-02704] c 11 N69-21540
- Pneumatic mirror support system  
[NASA-CASE-XLA-03271] c 11 N69-24321
- Optical spin compensator  
[NASA-CASE-XGS-02401] c 14 N69-27485
- Extensible cable support Patent  
[NASA-CASE-XMF-07587] c 15 N71-18701
- Swivel support for gas bearings Patent  
[NASA-CASE-XMF-07808] c 15 N71-23812
- Optical tracking mount Patent  
[NASA-CASE-MFS-14017] c 14 N71-26627
- Angular displacement indicating gas bearing support system Patent  
[NASA-CASE-XLA-09346] c 15 N71-28740
- Adjustable mount for a trihedral mirror Patent  
[NASA-CASE-XNP-08907] c 23 N71-29123
- Fine adjustment mount  
[NASA-CASE-MFS-20249] c 15 N72-11386
- Expandable support means  
[NASA-CASE-NPO-11059] c 15 N72-17454
- Optical system support apparatus  
[NASA-CASE-XER-07896-2] c 23 N72-22673
- Fixture for supporting articles during vibration tests  
[NASA-CASE-MFS-20523] c 14 N72-27412
- Test stand system for vacuum chambers  
[NASA-CASE-MFS-21362] c 11 N73-20267
- Collapsible structure for an antenna reflector  
[NASA-CASE-NPO-11751] c 07 N73-24176
- Method of making porous conductive supports for electrodes --- by electroforming and stacking nickel foils  
[NASA-CASE-GSC-11367-1] c 44 N74-19692
- Thrust-isolating mounting --- characteristics of support for loads mounted in spacecraft  
[NASA-CASE-MFS-21680-1] c 18 N74-27397
- Variable contour securing system  
[NASA-CASE-MSC-16270-1] c 37 N78-27423
- Heat treat fixture and method of heat treating  
[NASA-CASE-LAR-11821-1] c 26 N80-28492
- Locking mechanism for orthopedic braces  
[NASA-CASE-GSC-12082-2] c 52 N81-25661
- Model mount system for testing flutter  
[NASA-CASE-LAR-12950-1] c 09 N84-34448
- Portable pallet weighing apparatus  
[NASA-CASE-GSC-12789-1] c 35 N85-20294
- Drop foot corrective device  
[NASA-CASE-LAR-12259-2] c 54 N86-22112
- Remote pivot decoupler pylon: Wing/store flutter suppressor  
[NASA-CASE-LAR-13173-1] c 05 N87-14314
- Airfoil flutter model suspension system  
[NASA-CASE-LAR-13522-1-SB] c 09 N87-25334
- Method of forming dynamic membrane on stainless steel support  
[NASA-CASE-MSC-18172-3] c 31 N88-29052

Don/doff support stand for use with rear entry space suits

- [NASA-CASE-MSC-21364-1] c 54 N89-13889
- Tensile film clamps and mounting block for the rheovibron and autovibron viscoelastometer  
[NASA-CASE-LAR-13696-1] c 37 N89-23880
- Almond test body --- for microwave anechoic chambers  
[NASA-CASE-LAR-13747-1-CU] c 32 N89-28672
- Turbomachinery rotor support with damping  
[NASA-CASE-MFS-28345-1] c 37 N89-28841

**SUPPRESSORS**

- Electronic background suppression method and apparatus for a field scanning sensor  
[NASA-CASE-XGS-05211] c 07 N69-39980

**SURFACE ACOUSTIC WAVE DEVICES**

- Distributed feedback acoustic surface wave oscillator  
[NASA-CASE-NPO-13673-1] c 71 N77-26919

**SURFACE CRACKS**

- Elastomer coated filler and composites thereof comprising at least 60% by weight of a hydrated filler and an elastomer containing an acid substituent  
[NASA-CASE-NPO-14857-1] c 27 N83-19900

**SURFACE DEFECTS**

- Microwave flaw detector Patent  
[NASA-CASE-ARC-10009-1] c 15 N71-17822
- Method and device for detection of surface discontinuities or defects  
[NASA-CASE-MSC-14187-1] c 35 N74-32879

**SURFACE DIFFUSION**

- Metallic film diffusion for boundary lubrication Patent  
[NASA-CASE-XLE-01765] c 18 N71-10772
- Double-beam optical method and apparatus for measuring thermal diffusivity and other molecular dynamic processes in utilizing the transient thermal lens effect  
[NASA-CASE-NPO-14657-1] c 74 N81-17887

**SURFACE FINISHING**

- Method of forming transparent films of ZnO  
[NASA-CASE-FRC-10019] c 15 N73-12487
- Device and method for determining X ray reflection efficiency of optical surfaces  
[NASA-CASE-MFS-20243] c 23 N73-13662
- Surface finishing --- for aircraft wings  
[NASA-CASE-MSC-12631-1] c 24 N77-28225
- Modification of the electrical and optical properties of polymers --- ion irradiation to create texture  
[NASA-CASE-LEW-13027-1] c 27 N80-24437
- Surface finishing  
[NASA-CASE-MSC-12631-3] c 27 N81-14077
- Method of cold welding using ion beam technology  
[NASA-CASE-LEW-12982-1] c 37 N81-19455
- Surface texturing of fluoropolymers  
[NASA-CASE-LEW-13028-1] c 27 N82-33521
- Laser surface fusion of plasma sprayed ceramic turbine seals  
[NASA-CASE-LEW-13269-1] c 18 N83-20996
- Electrodes for solid state devices  
[NASA-CASE-NPO-15161-1] c 33 N84-16456
- Diamondlike flakes  
[NASA-CASE-LEW-13837-2] c 24 N85-21267
- Textured carbon surfaces on copper by sputtering  
[NASA-CASE-LEW-14130-1] c 31 N86-32587
- Method and apparatus for making an optical element having a dielectric film  
[NASA-CASE-ARC-11611-1] c 74 N87-28416
- Ion-beam nitriding of steels  
[NASA-CASE-LEW-14104-2] c 26 N88-14179

**SURFACE GEOMETRY**

- Cylindrical surface profile and diameter measuring tool and method  
[NASA-CASE-MFS-28287-1] c 35 N88-23959

**SURFACE IONIZATION**

- Field ionization electrodes Patent  
[NASA-CASE-ERC-10013] c 09 N71-26678
- Method and apparatus for detecting surface ions on silicon diodes and transistors  
[NASA-CASE-ERC-10325] c 15 N72-25457

**SURFACE LAYERS**

- Bismuth-lead coatings for gas bearings used in atmospheric environments and vacuum chambers Patent  
[NASA-CASE-XGS-02011] c 15 N71-20739
- Method and apparatus for stable silicon dioxide layers on silicon grown in silicon nitride ambient  
[NASA-CASE-ERC-10073-1] c 24 N74-19769
- Method of neutralizing the corrosive surface of amine-cured epoxy resins  
[NASA-CASE-GSC-12686-1] c 27 N83-34039

**SURFACE PROPERTIES**

- Pretreatment method for anti-wettable materials  
[NASA-CASE-XMS-03537] c 15 N69-21471
- Ablation article and method  
[NASA-CASE-LAR-10439-1] c 33 N73-27796
- Dual measurement ablation sensor  
[NASA-CASE-LAR-10105-1] c 34 N74-15652

Apparatus for scanning the surface of a cylindrical body

- [NASA-CASE-NPO-11861-1] c 36 N74-20009
- Apparatus for microbiological sampling --- including automatic swabbing  
[NASA-CASE-LAR-11069-1] c 35 N75-12272
- Penetrometer --- for determining load bearing characteristics of inclined surfaces  
[NASA-CASE-NPO-11103-1] c 35 N77-27367
- Device for measuring the contour of a surface  
[NASA-CASE-LAR-11869-1] c 74 N78-27904
- Displacement probes with self-contained exciting medium  
[NASA-CASE-LAR-11690-1] c 35 N80-14371
- Apparatus for electrolytically tapered or contoured cavities  
[NASA-CASE-XNP-08835-1] c 37 N80-14395
- Mechanical bonding of metal method  
[NASA-CASE-LEW-12941-1] c 26 N83-10170
- Apparatus and method for inspecting a bearing ball  
[NASA-CASE-MFS-25833-1] c 35 N86-32698
- Ion beam sputter etching  
[NASA-CASE-LEW-13899-1] c 31 N87-21160
- Liquid thickness gauge  
[NASA-CASE-LAR-13826-1] c 35 N88-29150

**SURFACE REACTIONS**

- Nondestructive spot test method for magnesium and magnesium alloys  
[NASA-CASE-LAR-10953-1] c 17 N73-27446
- Means for phase locking the outputs of a surface emitting laser diode array  
[NASA-CASE-NPO-16542-1-CU] c 36 N87-23960
- Quantitative surface temperature measurement using two-color thermographic phosphors and video equipment  
[NASA-CASE-LAR-13740-1] c 35 N88-30105
- Arc-textured high emittance radiator surfaces  
[NASA-CASE-LEW-14679-1] c 27 N89-28651

**SURFACE ROUGHNESS**

- Surface roughness detector Patent  
[NASA-CASE-XLA-00203] c 14 N70-34161
- Optical inspection apparatus Patent  
[NASA-CASE-XMF-00462] c 14 N70-34298
- Contour surveying system Patent  
[NASA-CASE-XLA-08646] c 14 N71-17586
- Surface roughness measuring system --- synthetic aperture radar measurements of ocean wave height and terrain peaks  
[NASA-CASE-NPO-13862-1] c 35 N79-10391
- Texturing polymer surfaces by transfer casting --- cardiovascular prosthesis  
[NASA-CASE-LEW-13120-1] c 27 N82-28440
- Ion sputter textured graphite --- anode collector plates in electron tube devices  
[NASA-CASE-LEW-12919-1] c 24 N83-10117
- Ion sputter textured graphite electrode plates  
[NASA-CASE-LEW-12919-2] c 70 N84-28565

**SURFACE ROUGHNESS EFFECTS**

- Meteorological balloon Patent  
[NASA-CASE-XMF-04163] c 02 N71-23007

**SURFACE TEMPERATURE**

- Curved film cooling admission tube  
[NASA-CASE-LEW-13174-1] c 34 N83-27144

**SURFACE VEHICLES**

- Optimal control system for an electric motor driven vehicle  
[NASA-CASE-NPO-11210] c 11 N72-20244
- Vehicle for use in planetary exploration  
[NASA-CASE-NPO-11366] c 11 N73-26238
- Short range laser obstacle detector --- for surface vehicles using laser diode array  
[NASA-CASE-NPO-11856-1] c 36 N74-15145
- Vehicle locating system utilizing AM broadcasting station carriers  
[NASA-CASE-NPO-13217-1] c 32 N75-26194
- Vehicular impact absorption system  
[NASA-CASE-NPO-14014-1] c 37 N79-10420
- Personnel emergency carrier vehicle  
[NASA-CASE-KSC-11282-1] c 85 N87-21755
- Articulated suspension system  
[NASA-CASE-NPO-17354-1-CU] c 37 N88-24973

**SURFACE WAVES**

- Antenna design for surface wave suppression Patent  
[NASA-CASE-XLA-10772] c 07 N71-28980
- Solar energy converter using surface plasma waves  
[NASA-CASE-LEW-13827-1] c 44 N85-21768
- Dual differential interferometer  
[NASA-CASE-LAR-12966-1] c 35 N85-30282

**SURFACES**

- Recoverable rocket vehicle Patent  
[NASA-CASE-XMF-00389] c 31 N70-34176
- Friction measuring apparatus Patent  
[NASA-CASE-XNP-08680] c 14 N71-22995
- Three-axis adjustable loading structure  
[NASA-CASE-FRC-10051-1] c 35 N74-13129

Photoelectron spectrometer with means for stabilizing sample surface potential  
[NASA-CASE-NPO-13772-1] c 35 N78-10429

**SURFACTANTS**  
Surfactant-assisted liquefaction of particulate carbonaceous substances  
[NASA-CASE-NPO-13904-1] c 25 N79-11152

**SURGERY**  
Tissue macerating instrument  
[NASA-CASE-LEW-12668-1] c 52 N78-14773  
Intra-ocular pressure normalization technique and equipment  
[NASA-CASE-LEW-12955-1] c 52 N80-14684  
Process of making medical clip  
[NASA-CASE-LAR-12650-2] c 52 N84-28389

**SURGES**  
Transient-compensated SCR inverter  
[NASA-CASE-XLA-08507] c 09 N69-39984  
Turn on transient limiter Patent  
[NASA-CASE-GSC-10413] c 10 N71-26531

**SURGICAL INSTRUMENTS**  
Ophthalmic method and apparatus  
[NASA-CASE-LEW-11669-1] c 05 N73-27062  
Ophthalmic liquefaction pump  
[NASA-CASE-LEW-12051-1] c 52 N75-33640  
Cutting head for ultrasonic lithotripsy  
[NASA-CASE-GSC-12944-1] c 52 N86-19885

**SURVIVAL EQUIPMENT**  
Survival couch Patent  
[NASA-CASE-XLA-00118] c 05 N70-33285  
Life preserver Patent  
[NASA-CASE-XMS-00864] c 05 N70-36493  
Soft frame adjustable eyeglasses Patent  
[NASA-CASE-XMS-06064] c 05 N71-23096

**SUSPENDING (HANGING)**  
Parallel motion suspension device Patent  
[NASA-CASE-XNP-01567] c 15 N70-41310  
Reduced gravity simulator Patent  
[NASA-CASE-XLA-01787] c 11 N71-16028  
Suspended mass impact damper Patent  
[NASA-CASE-LAR-10193-1] c 15 N71-27146  
Airfoil flutter model suspension system  
[NASA-CASE-LAR-13522-1-SB] c 09 N87-25334  
A torsional suspension system for testing space structures  
[NASA-CASE-LAR-14149-1-SB] c 14 N89-28547

**SUSPENSION SYSTEMS (VEHICLES)**  
Suspension system for a wheel rolling on a flat track --- bearings for directional antennas  
[NASA-CASE-NPO-14395-1] c 37 N82-21587  
Articulated suspension system  
[NASA-CASE-NPO-17354-1-CU] c 37 N88-24973

**SWEAT**  
Sweat collection capsule  
[NASA-CASE-ARC-11031-1] c 52 N81-29763

**SWEAT COOLING**  
Transpiration cooled turbine blade manufactured from wires Patent  
[NASA-CASE-XLE-00020] c 15 N70-33226  
Transpirationally cooled heat ablation system Patent  
[NASA-CASE-XMS-02677] c 31 N70-42075  
Method of electroforming a rocket chamber  
[NASA-CASE-LEW-11118-1] c 20 N74-32919

**SWEEP CIRCUITS**  
Multiple slope sweep generator Patent  
[NASA-CASE-XMS-03542] c 09 N71-28926

**SWEEP EFFECT**  
High speed flight vehicle control Patent  
[NASA-CASE-XLA-08967] c 02 N71-27088  
Acoustically swept rotor --- helicopter noise reduction  
[NASA-CASE-ARC-11106-1] c 05 N80-14107

**SWEEP FREQUENCY**  
Swept group delay measurement  
[NASA-CASE-NPO-13909-1] c 33 N78-25319

**SWELLING**  
Intumescent composition, foamed product prepared therewith, and process for making same  
[NASA-CASE-ARC-10304-1] c 18 N73-26572

**SWEEP FORWARD WINGS**  
High performance forward swept wing aircraft  
[NASA-CASE-ARC-11636-1] c 05 N88-28914

**SWEEP WINGS**  
Supersonic aircraft Patent  
[NASA-CASE-XLA-04451] c 02 N71-12243

**SWIRLING**  
Slosh alleviator Patent  
[NASA-CASE-XLA-05749] c 15 N71-19569  
Swirl can primary combustor  
[NASA-CASE-LEW-11326-1] c 23 N73-30665  
Flow modifying device  
[NASA-CASE-LEW-13562-2] c 07 N85-35195

**SWITCHES**  
Switching mechanism with energy storage means Patent  
[NASA-CASE-XGS-00473] c 03 N70-38713

Digital memory in which the driving of each word location is controlled by a switch core Patent  
[NASA-CASE-XNP-01466] c 10 N71-26434

RF controlled solid state switch  
[NASA-CASE-ARC-10136-1] c 09 N72-22202  
High power RF coaxial switch  
[NASA-CASE-NPO-14229-1] c 33 N80-18285  
Automatic thermal switch  
[NASA-CASE-GSC-12415-1] c 33 N82-24419  
Fiber optic crossbar switch for automatically patching optical signals  
[NASA-CASE-KSC-11104-1] c 74 N83-29032  
Triac failure detector  
[NASA-CASE-MFS-25607-1] c 33 N83-34190  
Heat pipe thermal switch  
[NASA-CASE-GSC-12812-1] c 34 N83-35307  
Three-phase power factor controller with induced EMF sensing  
[NASA-CASE-MFS-25852-1] c 33 N84-33661  
Laser activated MTOS microwave device  
[NASA-CASE-NPO-16112-1] c 33 N86-19516  
Self-actuating heat switches for redundant refrigeration systems  
[NASA-CASE-NPO-17085-1-CU] c 31 N89-12785

**SWITCHING**  
Phase detector for three-phase power factor controller  
[NASA-CASE-MFS-25854-1] c 33 N84-27975

**SWITCHING CIRCUITS**  
Solid state switch  
[NASA-CASE-XNP-09228] c 09 N69-27500  
Power control circuit  
[NASA-CASE-XNP-02713] c 10 N69-39888  
A method for selective gold diffusion of monolithic silicon devices and/or circuits Patent application  
[NASA-CASE-ERC-10072] c 09 N70-11148  
Space vehicle electrical system Patent  
[NASA-CASE-XMF-00517] c 03 N70-34157  
High speed low level electrical stepping switch Patent  
[NASA-CASE-XAC-00060] c 09 N70-39915  
Switching circuit employing regeneratively connected complementary transistors Patent  
[NASA-CASE-XNP-02654] c 10 N70-42032  
Electronic beam switching commutator Patent  
[NASA-CASE-XGS-01451] c 09 N71-10677  
Electronic amplifier with power supply switching Patent  
[NASA-CASE-XMS-00945] c 09 N71-10798  
SCR blocking pulse gate amplifier Patent  
[NASA-CASE-XLA-07497] c 09 N71-12514  
Magnetic core current steering commutator Patent  
[NASA-CASE-NPO-10201] c 08 N71-18694  
A dc-coupled noninverting one-shot  
[NASA-CASE-XNP-09450] c 10 N71-18723  
Reversible current control apparatus Patent  
[NASA-CASE-XLA-09371] c 10 N71-18724  
Exclusive-Or digital logic module Patent  
[NASA-CASE-XLA-07732] c 08 N71-18751  
Polarization diversity monopulse tracking receiver Patent  
[NASA-CASE-XGS-03501] c 09 N71-20864  
Sight switch using an infrared source and sensor Patent  
[NASA-CASE-XMF-03934] c 09 N71-22985  
Complementary regenerative switch Patent  
[NASA-CASE-XGS-02751] c 09 N71-23015  
Drive circuit utilizing two cores Patent  
[NASA-CASE-XNP-01318] c 10 N71-23033  
Pulse modulator providing fast rise and fall times Patent  
[NASA-CASE-XMS-04919] c 09 N71-23270  
Polarity sensitive circuit Patent  
[NASA-CASE-XNP-00952] c 10 N71-23271  
Increasing efficiency of switching type regulator circuits Patent  
[NASA-CASE-XMS-09352] c 09 N71-23316  
Indexing microwave switch Patent  
[NASA-CASE-XNP-06507] c 09 N71-23548  
Multialarm summary alarm Patent  
[NASA-CASE-XLE-03061-1] c 10 N71-24798  
Switching circuit Patent  
[NASA-CASE-XNP-06505] c 10 N71-24799  
Inverter with means for base current shaping for sweeping charge carriers from base region Patent  
[NASA-CASE-XGS-06226] c 10 N71-25950  
Current steering switch Patent  
[NASA-CASE-XNP-08567] c 09 N71-26000  
Control apparatus for applying pulses of selectively predetermined duration to a sequence of loads Patent  
[NASA-CASE-XGS-04224] c 10 N71-26418  
Turn on transient limiter Patent  
[NASA-CASE-GSC-10413] c 10 N71-26531  
Method and means for providing an absolute power measurement capability Patent  
[NASA-CASE-ERC-11020] c 14 N71-26774  
Transistor drive regulator Patent  
[NASA-CASE-LEW-10233] c 10 N71-27126

Compensating bandwidth switching transients in an amplifier circuit Patent  
[NASA-CASE-XNP-01107] c 10 N71-28859  
Monostable multivibrator with complementary NOR gates Patent  
[NASA-CASE-MSC-13492-1] c 10 N71-28860  
Digital memory sense amplifying means Patent  
[NASA-CASE-XNP-01012] c 08 N71-28925  
Current regulating voltage divider  
[NASA-CASE-MFS-20935] c 09 N71-34212  
Reference voltage switching unit  
[NASA-CASE-NPO-11253] c 09 N72-17157  
Optimum performance spacecraft solar cell system  
[NASA-CASE-GSC-10669-1] c 03 N72-20031  
Flow rate switch  
[NASA-CASE-NPO-10722] c 09 N72-20199  
Switching regulator  
[NASA-CASE-LEW-11005-1] c 09 N72-21243  
Data multiplexer using tree switching configuration  
[NASA-CASE-NPO-11333] c 08 N72-22162  
Pulse coupling circuit  
[NASA-CASE-LEW-10433-1] c 09 N72-22197  
Solid state remote circuit selector switch  
[NASA-CASE-LEW-10387] c 09 N72-22201  
Pressure operated electrical switch responsive to a pressure decrease after a pressure increase  
[NASA-CASE-LAR-10137-1] c 09 N72-22204  
Fast response low power drain logic circuits  
[NASA-CASE-GSC-10878-1] c 10 N72-22236  
CRT blanking and brightness control circuit  
[NASA-CASE-KSC-10647-1] c 10 N72-31273  
Electronic video editor  
[NASA-CASE-KSC-10003] c 10 N73-13235  
Radiation sensitive solid state switch  
[NASA-CASE-NPO-10817-1] c 08 N73-30135  
Transparent switchboard  
[NASA-CASE-MSC-13746-1] c 10 N73-32143  
High isolation RF signal selection switches  
[NASA-CASE-NPO-13081-1] c 33 N74-22814  
Isolated output system for a class D switching-mode amplifier  
[NASA-CASE-MFS-21616-1] c 33 N75-30429  
Dual digital video switcher  
[NASA-CASE-KSC-10782-1] c 33 N75-30431  
Multi-computer multiple data path hardware exchange system  
[NASA-CASE-NPO-13422-1] c 60 N76-14818  
Sustained arc ignition system  
[NASA-CASE-LEW-12444-1] c 33 N77-28385  
Window comparator  
[NASA-CASE-FRC-10090-1] c 33 N78-18308  
Module failure isolation circuit for paralleled inverters --- preventing system failure during power conditioning for spacecraft applications  
[NASA-CASE-NPO-14000-1] c 33 N79-24254  
System for automatically switching transformer coupled lines  
[NASA-CASE-MSC-16697-1] c 33 N79-28415  
Self-reconfiguring solar cell system  
[NASA-CASE-LEW-12586-1] c 44 N80-14472  
Push-pull converter with energy saving circuit for protecting switching transistors from peak power stress  
[NASA-CASE-NPO-14316-1] c 33 N81-33404  
Microwave switching power divider --- antenna feeds  
[NASA-CASE-GSC-12420-1] c 33 N82-16340  
Control means for a solid state crossbar switch  
[NASA-CASE-NPO-15066-1] c 33 N82-29538  
Active lamp pulse driver circuit --- optical pumping of laser media  
[NASA-CASE-GSC-12566-1] c 33 N83-34189  
Pulsed thyristor trigger control circuit  
[NASA-CASE-MFS-25616-1] c 33 N84-16455  
Simplified dc to dc converter  
[NASA-CASE-LEW-13495-1] c 33 N84-33663  
Hybrid power semiconductor  
[NASA-CASE-LEW-13922-1] c 33 N86-20672  
Four quadrant control circuit for a brushless three-phase dc motor  
[NASA-CASE-MFS-28080-1] c 33 N87-21233

**SWITCHING THEORY**  
Multiple circuit switch apparatus with improved pivot actuator structure Patent  
[NASA-CASE-XAC-03777] c 10 N71-15909

**SWIVELS**  
Swivel support for gas bearings Patent  
[NASA-CASE-XMF-07808] c 15 N71-23812

**SYNCHRONISM**  
Time division multiplex system  
[NASA-CASE-XGS-05918] c 07 N69-39974  
Means for generating a sync signal in an FM communication system Patent  
[NASA-CASE-XNP-10830] c 07 N71-11261  
Method of resolving clock synchronization error and means therefor Patent  
[NASA-CASE-XNP-08875] c 10 N71-23059

- Passive synchronized spike generator with high input impedance and low output impedance and capacitor power supply Patent  
[NASA-CASE-XGS-03632] c 09 N71-23311
- Time synchronization system utilizing moon reflected coded signals Patent  
[NASA-CASE-NPO-10143] c 10 N71-26326
- Rapid sync acquisition system Patent  
[NASA-CASE-NPO-10214] c 10 N71-26577
- Synchronized voltage contrast display analysis system  
[NASA-CASE-NPO-14567-1] c 33 N83-18996

**SYNCHRONIZED OSCILLATORS**

- Phase demodulation system with two phase locked loops Patent  
[NASA-CASE-XNP-00777] c 10 N71-19469
- Phase locked phase modulator including a voltage controlled oscillator Patent  
[NASA-CASE-XNP-05382] c 10 N71-23544
- Automatic frequency control loop including synchronous switching circuits  
[NASA-CASE-KSC-10393] c 09 N72-21247

**SYNCHRONIZERS**

- Burst synchronization detection system Patent  
[NASA-CASE-XMS-05605-1] c 10 N71-19468
- Time division radio relay synchronizing system using different sync code words for in sync and out of sync conditions Patent  
[NASA-CASE-GSC-10373-1] c 07 N71-19773
- Synchronous servo loop control system Patent  
[NASA-CASE-XNP-03744] c 10 N71-20448
- Digital synchronizer Patent  
[NASA-CASE-NPO-10851] c 07 N71-24613
- Video sync processor Patent  
[NASA-CASE-KSC-10002] c 10 N71-25865
- Pulse code modulated signal synchronizer  
[NASA-CASE-MSC-12462-1] c 32 N74-20809
- Pulse code modulated signal synchronizer  
[NASA-CASE-MSC-12494-1] c 32 N74-20810
- System for generating timing and control signals  
[NASA-CASE-NPO-13125-1] c 33 N75-19519
- Telemetry synchronizer  
[NASA-CASE-GSC-11868-1] c 17 N76-22245
- Memory-based frame synchronizer --- for digital communication systems  
[NASA-CASE-GSC-12430-1] c 60 N82-16747

**SYNCHRONOUS MOTORS**

- Synchronous dc direct drive system Patent  
[NASA-CASE-GSC-10065-1] c 10 N71-27136
- Motor run-up system --- power lines  
[NASA-CASE-NPO-13374-1] c 33 N75-19524

**SYNCHRONOUS SATELLITES**

- Position location system and method Patent  
[NASA-CASE-GSC-10087-2] c 21 N71-13958
- Serrrodyne frequency converter re-entrant amplifier system Patent  
[NASA-CASE-XGS-01022] c 07 N71-16088
- Traffic control system and method Patent  
[NASA-CASE-GSC-10087-1] c 02 N71-19287
- Tracking antenna system Patent  
[NASA-CASE-GSC-10553-1] c 07 N71-19854
- Satellite interlace synchronization system  
[NASA-CASE-GSC-10390-1] c 07 N72-11149
- Synchronous orbit battery cycler  
[NASA-CASE-GSC-11211-1] c 03 N72-25020
- Systems and methods for determining radio frequency interference  
[NASA-CASE-GSC-12150-1] c 32 N79-11265
- Satellite personal communications system  
[NASA-CASE-NPO-14480-1] c 32 N80-20448

**SYNTHESIS**

- Synthesis of polymeric schiff bases by schiff-base exchange reactions Patent  
[NASA-CASE-XMF-08651] c 06 N71-11236
- Preparation of ordered poly /arylenesiloxane/ polymers  
[NASA-CASE-XMF-10753] c 06 N71-11237
- Imidazopyrrolone/imide copolymers Patent  
[NASA-CASE-XLA-08802] c 06 N71-11238
- Preparation of polyimides from mixtures of monomeric diamines and esters of polycarboxylic acids  
[NASA-CASE-LEW-11325-1] c 06 N73-27980

**SYNTHESIS (CHEMISTRY)**

- Prepolymer dianhydrides  
[NASA-CASE-NPO-13899-1] c 27 N80-32515
- Viscoelastic cationic polymers containing the urethane linkage  
[NASA-CASE-NPO-10830-1] c 27 N81-15104
- Bifunctional monomers having terminal oxime and cyano or amidine groups  
[NASA-CASE-ARC-11253-3] c 27 N81-24256
- Synthesis of polyformals  
[NASA-CASE-ARC-11244-1] c 23 N82-16174
- Electrically conductive palladium containing polyimide films  
[NASA-CASE-LAR-12705-1] c 25 N82-26396

- Polyvinyl alcohol cross-linked with two aldehydes  
[NASA-CASE-LEW-13504-1] c 25 N83-13188
- Synthesis of dawsonites --- for use in fire extinguishing operations  
[NASA-CASE-ARC-11326-1] c 25 N83-33977
- Solvent resistant thermoplastic aromatic poly(imidesulfone) and process for preparing same  
[NASA-CASE-LAR-12858-1] c 27 N83-34041
- Polypheylene ethers with imide linking groups  
[NASA-CASE-LAR-12980-1] c 27 N84-22749
- Phenoxy resins containing pendent ethynyl groups and cured resins obtained therefrom  
[NASA-CASE-LAR-13262-1] c 23 N85-28973
- Synthesis of 2,4,8,10-tetroxaspiro5,5undecane  
[NASA-CASE-ARC-11243-2] c 23 N85-33187
- Fire-resistant phosphorus containing polyimides and copolyimides  
[NASA-CASE-ARC-11522-2] c 27 N85-34280
- Metal phthalocyanine intermediates for the preparation of polymers  
[NASA-CASE-ARC-11405-2] c 27 N86-19455
- Copolymers of vinyl styrylpyridines or vinyl stilbazoles with bismaleimide  
[NASA-CASE-ARC-11429-1-CU] c 27 N86-20560
- Perfluoro (Imidoylamidine) diamidines  
[NASA-CASE-ARC-11402-3] c 23 N86-21582
- Ethynyl and substituted ethynyl-terminated polysulfones  
[NASA-CASE-LAR-12931-2] c 27 N86-21675
- Sulfone-ester polymers containing pendent ethynyl groups  
[NASA-CASE-LAR-13316-1] c 27 N86-27450
- Polymer of phosphonylmethyl-2,4- and -2,6-diamino benzene and polyfunctional monomer  
[NASA-CASE-ARC-11506-2] c 23 N86-32525
- Polyarylene ethers with improved properties  
[NASA-CASE-LAR-13555-1] c 23 N86-32526
- New condensation polyimides containing 1,1,1-triaryl-2,2,2-trifluoroethane structures  
[NASA-CASE-LEW-14346-1] c 23 N87-14433
- The 5-(4-Ethynylphenoxy) isophthalic chloride  
[NASA-CASE-LAR-13316-2] c 27 N87-14515
- Acetylene (ethynyl) terminated polyimide siloxane and process for preparation thereof  
[NASA-CASE-LAR-13318-1] c 27 N87-14516
- Ethynyl terminated ester oligomers and polymers therefrom  
[NASA-CASE-LAR-13118-2] c 27 N87-16907
- Process for preparing phthalocyanine polymer from imide containing bisphthalonitrile  
[NASA-CASE-ARC-11511-2] c 27 N87-21112
- Polynamines from aromatic diacetylenic diketones and diamines  
[NASA-CASE-LAR-13444-1-CU] c 27 N87-22847
- Preparation of B-trichloroborazine  
[NASA-CASE-ARC-11643-1-SB] c 23 N87-23698
- Fire and heat resistant laminating resins based on maleimide and citraconimido substituted 1-(diorgano oxyphosphonyl) methyl -2,4- and -2,6- diaminobenzenes  
[NASA-CASE-ARC-11533-3] c 27 N87-24564
- Polyimides containing carbonyl and ether connecting groups  
[NASA-CASE-LAR-13633-1] c 27 N87-24575
- Aminophenoxycyclophosphazene cured epoxy resins and the composites, laminates, adhesives and structures thereof  
[NASA-CASE-ARC-11548-1] c 27 N87-25469
- Process for developing crystallinity in linear aromatic polyimides  
[NASA-CASE-LAR-13732-1] c 27 N87-25474
- Aromatic cyclophosphazenes  
[NASA-CASE-ARC-11428-3] c 23 N88-24692
- Substituted 1,1,1-Triaryl-2,2,2-Trifluoroethanes and processes for their synthesis  
[NASA-CASE-LEW-14345-1] c 23 N88-26404
- Boron-containing organosilane polymers and ceramic materials thereof  
[NASA-CASE-ARC-11649-1-SB] c 27 N88-29040
- Novel ladder polymers for use as high temperature stable resins or coatings  
[NASA-CASE-LEW-14203-1] c 27 N88-29984
- Polypheylquinoxalines via aromatic nucleophilic displacement  
[NASA-CASE-LAR-13988-1] c 23 N89-11814
- Polynamines from aromatic diacetylenic diketones and diamines  
[NASA-CASE-LAR-13444-2-CU] c 23 N89-12667
- Low dielectric fluorinated poly(phenylene ether ketone) film and coating  
[NASA-CASE-LAR-13992-1-CU] c 23 N89-13496
- Polyphenylquinoxalines containing alkylendioxo groups  
[NASA-CASE-LAR-13601-1-CU] c 27 N89-14337

**SYNTHESIZERS**

- Digitally controlled frequency synthesizer Patent  
[NASA-CASE-XGS-02317] c 09 N71-23525

**SYNTHETIC APERTURE RADAR**

- Surface roughness measuring system --- synthetic aperture radar measurements of ocean wave height and terrain peaks  
[NASA-CASE-NPO-13862-1] c 35 N79-10391
- Azimuth correlator for real-time synthetic aperture radar image processing  
[NASA-CASE-NPO-14019-1] c 32 N79-14268
- Multibeam single frequency synthetic aperture radar processor for imaging separate range swaths  
[NASA-CASE-NPO-14525-1] c 32 N79-19195
- Real-time multiple-look synthetic aperture radar processor for spacecraft applications  
[NASA-CASE-NPO-14054-1] c 32 N82-12297
- Servomechanism for Doppler shift compensation in optical correlator for synthetic aperture radar  
[NASA-CASE-NPO-14998-1] c 32 N83-18975
- Clutter free synthetic aperture radar correlator  
[NASA-CASE-NPO-14035-1] c 32 N83-19968
- Multibeam single frequency synthetic aperture radar processor for imaging separate range swaths  
[NASA-CASE-NPO-14525-2] c 32 N83-31918
- Synthetic aperture radar target simulator  
[NASA-CASE-NPO-15024-1] c 32 N84-27951
- Pipelined digital SAR azimuth correlator using hybrid FFT-transversal filter  
[NASA-CASE-NPO-15519-1] c 32 N84-34651
- Method and apparatus for Delta Kappa synthetic aperture radar measurement of ocean current  
[NASA-CASE-NPO-15704-1] c 32 N85-34327
- Method and apparatus for contour mapping using synthetic aperture radar  
[NASA-CASE-NPO-15939-1] c 43 N86-19711
- Data volume reduction for imaging radar polarimetry  
[NASA-CASE-NPO-17184-1-CU] c 32 N88-26541

**SYNTHETIC FIBERS**

- Fluid containers and resealable septum therefor Patent  
[NASA-CASE-NPO-10123] c 15 N71-24835
- Fabric for micrometeoroid protection garment Patent  
[NASA-CASE-MSC-12109] c 18 N71-26285
- Fluid impervious barrier including liquid metal alloy and method of making same Patent  
[NASA-CASE-XNP-08881] c 17 N71-28747
- Polymeric electrolytic hygrometer  
[NASA-CASE-NPO-13948-1] c 35 N78-25391
- Process for spinning flame retardant elastomeric compositions --- fabricating synthetic fibers for high oxygen environments  
[NASA-CASE-MSC-14331-3] c 27 N78-32262
- Insoluble polyelectrolyte and ion-exchange hollow fiber impregnated therewith  
[NASA-CASE-NPO-13530-1] c 25 N81-17187

**SYNTHETIC FUELS**

- Molten salt pyrolysis of latex --- synthetic hydrocarbon fuel production using the Guayule shrub  
[NASA-CASE-NPO-14315-1] c 27 N81-17261
- Solar heated fluidized bed gasification system  
[NASA-CASE-NPO-15071-1] c 44 N82-16475

**SYNTHETIC RESINS**

- Coating process  
[NASA-CASE-XNP-06508] c 18 N69-39895
- Phosphorus-containing bisimide resins  
[NASA-CASE-ARC-11321-1] c 27 N81-27272
- Method for forming pyrrone molding powders and products of said method  
[NASA-CASE-LAR-10423-1] c 23 N82-29358
- Copolymers of vinyl styrylpyridines or vinyl stilbazoles with bismaleimide  
[NASA-CASE-ARC-11429-1-CU] c 27 N86-20560

**SYNTHETIC RUBBERS**

- Process for the preparation of polycarboranylphosphazenes --- thermal insulation  
[NASA-CASE-ARC-11176-2] c 27 N81-27271

**SYRINGES**

- Micro-fluid exchange coupling apparatus  
[NASA-CASE-ARC-11114-1] c 51 N81-14605
- Automated syringe sampler --- remote sampling of air and water  
[NASA-CASE-LAR-12308-1] c 35 N81-29407

**SYSTEM EFFECTIVENESS**

- System for the measurement of ultra-low stray light levels --- determining the adequacy of large space telescope systems  
[NASA-CASE-MFS-23513-1] c 74 N79-11865

**SYSTEM FAILURES**

- Tape recorder Patent  
[NASA-CASE-XGS-08259] c 14 N71-23698
- Fault tolerant clock apparatus utilizing a controlled minority of clock elements  
[NASA-CASE-MSC-12531-1] c 35 N75-30504
- Apparatus for sensor failure detection and correction in a gas turbine engine control system  
[NASA-CASE-LEW-12907-2] c 07 N81-19115

## SYSTEMS ANALYSIS

Analog-to-digital converter analyzing system  
[NASA-CASE-NPO-10560] c 08 N72-22166

## SYSTEMS ENGINEERING

Magnetohydrodynamic induction machine  
[NASA-CASE-XNP-07481] c 25 N69-21929  
Gravity stabilized flying vehicle Patent  
[NASA-CASE-MSC-12111-1] c 02 N71-11039  
Solar battery with interconnecting means for plural cells  
Patent  
[NASA-CASE-XNP-06506] c 03 N71-11050  
Helmet assembly and latch means therefor Patent  
[NASA-CASE-XMS-04935] c 05 N71-11190  
Multi-feed cone Cassegrain antenna Patent  
[NASA-CASE-NPO-10539] c 07 N71-11285  
Viscous-pendulum-damper Patent  
[NASA-CASE-XLA-02079] c 12 N71-16894  
Out of tolerance warning alarm system for plurality of monitored circuits Patent  
[NASA-CASE-XMS-10984-1] c 10 N71-19417  
Wide range data compression system Patent  
[NASA-CASE-XGS-02612] c 08 N71-19435  
Space suit heat exchanger Patent  
[NASA-CASE-XMS-09571] c 05 N71-19439  
Biomedical radiation detecting probe Patent  
[NASA-CASE-XMS-01177] c 05 N71-19440  
High speed binary to decimal conversion system Patent  
[NASA-CASE-XGS-01230] c 08 N71-19544  
Evaporant source for vapor deposition Patent  
[NASA-CASE-XMF-06065] c 15 N71-20395  
Method and apparatus for making a heat insulating and ablative structure Patent  
[NASA-CASE-XMS-02009] c 33 N71-20834  
Polarization diversity monopulse tracking receiver Patent  
[NASA-CASE-XGS-03501] c 09 N71-20864  
Inflatable support structure Patent  
[NASA-CASE-XLA-01731] c 32 N71-21045  
Fast opening diaphragm Patent  
[NASA-CASE-XLA-03660] c 15 N71-21060  
Portable superclean air column device Patent  
[NASA-CASE-XMF-03212] c 15 N71-22721  
Apparatus for machining geometric cones Patent  
[NASA-CASE-XMS-04292] c 15 N71-22722  
Spin forming tubular elbows Patent  
[NASA-CASE-XMF-01083] c 15 N71-22723  
Spacecraft airlock Patent  
[NASA-CASE-XLA-02050] c 31 N71-22968  
Station keeping of a gravity gradient stabilized satellite Patent  
[NASA-CASE-XLA-03132] c 31 N71-22969  
Filler valve Patent  
[NASA-CASE-XNP-01747] c 15 N71-23024  
Refrigeration apparatus Patent  
[NASA-CASE-XNP-08877] c 15 N71-23025  
Reduced bandwidth video communication system utilizing sampling techniques Patent  
[NASA-CASE-XNP-02791] c 07 N71-23026  
Multiple environment materials test chamber having a multiple port X-ray tube for irradiating a plurality of samples Patent  
[NASA-CASE-XMS-02930] c 11 N71-23042  
Variable duration pulse integrator Patent  
[NASA-CASE-XLA-01219] c 10 N71-23084  
Sealed electrochemical cell provided with a flexible casing Patent  
[NASA-CASE-XGS-01513] c 03 N71-23336  
Extended area semiconductor radiation detectors and a novel readout arrangement Patent  
[NASA-CASE-XGS-03230] c 14 N71-23401  
Floating two force component measuring device Patent  
[NASA-CASE-XAC-04885] c 14 N71-23790  
Transducer circuit and catheter transducer Patent  
[NASA-CASE-ARC-10132-1] c 09 N71-24597  
Method of attaching a cover glass to a silicon solar cell Patent  
[NASA-CASE-XLE-08569-2] c 03 N71-24681  
Attitude control system for sounding rockets Patent  
[NASA-CASE-XGS-01654] c 31 N71-24750  
Temperature telemetric transmitter Patent  
[NASA-CASE-NPO-10649] c 07 N71-24840  
Tuning arrangement for an electron discharge device or the like Patent  
[NASA-CASE-XNP-09771] c 09 N71-24841  
Broadband modified turnstile antenna Patent  
[NASA-CASE-MSC-12209] c 09 N71-24842  
Apparatus for determining the deflection of an electron beam impinging on a target Patent  
[NASA-CASE-XMF-06617] c 09 N71-24843  
BCD to decimal decoder Patent  
[NASA-CASE-XKS-06167] c 08 N71-24890  
Noninterruptable digital counting system Patent  
[NASA-CASE-XNP-09759] c 08 N71-24891

Duct coupling for single-handed operation Patent  
[NASA-CASE-MFS-20395] c 15 N71-24903  
Brushless direct current tachometer Patent  
[NASA-CASE-MFS-20385] c 09 N71-24904  
Quick release hook tape Patent  
[NASA-CASE-XMS-10660-1] c 15 N71-25975  
Internal work light Patent  
[NASA-CASE-XKS-05932] c 09 N71-26787  
Apparatus for inspecting microfilm Patent  
[NASA-CASE-MFS-20240] c 14 N71-26788  
Apparatus for remote measurement of displacement of marks on a specimen undergoing a tensile test  
[NASA-CASE-NPO-10778] c 14 N72-11364  
Optimum performance spacecraft solar cell system  
[NASA-CASE-GSC-10669-1] c 03 N72-20031  
Electric storage battery  
[NASA-CASE-NPO-11021] c 03 N72-20032  
Spacecraft attitude control method and apparatus  
[NASA-CASE-HQN-10439] c 21 N72-21624  
Light sensor  
[NASA-CASE-NPO-11311] c 14 N72-25414  
Flight control system  
[NASA-CASE-MSC-13397-1] c 21 N72-25595  
Program for computer aided reliability estimation  
[NASA-CASE-NPO-13086-1] c 15 N73-12495  
Measurement system  
[NASA-CASE-MFS-20658-1] c 14 N73-30386  
Alignment apparatus using a laser having a gravitationally sensitive cavity reflector  
[NASA-CASE-ARC-10444-1] c 16 N73-33397  
System for calibrating pressure transducer  
[NASA-CASE-LAR-10910-1] c 35 N74-13132  
Three mirror glancing incidence system for X-ray telescope  
[NASA-CASE-MFS-21372-1] c 74 N74-27866  
Holographic system for nondestructive testing  
[NASA-CASE-MFS-21704-1] c 35 N75-25124  
Compact pulsed laser having improved heat conductance  
[NASA-CASE-NPO-13147-1] c 36 N77-25502  
Tetherline system for orbiting satellites  
[NASA-CASE-MFS-23564-1] c 15 N78-25119  
Non-tracking solar energy collector system  
[NASA-CASE-NPO-13813-1] c 44 N78-31526  
Horizontally mounted solar collector  
[NASA-CASE-MFS-23349-1] c 44 N79-23481  
Contour measurement system  
[NASA-CASE-MFS-23726-1] c 43 N79-26439  
Redundant motor drive system  
[NASA-CASE-MFS-23777-1] c 37 N80-32716  
System for sterilizing objects --- cleaning space vehicle systems  
[NASA-CASE-KSC-11085-1] c 54 N81-24724  
A system for controlling the oxygen content of a gas produced by combustion  
[NASA-CASE-LAR-13257-1] c 25 N84-32447  
Multiplex electric discharge gas laser system  
[NASA-CASE-NPO-16433-1] c 36 N87-23961

## SYSTOLIC ARRAYS

Systolic VLSI array for implementing the Kalman filter algorithm  
[NASA-CASE-NPO-17108-1-CU] c 33 N89-28713

## T

## TABS (CONTROL SURFACES)

Aircraft rotor blade with passive tuned tab  
[NASA-CASE-ARC-11444-1] c 05 N85-29947

## TACHOMETERS

Digital cardi tachometer system Patent  
[NASA-CASE-XMS-02399] c 05 N71-22896  
Brushless direct current tachometer Patent  
[NASA-CASE-MFS-20385] c 09 N71-24904  
Ratemeter  
[NASA-CASE-MFS-20418] c 14 N73-24473  
Tachometer  
[NASA-CASE-MFS-23175-1] c 35 N77-30436  
Shaft transducer having dc output proportional to angular velocity  
[NASA-CASE-NPO-15706-1] c 35 N84-28017

## TAIL ASSEMBLIES

Surface conforming thermal/pressure seal --- tail assemblies of space shuttle orbiters  
[NASA-CASE-MSC-18422-1] c 37 N82-16408  
Missile rolling tail brake torque system --- simulating bearing friction on canard controlled missiles  
[NASA-CASE-LAR-12751-1] c 15 N84-16231

## TAKEOFF

Airplane take-off performance indicator Patent  
[NASA-CASE-XLA-00100] c 14 N70-36807  
Aircraft instrument Patent  
[NASA-CASE-XLA-00487] c 14 N70-40157

## TANGENTS

Derivation of a tangent function using an integrated circuit four-quadrant multiplier  
[NASA-CASE-MSC-13907-1] c 10 N73-26230

## TANK GEOMETRY

Tank construction for space vehicles Patent  
[NASA-CASE-XMF-01899] c 31 N70-41948

## TANKERS

Tanker orbit transfer vehicle and method  
[NASA-CASE-MSC-20543-1] c 18 N84-22610

## TANKS (COMBAT VEHICLES)

Tank tread assemblies with track-linking mechanism  
[NASA-CASE-NPO-16321-1CU] c 37 N87-17034

## TANKS (CONTAINERS)

Penetrating radiation system for detecting the amount of liquid in a tank Patent  
[NASA-CASE-MSC-12280] c 27 N71-16348  
Method for leakage testing of tanks Patent  
[NASA-CASE-XMF-02392] c 32 N71-24285  
Floating baffle to improve efficiency of liquid transfer from tanks  
[NASA-CASE-KSC-10639] c 15 N73-26472  
Method of producing a storage bulb for an atomic hydrogen maser  
[NASA-CASE-NPO-13050-1] c 36 N75-15029  
Tank gauging apparatus and method  
[NASA-CASE-MSC-21059-1] c 35 N89-12843

## TANTALUM

Thermionic tantalum emitter doped with oxygen Patent  
Application  
[NASA-CASE-NPO-11138] c 03 N70-34645  
Arc electrode of graphite with ball tip Patent  
[NASA-CASE-XLE-04788] c 09 N71-22987  
Trialkyl-dihalotantalum and niobium compounds Patent  
[NASA-CASE-XNP-04023] c 06 N71-28808  
Thermocouples of tantalum and rhenium alloys for more stable vacuum-high temperature performance  
[NASA-CASE-LEW-12050-1] c 35 N77-32454

## TANTALUM ALLOYS

Evaporant holder  
[NASA-CASE-XLA-03105] c 15 N69-27483  
Tantalum modified ferritic iron base alloys  
[NASA-CASE-LEW-12095-1] c 26 N78-18182

## TANTALUM CARBIDES

Thermal shock and erosion resistant tantalum carbide ceramic material  
[NASA-CASE-LAR-11902-1] c 27 N78-17206

## TANTALUM OXIDES

Thin film temperature sensor and method of making same  
[NASA-CASE-NPO-11775] c 26 N72-28761

## TAPE RECORDERS

Plural recorder system  
[NASA-CASE-XMS-06949] c 09 N69-21467  
Endless tape transport mechanism Patent  
[NASA-CASE-XGS-01223] c 07 N71-10609  
Low friction magnetic recording tape Patent  
[NASA-CASE-XGS-00373] c 23 N71-15978  
Tape guidance system and apparatus for the provision thereof Patent  
[NASA-CASE-XNP-09453] c 08 N71-19420  
Synchronous servo loop control system Patent  
[NASA-CASE-XNP-03744] c 10 N71-20448  
Incremental tape recorder and data rate converter Patent  
[NASA-CASE-XNP-02778] c 08 N71-22710  
Digital telemetry system Patent  
[NASA-CASE-XGS-01812] c 07 N71-23007  
Tape recorder Patent  
[NASA-CASE-XGS-08259] c 14 N71-23698  
Transient video signal recording with expanded playback Patent  
[NASA-CASE-ARC-10003-1] c 09 N71-25866  
A dc servosystem including an ac motor Patent  
[NASA-CASE-NPO-10700] c 07 N71-33613  
Recorder using selective noise filter  
[NASA-CASE-ERC-10112] c 07 N72-21119  
Scan converting video tape recorder  
[NASA-CASE-NPO-10166-1] c 07 N73-22076  
Scan converting video tape recorder  
[NASA-CASE-NPO-10166-2] c 35 N76-16397  
Method of and means for testing a tape record/playback system  
[NASA-CASE-MFS-22671-2] c 35 N77-17426

## TAPERED COLUMNS

Method of making a rocket motor casing Patent  
[NASA-CASE-XLE-00409] c 28 N71-15658  
Rocket motor casing Patent  
[NASA-CASE-XLE-05689] c 28 N71-15659

## TAPERING

Tapered, tubular polyester fabric  
[NASA-CASE-MSC-21082-1] c 27 N87-29672

## TAPES

High intensity casting system  
[NASA-CASE-NPO-16901-1-CU] c 31 N87-15322

**TARGET ACQUISITION**

- Acquisition and tracking system for optical radar  
[NASA-CASE-MFS-20125] c 16 N72-13437
- Target acquisition antenna  
[NASA-CASE-GSC-10064-1] c 10 N72-22235
- Intruder detection system  
[NASA-CASE-ARC-10097-2] c 07 N73-25160

**TARGET RECOGNITION**

- Electronic background suppression method and apparatus for a field scanning sensor  
[NASA-CASE-XGS-05211] c 07 N69-39980
- Real-time optical multiple object recognition and tracking system and method  
[NASA-CASE-NPO-17139-1-CU] c 74 N88-25301

**TARGET SIMULATORS**

- Simulator method and apparatus for practicing the mating of an observer-controlled object with a target  
[NASA-CASE-MFS-23052-2] c 74 N79-13855
- Synthetic aperture radar target simulator  
[NASA-CASE-NPO-15024-1] c 32 N84-27951

**TARGETS**

- Method and apparatus for producing concentric hollow spheres --- inertial confinement fusion targets  
[NASA-CASE-NPO-14596-1] c 31 N81-33319
- Method and apparatus for producing gas-filled hollow spheres --- target pellets for inertial confinement fusion  
[NASA-CASE-NPO-14596-3] c 31 N83-31896
- Optical distance measuring instrument  
[NASA-CASE-GSC-12761-1] c 74 N86-32266

**TEETH**

- Acoustic tooth cleaner  
[NASA-CASE-LAR-12471-1] c 52 N82-29862

**TEFLON (TRADEMARK)**

- Bonding of reinforced Teflon to metals  
[NASA-CASE-MFS-20482] c 15 N72-22492
- Method of producing a storage bulb for an atomic hydrogen maser  
[NASA-CASE-NPO-13050-1] c 36 N75-15029
- Lead-oxygen dc power supply system having a closed loop oxygen and water system  
[NASA-CASE-MFS-23059-1] c 44 N76-27664

**TELECOMMUNICATION**

- Adaptive compression of communication signals Patent  
[NASA-CASE-XLA-03076] c 07 N71-11266
- Means for generating a sync signal in an FM communication system Patent  
[NASA-CASE-XNP-10830] c 07 N71-11281
- Signal-to-noise ratio estimating by taking ratio of mean and standard deviation of integrated signal samples Patent  
[NASA-CASE-XNP-05254] c 07 N71-20791
- Digital synchronizer Patent  
[NASA-CASE-NPO-10851] c 07 N71-24613
- Minimal logic block encoder Patent  
[NASA-CASE-NPO-10595] c 10 N71-25917
- Two carrier communication system with single transmitter  
[NASA-CASE-NPO-11548] c 07 N73-26118
- Pseudonoise (PN) synchronization of data system with derivation of clock frequency from received signal for clocking receiver PN generator  
[NASA-CASE-XNP-03623] c 09 N73-28084
- Coherent receiver employing nonlinear coherence detection for carrier tracking  
[NASA-CASE-NPO-11921-1] c 32 N74-30523
- Pseudo-noise test set for communication system evaluation --- test signals  
[NASA-CASE-MFS-22671-1] c 35 N75-21582
- Modulator for tone and binary signals --- phase of modulation of tone and binary signals on carrier waves in communication systems  
[NASA-CASE-GSC-11743-1] c 32 N75-24981
- Method and apparatus for quadriphase-shift-key and linear phase modulation  
[NASA-CASE-NPO-14444-1] c 33 N81-15192
- Random digital encryption secure communication system  
[NASA-CASE-MSC-16462-1] c 32 N82-31583

**TELEMETRY**

- Pressure variable capacitor  
[NASA-CASE-XNP-09752] c 14 N69-21541
- Telemetry word forming unit  
[NASA-CASE-XNP-09225] c 09 N69-24333
- Position location and data collection system and method Patent  
[NASA-CASE-GSC-10083-1] c 30 N71-16090
- Telespectrograph Patent  
[NASA-CASE-XLA-03273] c 14 N71-18699
- Digitally controlled frequency synthesizer Patent  
[NASA-CASE-XGS-02317] c 09 N71-23525
- Programmable telemetry system Patent  
[NASA-CASE-GSC-10131-1] c 07 N71-24624
- Temperature telemetric transmitter Patent  
[NASA-CASE-NPO-10649] c 07 N71-24840

- Rapid sync acquisition system Patent  
[NASA-CASE-NPO-10214] c 10 N71-26577
- Telemetry actuated switch  
[NASA-CASE-ARC-10105] c 09 N72-17153
- Flexible computer accessed telemetry  
[NASA-CASE-NPO-11358] c 07 N72-25172
- Digital control and information system  
[NASA-CASE-NPO-11016] c 08 N72-31226
- Multichannel telemetry system  
[NASA-CASE-NPO-11572] c 07 N73-16121
- Receiver with an improved phase lock loop in a multichannel telemetry system with suppressed carrier  
[NASA-CASE-NPO-11593-1] c 07 N73-28012
- Telemetry synchronizer  
[NASA-CASE-GSC-11868-1] c 17 N76-22245
- Memory-based parallel data output controller  
[NASA-CASE-GSC-12447-2] c 60 N84-28491
- Single frequency multitransmitter telemetry  
[NASA-CASE-LAR-13006-1] c 17 N87-16863
- Method and apparatus for telemetry adaptive bandwidth compression  
[NASA-CASE-MSC-20821-1] c 17 N87-25348
- Adaptive data acquisition multiplexing system and method  
[NASA-CASE-MSC-21170-1] c 17 N88-24662
- A VLSI single-chip (225,223) Reed-Solomon encoder with interleaver  
[NASA-CASE-NPO-17280-1-CU] c 17 N88-27220

**TELEOPERATORS**

- Cooperative multiaxis sensor for teleoperation of article manipulating apparatus  
[NASA-CASE-NPO-13386-1] c 54 N75-27758
- A universal computer control system for motors  
[NASA-CASE-NPO-17134-1-CU] c 33 N88-24864

**TELEPHONES**

- Telephone multiline signaling using common signal pair  
[NASA-CASE-KSC-11023-1] c 32 N79-23310

**TELEPHONY**

- Digital communication system  
[NASA-CASE-MSC-13912-1] c 32 N74-30524

**TELESCOPES**

- Pneumatic mirror support system  
[NASA-CASE-XLA-03271] c 11 N69-24321
- Solar optical telescope dome control system Patent  
[NASA-CASE-MSC-10966] c 14 N71-19568
- Optical tracking mount Patent  
[NASA-CASE-MFS-14017] c 14 N71-26627
- Method and apparatus for aligning a laser beam projector Patent  
[NASA-CASE-NPO-11087] c 23 N71-29125
- Rotable accurate reflector system for telescopes Patent  
[NASA-CASE-NPO-10468] c 23 N71-33229
- Star image motion compensator  
[NASA-CASE-LAR-10523-1] c 14 N72-22444
- Light direction sensor  
[NASA-CASE-NPO-11201] c 14 N72-27409
- Borescope with variable angle scope  
[NASA-CASE-MFS-15162] c 14 N72-32452
- Ritchey-Chretien Telescope  
[NASA-CASE-GSC-11487-1] c 14 N73-30393
- Servo-controlled intravital microscope system  
[NASA-CASE-NPO-13214-1] c 35 N75-25123
- Compensation for primary reflector wavefront error  
[NASA-CASE-NPO-16869-1CU] c 74 N86-33138

**TELETYPEWRITER SYSTEMS**

- Video communication system and apparatus Patent  
[NASA-CASE-XNP-06611] c 07 N71-26102

**TELEVISION CAMERAS**

- Electrically-operated rotary shutter Patent  
[NASA-CASE-XNP-00637] c 14 N70-40273
- Digital television camera control system Patent  
[NASA-CASE-XNP-01472] c 14 N78-41807
- Solid state television camera system Patent  
[NASA-CASE-XMF-06092] c 07 N71-24612
- Color television system  
[NASA-CASE-MSC-12146-1] c 07 N72-17109
- TV fatigue crack monitoring system  
[NASA-CASE-LAR-11490-1] c 39 N78-16387
- Optical conversion method --- for spacecraft television  
[NASA-CASE-MSC-12618-1] c 74 N78-17865
- Automatic weld torch guidance control system  
[NASA-CASE-MFS-25807] c 37 N83-20154
- Television camera video level control system  
[NASA-CASE-MSC-18578-1] c 32 N85-21427
- Wind dynamic range video camera  
[NASA-CASE-MFS-25750-1] c 32 N86-20647
- Automated weld torch guidance control system  
[NASA-CASE-MFS-25807-2] c 37 N86-21850

**TELEVISION EQUIPMENT**

- Television signal scan rate conversion system Patent  
[NASA-CASE-XMS-07168] c 07 N71-11300
- Automatic closed circuit television arc guidance control Patent  
[NASA-CASE-MFS-13046] c 07 N71-19433

- Color television systems using a single gun color cathode ray tube Patent  
[NASA-CASE-ERC-10098] c 09 N71-28618
- Television multiplexing system  
[NASA-CASE-KSC-10654-1] c 07 N73-30115
- Rotating raster generator  
[NASA-CASE-FRC-10071-1] c 32 N74-20813
- Auditory display for the blind  
[NASA-CASE-HQN-10832-1] c 71 N74-21014
- Spacecraft docking and alignment system --- using television camera system  
[NASA-CASE-MSC-12559-1] c 18 N76-14186
- System for producing chroma signals  
[NASA-CASE-MSC-14683-1] c 74 N77-18893

**TELEVISION RECEIVERS**

- Narrow bandwidth video Patent  
[NASA-CASE-XMS-06740-1] c 07 N71-26579

**TELEVISION RECEPTION**

- Retinally stabilized differential resolution television display  
[NASA-CASE-NPO-15432-1] c 32 N85-29117

**TELEVISION SYSTEMS**

- Method and means for an improved electron beam scanning system Patent  
[NASA-CASE-ERC-10552] c 09 N71-12539
- Burst synchronization detection system Patent  
[NASA-CASE-XMS-05605-1] c 10 N71-19468
- Narrow bandwidth video Patent  
[NASA-CASE-XMS-06740-1] c 07 N71-26579
- Stereoscopic television system and apparatus  
[NASA-CASE-ARC-10160-1] c 23 N72-27728
- Large TV display system  
[NASA-CASE-NPO-16932-1CU] c 33 N87-15413

**TELEVISION TRANSMISSION**

- Television simulation for aircraft and space flight Patent  
[NASA-CASE-XFR-03107] c 09 N71-19449
- Automatic frequency control for FM transmitter  
[NASA-CASE-MFS-21540-1] c 32 N74-19790
- Television noise reduction device  
[NASA-CASE-MSC-12607-1] c 32 N75-21485

**TELLURIUM**

- Targets for producing high purity I-123  
[NASA-CASE-LEW-10518-3] c 25 N78-27226

**TEMPERATURE**

- Fluorinated esters of polycarboxylic acids  
[NASA-CASE-MFS-21040-1] c 06 N73-30098

**TEMPERATURE COMPENSATION**

- Temperature compensated solid state differential amplifier Patent  
[NASA-CASE-XAC-00435] c 09 N70-35440
- Variable frequency magnetic multivibrator Patent  
[NASA-CASE-XGS-00458] c 09 N70-38604
- Matched thermistors for microwave power meters Patent  
[NASA-CASE-NPO-10348] c 10 N71-12554
- Precision thrust gage Patent  
[NASA-CASE-XGS-02319] c 14 N71-22965
- Variable frequency oscillator with temperature compensation Patent  
[NASA-CASE-XNP-03916] c 09 N71-28810
- Omnidirectional acceleration device Patent  
[NASA-CASE-HQN-10780] c 14 N71-30265
- Thermal compensating structural member  
[NASA-CASE-MFS-20433] c 15 N72-28496
- Temperature compensated light source using a light emitting diode  
[NASA-CASE-ARC-10467-1] c 09 N73-14214
- Opto-mechanical subsystem with temperature compensation through isothermal design  
[NASA-CASE-GSC-12059-1] c 35 N77-27366
- Temperature compensated current source  
[NASA-CASE-MSC-11235] c 33 N78-17294

**TEMPERATURE CONTROL**

- Method and apparatus for wavelength tuning of liquid lasers  
[NASA-CASE-ERC-10187] c 16 N69-31343
- Alkali-metal silicate protective coating  
[NASA-CASE-XGS-04119] c 18 N69-39979
- Thermal control of space vehicles Patent  
[NASA-CASE-XLA-01291] c 33 N70-36617
- Thermal switch Patent  
[NASA-CASE-XNP-00463] c 33 N70-36847
- Sandwich panel construction Patent  
[NASA-CASE-XLA-00349] c 33 N70-37979
- Device for suppressing sound and heat produced by high-velocity exhaust jets Patent  
[NASA-CASE-XMF-01813] c 28 N70-41582
- Solar cell including second surface mirrors Patent  
[NASA-CASE-NPO-10109] c 03 N71-11049
- Excessive temperature warning system Patent  
[NASA-CASE-XLA-01926] c 14 N71-15620
- Intermittent type silica gel adsorption refrigerator Patent  
[NASA-CASE-XNP-00920] c 15 N71-15906



Method and apparatus for controllably heating fluid Patent  
 [NASA-CASE-XMF-04237] c 33 N71-16278  
 Mount for thermal control system Patent  
 [NASA-CASE-NPO-10138] c 33 N71-16357  
 Transmission line thermal short Patent  
 [NASA-CASE-XNP-09775] c 09 N71-20445  
 Thermal control wall panel Patent  
 [NASA-CASE-XLA-01243] c 33 N71-22792  
 Thermal control panel Patent  
 [NASA-CASE-XLA-07728] c 33 N71-22890  
 Method and apparatus for varying thermal conductivity Patent  
 [NASA-CASE-XNP-05524] c 33 N71-24876  
 Temperature regulation circuit Patent  
 [NASA-CASE-XNP-02792] c 14 N71-28958  
 Automatic control of liquid cooling garment by cutaneous and external auditory meatus temperatures  
 [NASA-CASE-MS-C-13917-1] c 05 N72-15098  
 Method for controlling vapor content of a gas  
 [NASA-CASE-NPO-10633] c 03 N72-28025  
 Atomic hydrogen maser with bulb temperature control to remove wall shift in maser output frequency  
 [NASA-CASE-HQN-10654-1] c 16 N73-13489  
 Pump for delivering heated fluids  
 [NASA-CASE-NPO-11417] c 15 N73-24513  
 Temperature controller for a fluid cooled garment  
 [NASA-CASE-ARC-10599-1] c 05 N73-26071  
 Temperature control system with a pulse width modulated bridge  
 [NASA-CASE-NPO-11304] c 14 N73-26430  
 Thermal control system for a spacecraft modular housing  
 [NASA-CASE-GSC-11018-1] c 31 N73-30829  
 Apparatus for controlling the temperature of balloon-borne equipment  
 [NASA-CASE-GSC-11620-1] c 34 N74-23039  
 Self-regulating proportionally controlled heating apparatus and technique  
 [NASA-CASE-GSC-11752-1] c 77 N75-20140  
 Rocket chamber and method of making  
 [NASA-CASE-LEW-11118-2] c 20 N76-14191  
 Thermostatically controlled non-tracking type solar energy concentrator  
 [NASA-CASE-NPO-13497-1] c 44 N76-14602  
 Multi-chamber controllably heat pipe  
 [NASA-CASE-ARC-10199] c 34 N78-17337  
 Thermal compensator for closed-cycle helium refrigerator --- assuring constant temperature for an infrared laser diode  
 [NASA-CASE-GSC-12168-1] c 31 N79-17029  
 Low heat leak connector for cryogenic system  
 [NASA-CASE-XLE-02367-1] c 31 N79-21225  
 Thermal control canister  
 [NASA-CASE-GSC-12253-1] c 34 N79-31523  
 Automatic thermal switch  
 [NASA-CASE-GSC-12415-1] c 33 N82-24419  
 Automatic thermal switch --- spacecraft applications  
 [NASA-CASE-GSC-12553-1] c 34 N83-28356  
 Magnetic heat pumping  
 [NASA-CASE-LEW-12508-3] c 34 N83-29625  
 Heating and cooling system --- for fatigue test specimens  
 [NASA-CASE-LAR-12393-1] c 34 N83-34221  
 Heat pipe thermal switch  
 [NASA-CASE-GSC-12812-1] c 34 N83-35307  
 Method and apparatus for minimizing convection during crystal growth from solution  
 [NASA-CASE-NPO-15811-1] c 76 N84-12968  
 Thermal control system --- removing waste heat from industrial process spacecraft  
 [NASA-CASE-GSC-12771-1] c 34 N84-14461  
 High temperature acoustic levitator  
 [NASA-CASE-NPO-16022-1] c 71 N85-22105  
 Method and apparatus for growing crystals  
 [NASA-CASE-MFS-28137-1] c 76 N88-24544  
 Capillary heat transport and fluid management device  
 [NASA-CASE-MFS-28217-1] c 34 N89-14392

**TEMPERATURE DISTRIBUTION**

Heat shield oven  
 [NASA-CASE-XMS-04318] c 15 N69-27871  
 Apparatus for supplying conditioned air at a substantially constant temperature and humidity  
 [NASA-CASE-GSC-12191-1] c 31 N80-32583  
 Noncontact temperature pattern measuring device  
 [NASA-CASE-NPO-17024-1-CU] c 35 N88-24943

**TEMPERATURE EFFECTS**

Variable stiffness polymeric damper  
 [NASA-CASE-XAC-11225] c 14 N69-27486  
 Differential pressure cell Patent  
 [NASA-CASE-XAC-00042] c 14 N70-34816  
 Fluid flow control valve Patent  
 [NASA-CASE-XLE-00703] c 15 N71-15967  
 Temperature sensitive flow regulator Patent  
 [NASA-CASE-MFS-14259] c 15 N71-19213

Thermally cycled magnetometer Patent  
 [NASA-CASE-XAC-03740] c 14 N71-26135  
 Radiometric temperature reference Patent  
 [NASA-CASE-MS-C-13276-1] c 14 N71-27058  
 Low temperature cross linking polyimides  
 [NASA-CASE-LEW-12876-2] c 27 N83-29392  
 High performance mixed bisimide resins and composites based thereon  
 [NASA-CASE-ARC-11538-1SB] c 24 N86-21590  
 Poly(carbonate-mide) polymer  
 [NASA-CASE-LAR-13292-1] c 27 N86-24841  
 Process for curing bismaleimide resins  
 [NASA-CASE-ARC-11429-4CU] c 27 N87-15304  
 Method for forming hermetic seals  
 [NASA-CASE-NPO-16423-1-CU] c 37 N87-21334

**TEMPERATURE GRADIENTS**

Differential temperature transducer Patent  
 [NASA-CASE-XAC-00812] c 14 N71-15598  
 Temperature compensated light source using a light emitting diode  
 [NASA-CASE-ARC-10467-1] c 09 N73-14214  
 Method for compression molding of thermosetting plastics utilizing a temperature gradient across the plastic to cure the article  
 [NASA-CASE-LAR-10489-1] c 31 N74-18124  
 Method and apparatus for checking fire detectors  
 [NASA-CASE-GSC-11600-1] c 35 N74-21019  
 Dual laser optical system and method for studying fluid flow  
 [NASA-CASE-MFS-25315-1] c 36 N83-29680  
 Temperature averaging thermal probe  
 [NASA-CASE-GSC-12795-1] c 35 N86-19580  
 High gradient directional solidification furnace  
 [NASA-CASE-MFS-25963-1] c 35 N86-20750

**TEMPERATURE MEASUREMENT**

Motion picture camera for optical pyrometry Patent  
 [NASA-CASE-XLA-00062] c 14 N70-33254  
 Apparatus for measuring thermal conductivity Patent  
 [NASA-CASE-XGS-01052] c 14 N71-15992  
 Thermocouple assembly Patent  
 [NASA-CASE-XNP-01659] c 14 N71-23039  
 Cavity radiometer Patent  
 [NASA-CASE-XNP-08961] c 14 N71-24809  
 Sensing probe  
 [NASA-CASE-LEW-10281-1] c 14 N72-17327  
 Apparatus for sensing temperature  
 [NASA-CASE-XLE-05230] c 14 N72-27410  
 Method of making apparatus for sensing temperature  
 [NASA-CASE-XLE-05230-2] c 14 N73-13417  
 Heat detection and compositions and devices therefor  
 [NASA-CASE-NPO-10764-1] c 14 N73-14428  
 Method of fabricating an article with cavities --- with thin bottom walls  
 [NASA-CASE-LAR-10318-1] c 31 N74-18089  
 Method for determining thermo-physical properties of specimens --- photographic recording of changes in thin film phase-change temperature indicating material in wind tunnel  
 [NASA-CASE-LAR-11053-1] c 25 N74-18551  
 Wind sensor  
 [NASA-CASE-NPO-13462-1] c 35 N76-24524  
 Miniature ingestible telemeter devices to measure deep-body temperature  
 [NASA-CASE-ARC-10583-1] c 52 N76-29894  
 Thermocouple, multiple junction reference oven  
 [NASA-CASE-FRC-10112-1] c 35 N81-26431  
 Multi-channel temperature measurement amplification system --- solar heating systems  
 [NASA-CASE-MFS-23775-1] c 44 N82-16474  
 Solar energy control system --- temperature measurement  
 [NASA-CASE-MFS-25287-1] c 44 N82-18686  
 Method of and apparatus for measuring temperature and pressure --- atmospheric sounding  
 [NASA-CASE-GSC-12558-1] c 36 N85-21639  
 Method of measuring sea surface water temperature with a satellite including wideband passive synthetic-aperture multichannel receiver  
 [NASA-CASE-NPO-15651-1] c 43 N85-21723  
 Method for thermal monitoring subcutaneous tissue  
 [NASA-CASE-LAR-13028-1] c 52 N85-30618  
 Temperature sensitive oscillator  
 [NASA-CASE-GSC-12958-1] c 33 N86-32624  
 Quantitative surface temperature measurement using two-color thermographic phosphors and video equipment  
 [NASA-CASE-LAR-13740-1] c 35 N88-30105

**TEMPERATURE MEASURING INSTRUMENTS**

Excessive temperature warning system Patent  
 [NASA-CASE-XLA-01926] c 14 N71-15620  
 Condition and condition duration indicator Patent  
 [NASA-CASE-XMF-01097] c 10 N71-16058  
 Thermal detector of electromagnetic energy by means of a vibrating electrode Patent  
 [NASA-CASE-XAC-10768] c 09 N71-18830

Method and means for providing an absolute power measurement capability Patent  
 [NASA-CASE-ERC-11020] c 14 N71-26774  
 High intensity radiant energy pulse source having means for opening shutter when light flux has reached a desired level  
 [NASA-CASE-ARC-10178-1] c 09 N72-17152  
 Thermocouple tape  
 [NASA-CASE-LEW-11072-1] c 14 N73-24472  
 Thermocouples of tantalum and rhenium alloys for more stable vacuum-high temperature performance  
 [NASA-CASE-LEW-12050-1] c 35 N77-32454  
 Temperature averaging thermal probe  
 [NASA-CASE-GSC-12795-1] c 35 N86-19580

**TEMPERATURE PROBES**

Temperature-compensating means for cavity resonator of amplifier Patent  
 [NASA-CASE-XNP-00449] c 14 N70-35220  
 Sensing probe  
 [NASA-CASE-LEW-10281-1] c 14 N72-17327  
 Temperature averaging thermal probe  
 [NASA-CASE-GSC-12795-1] c 35 N86-19580

**TEMPERATURE PROFILES**

Exothermic furnace module  
 [NASA-CASE-MFS-25707-1] c 35 N82-26631

**TEMPERATURE SENSORS**

Compensating radiometer  
 [NASA-CASE-XLA-04556] c 14 N69-27484  
 Thermobulb mount Patent  
 [NASA-CASE-NPO-10158] c 33 N71-16356  
 Mount for thermal control system Patent  
 [NASA-CASE-NPO-10138] c 33 N71-16357  
 Heat flux measuring system Patent  
 [NASA-CASE-XFR-03802] c 33 N71-23085  
 Temperature telemetric transmitter Patent  
 [NASA-CASE-NPO-10649] c 07 N71-24840  
 Conically shaped cavity radiometer with a dual purpose cone winding Patent  
 [NASA-CASE-XNP-09701] c 14 N71-26475  
 Thin film capacitive bolometer and temperature sensor Patent  
 [NASA-CASE-NPO-10607] c 09 N71-27232  
 Thin film temperature sensor and method of making same  
 [NASA-CASE-NPO-11775] c 26 N72-28761  
 Heat detection and compositions and devices therefor  
 [NASA-CASE-NPO-10764-2] c 35 N75-25122  
 Optical crystal temperature gauge with fiber optic connections  
 [NASA-CASE-MS-C-18627-1] c 74 N82-30071  
 Temperature sensitive oscillator  
 [NASA-CASE-GSC-12958-1] c 33 N86-32624

**TEMPLATES**

Microcircuit negative cutter  
 [NASA-CASE-XLA-09843] c 15 N72-27485

**TENSILE PROPERTIES**

Tensile film clamps and mounting block for the rheovibron and autovibron viscoelastometer  
 [NASA-CASE-LAR-13696-1] c 37 N89-23880

**TENSILE STRENGTH**

Method of making fiber reinforced metallic composites Patent  
 [NASA-CASE-XLE-00231] c 17 N70-38193  
 Reinforced metallic composites Patent  
 [NASA-CASE-XLE-00228] c 17 N70-38490  
 Apparatus for tensile testing Patent  
 [NASA-CASE-XKS-06250] c 14 N71-15600  
 Method for fiberizing ceramic materials Patent  
 [NASA-CASE-XNP-00597] c 18 N71-23083  
 Tensile strength testing device Patent  
 [NASA-CASE-XNP-05634] c 15 N71-24834  
 Device for use in loading tension members --- characterized by elongated elastic body  
 [NASA-CASE-MFS-21488-1] c 14 N75-24794  
 Method of carbonizing polyacrylonitrile fibers  
 [NASA-CASE-ARC-11261-1] c 24 N83-25789  
 Cryogenic insulation strength and bond tester  
 [NASA-CASE-MFS-25910-1] c 39 N86-20841  
 Polyimides containing carbonyl and ether connecting groups  
 [NASA-CASE-LAR-13633-1] c 27 N87-24575  
 Heat treatment for superalloy  
 [NASA-CASE-LEW-14262-1] c 26 N87-28647

**TENSILE STRESS**

Rocket nozzle test method Patent  
 [NASA-CASE-NPO-10311] c 31 N71-15643  
 Device for measuring tensile forces  
 [NASA-CASE-MFS-21728-1] c 35 N74-27865  
 Solid medium thermal engine  
 [NASA-CASE-ARC-10461-1] c 44 N74-33379

**TENSILE TESTS**

Apparatus for tensile testing Patent  
 [NASA-CASE-XKS-06250] c 14 N71-15600  
 Tension measurement device Patent  
 [NASA-CASE-XMS-04545] c 15 N71-22878

- Tensile strength testing device Patent  
[NASA-CASE-XNP-05634] c 15 N71-24834
- Apparatus for remote measurement of displacement of marks on a specimen undergoing a tensile test  
[NASA-CASE-NPO-10778] c 14 N72-11364
- Anti-buckling fatigue test assembly --- for subjecting metal specimen to tensile and compressive loads at constant temperature  
[NASA-CASE-LAR-10426-1] c 09 N74-19528
- Method and apparatus for tensile testing of metal foil  
[NASA-CASE-LAR-10208-1] c 35 N76-18400
- Device for tensioning test specimens within an hermetically sealed chamber  
[NASA-CASE-MFS-23281-1] c 35 N77-22450
- Method and apparatus for gripping uniaxial fibrous composite materials  
[NASA-CASE-LEW-13758-1] c 24 N84-27829
- Tensile testing apparatus  
[NASA-CASE-LAR-13243-1] c 35 N85-34375
- Fatigue testing a plurality of test specimens and method  
[NASA-CASE-MFS-28118-1] c 39 N87-25601
- Device for measuring hole elongation in a bolted joint  
[NASA-CASE-LAR-13453-1] c 37 N88-14361
- Bearing-bypass material system test  
[NASA-CASE-LAR-13458-1] c 35 N88-23967
- Furnace for tensile/fatigue testing  
[NASA-CASE-LEW-14848-1] c 14 N89-28549
- TENSION**
- Meter for use in detecting tension in straps having predetermined elastic characteristics  
[NASA-CASE-MFS-22189-1] c 35 N75-19615
- TERMINAL GUIDANCE**
- Energy management system for glider type vehicle Patent  
[NASA-CASE-XFR-00756] c 02 N71-13421
- Terminal guidance system --- for guiding aircraft into preselected altitude and/or heading at terminal point  
[NASA-CASE-FRC-10049-1] c 04 N74-13420
- Terminal guidance sensor system --- space shuttle coupling to orbiting satellites  
[NASA-CASE-NPO-14521-1] c 37 N81-27519
- TERNARY SYSTEMS**
- Nicral ternary alloy having improved cyclic oxidation resistance  
[NASA-CASE-LEW-13339-1] c 26 N82-31505
- Liquid encapsulated crystal growth  
[NASA-CASE-NPO-16808-1-CU] c 76 N87-25868
- TERRAIN**
- Landing gear Patent  
[NASA-CASE-XMF-01174] c 02 N70-41589
- TERRAIN ANALYSIS**
- Surface roughness measuring system --- synthetic aperture radar measurements of ocean wave height and terrain peaks  
[NASA-CASE-NPO-13862-1] c 35 N79-10391
- Method for observing the features characterizing the surface of a land mass  
[NASA-CASE-FRC-11013-1] c 43 N81-17499
- TEST CHAMBERS**
- Exposure system for animals Patent  
[NASA-CASE-XAC-05333] c 11 N71-22875
- Multiple environment materials test chamber having a multiple port X-ray tube for irradiating a plurality of samples Patent  
[NASA-CASE-XMS-02930] c 11 N71-23042
- Flammability test chamber Patent  
[NASA-CASE-KSC-10126] c 11 N71-24985
- Pressure seal Patent  
[NASA-CASE-NPO-10796] c 15 N71-27068
- Autoignition test cell Patent  
[NASA-CASE-KSC-10198] c 11 N71-28629
- Orifice gross leak tester Patent  
[NASA-CASE-ERC-10150] c 14 N71-28992
- Method for measuring biaxial stress in a body subjected to stress inducing loads  
[NASA-CASE-MFS-23299-1] c 39 N77-28511
- Device and method for frictionally testing materials for ignitability  
[NASA-CASE-MS-C-20622-1] c 25 N86-19413
- TEST EQUIPMENT**
- Dynamic Doppler simulator Patent  
[NASA-CASE-XMS-05454-1] c 07 N71-12391
- Apparatus for tensile testing Patent  
[NASA-CASE-XKS-06250] c 14 N71-15600
- Black-body furnace Patent  
[NASA-CASE-XLE-01399] c 33 N71-15625
- Thermocouple assembly Patent  
[NASA-CASE-XNP-01659] c 14 N71-23039
- Automatic fatigue test temperature programmer Patent  
[NASA-CASE-XLA-02059] c 33 N71-24276
- Pulse rise time and amplitude detector Patent  
[NASA-CASE-XMF-08804] c 09 N71-24717
- Resilience testing device Patent  
[NASA-CASE-XLA-08254] c 14 N71-26161
- Validation device for spacecraft checkout equipment Patent  
[NASA-CASE-XKS-10543] c 07 N71-26292
- Apparatus for testing wiring harness by vibration generating means  
[NASA-CASE-MS-C-15158-1] c 14 N72-17325
- Atmospheric sampling devices  
[NASA-CASE-NPO-11373] c 13 N72-25323
- Burn rate testing apparatus  
[NASA-CASE-XMS-09690] c 33 N72-25913
- Linear explosive comparison  
[NASA-CASE-LAR-10800-1] c 33 N72-27959
- Apparatus for vibrational testing of articles  
[NASA-CASE-GSC-11302-1] c 14 N73-13416
- Test stand system for vacuum chambers  
[NASA-CASE-MFS-21362] c 11 N73-20267
- Rocket borne instrument to measure electric fields inside electrified clouds  
[NASA-CASE-KSC-10730-1] c 14 N73-32318
- Compression test assembly  
[NASA-CASE-LAR-10440-1] c 14 N73-32323
- Wind tunnel model and method  
[NASA-CASE-LAR-10812-1] c 09 N74-17955
- Anti-buckling fatigue test assembly --- for subjecting metal specimen to tensile and compressive loads at constant temperature  
[NASA-CASE-LAR-10426-1] c 09 N74-19528
- Method and apparatus for checking fire detectors  
[NASA-CASE-GSC-11600-1] c 35 N74-21019
- Battery testing device --- for testing cells of multiple-cell battery  
[NASA-CASE-MFS-20761-1] c 44 N74-27519
- Signal conditioner test set  
[NASA-CASE-KSC-10750-1] c 35 N75-12270
- Particulate and aerosol detector  
[NASA-CASE-LAR-11434-1] c 35 N76-22509
- High temperature strain gage calibration fixture  
[NASA-CASE-LAR-11500-1] c 35 N76-24523
- Method of and means for testing a tape record/playback system  
[NASA-CASE-MFS-22671-2] c 35 N77-17426
- Method of and means for testing a glancing-incidence mirror system of an X-ray telescope  
[NASA-CASE-MFS-22409-2] c 74 N78-15880
- TEST FACILITIES**
- Electric propulsion engine test chamber Patent  
[NASA-CASE-XLE-00252] c 11 N70-34844
- High temperature testing apparatus Patent  
[NASA-CASE-XLE-00335] c 14 N70-35368
- Gas analyzer for bi-gaseous mixtures Patent  
[NASA-CASE-XLA-01131] c 14 N71-10774
- Model launcher for wind tunnels Patent  
[NASA-CASE-XNP-03578] c 11 N71-23030
- Shock tube bypass piston tunnel  
[NASA-CASE-NPO-12109] c 11 N72-22245
- TEST STANDS**
- Automatic balancing device Patent  
[NASA-CASE-LAR-10774] c 10 N71-13545
- Micro-pound extended range thrust stand Patent  
[NASA-CASE-GSC-10710-1] c 28 N71-27094
- Device for quick changeover between wind tunnel force and pressure testing  
[NASA-CASE-LAR-13512-1] c 35 N87-28884
- TEST VEHICLES**
- Longwall shearer tracking system  
[NASA-CASE-XNP-25717-1] c 35 N84-33768
- TETHERED SATELLITES**
- Tetherline system for orbiting satellites  
[NASA-CASE-MFS-23564-1] c 15 N78-25119
- TETHERING**
- Cable arrangement for rigid tethering Patent  
[NASA-CASE-XLA-02332] c 32 N71-17609
- Inflatable tether Patent  
[NASA-CASE-XMS-10993] c 15 N71-28936
- TETHERLINES**
- Flexible/rigidifiable cable assembly  
[NASA-CASE-MS-C-13512-1] c 15 N72-22485
- Tetherline system for orbiting satellites  
[NASA-CASE-MFS-23564-1] c 15 N78-25119
- Non-backdrivable free wheeling coupling  
[NASA-CASE-MS-C-20475-1] c 37 N87-17037
- TETRAETHYL ORTHOSILICATE**
- Densification of porous refractory substrates --- space shuttle orbiter tiles  
[NASA-CASE-MS-C-18737-1] c 24 N83-13171
- Method of repairing surface damage to porous refractory substrates --- space shuttle orbiter tiles  
[NASA-CASE-MS-C-18736-1] c 24 N83-13172
- TETRAPHENYLS**
- Metal containing polymers from cyclic tetrameric phenylphosphonitrimides Patent  
[NASA-CASE-HQN-10364] c 06 N71-27363
- TEXTILES**
- Non-flammable elastomeric fiber from a fluorinated elastomer and containing an halogenated flame retardant  
[NASA-CASE-MS-C-14331-1] c 27 N76-24405
- TEXTS**
- Braille reading system  
[NASA-CASE-LAR-13306-1] c 82 N87-29372
- TEXTURES**
- Modification of the electrical and optical properties of polymers --- ion irradiation to create texture  
[NASA-CASE-LEW-13027-1] c 27 N80-24437
- Texturing polymer surfaces by transfer casting --- cardiovascular prosthesis  
[NASA-CASE-LEW-13120-1] c 27 N82-28440
- Surface texturing of fluoropolymers  
[NASA-CASE-LEW-13028-1] c 27 N82-33521
- Ion sputter textured graphite --- anode collector plates in electron tube devices  
[NASA-CASE-LEW-12919-1] c 24 N83-10117
- THERAPY**
- Hyperthermia heating apparatus --- cancer therapy  
[NASA-CASE-NPO-14549-2] c 52 N82-33996
- THERMAL ABSORPTION**
- Constant temperature heat sink for calorimeters Patent  
[NASA-CASE-XMF-04208] c 33 N71-29051
- Solar pond  
[NASA-CASE-NPO-13581-2] c 44 N78-31525
- THERMAL ANALYSIS**
- Thermal remote anemometer system  
[NASA-CASE-LAR-13508-1] c 35 N88-23962
- THERMAL COMFORT**
- Thermal garment  
[NASA-CASE-XMS-03694-1] c 54 N82-29002
- THERMAL CONDUCTIVITY**
- Enthalpy and stagnation temperature determination of a high temperature laminar flow gas stream Patent  
[NASA-CASE-XLE-00266] c 14 N70-34156
- Apparatus for measuring thermal conductivity Patent  
[NASA-CASE-XGS-01052] c 14 N71-15992
- Heated element fluid flow sensor Patent  
[NASA-CASE-MS-C-12084-1] c 12 N71-17569
- Method and apparatus for varying thermal conductivity  
[NASA-CASE-XNP-05524] c 33 N71-24876
- Thermally conductive polymers  
[NASA-CASE-GSC-11304-1] c 06 N72-21105
- Electrostatically controlled heat shutter  
[NASA-CASE-NPO-11942-1] c 33 N73-32818
- Thermal barrier coating system  
[NASA-CASE-LEW-12554-1] c 34 N78-18355
- Support assembly for cryogenically coolable low-noise choke waveguide  
[NASA-CASE-NPO-14253-1] c 32 N80-32605
- Automatic thermal switch --- spacecraft applications  
[NASA-CASE-GSC-12553-1] c 34 N83-28356
- Hazards protection for space suits and spacecraft  
[NASA-CASE-MS-C-21366-1] c 54 N89-12206
- THERMAL CONDUCTORS**
- Thermal conductive connection and method of making same Patent  
[NASA-CASE-XMS-02087] c 09 N70-41717
- Solar energy absorber  
[NASA-CASE-MFS-22743-1] c 44 N76-22657
- THERMAL CONTROL COATINGS**
- Thermal control coating Patent  
[NASA-CASE-XLA-01995] c 18 N71-23047
- Stabilized zinc oxide coating compositions Patent  
[NASA-CASE-XMF-07770-2] c 18 N71-26772
- Inorganic thermal control coatings  
[NASA-CASE-MFS-20011] c 18 N72-22566
- Polymeric vehicles as carriers for sulfonic acid salt of nitrosubstituted aromatic amines  
[NASA-CASE-ARC-10325] c 06 N72-25147
- Refractory porcelain enamel passive control coating for high temperature alloys  
[NASA-CASE-MFS-22324-1] c 27 N75-27160
- Particulate and solar radiation stable coating for spacecraft  
[NASA-CASE-LAR-10805-2] c 34 N77-18382
- Method of preparing zinc orthotitanate pigment  
[NASA-CASE-MFS-23345-1] c 27 N78-27180
- Intumescent coatings containing 4,4'-dinitrosulfanilide  
[NASA-CASE-ARC-11042-1] c 24 N78-14096
- Thermal barrier coating system  
[NASA-CASE-LEW-12554-1] c 34 N78-18355
- High temperature resistant cermet and ceramic compositions --- for thermal resistant insulators and refractory coatings  
[NASA-CASE-NPO-13690-1] c 27 N78-19302
- Intumescent-abiator coatings using endothermic fillers  
[NASA-CASE-ARC-11043-1] c 24 N78-27180
- Lightweight electrically-powered flexible thermal laminate --- made of metal and nonconductive yarns  
[NASA-CASE-MS-C-12662-1] c 33 N79-12331

- Electrically conductive thermal control coatings  
[NASA-CASE-GSC-1207-1] c 24 N79-14156  
High temperature glass thermal control structure and coating --- for application to spacecraft reusable heat shielding  
[NASA-CASE-ARC-11164-1] c 44 N83-34448  
Variable anodic thermal control coating  
[NASA-CASE-LAR-12719-1] c 44 N83-34449

**THERMAL DEGRADATION**

- Protection for energy conversion systems  
[NASA-CASE-XGS-04808] c 03 N69-25146  
Electrical apparatus for detection of thermal decomposition of insulation Patent  
[NASA-CASE-XMF-03968] c 14 N71-27186

**THERMAL DIFFUSIVITY**

- Double-beam optical method and apparatus for measuring thermal diffusivity and other molecular dynamic processes in utilizing the transient thermal lens effect  
[NASA-CASE-NPO-14657-1] c 74 N81-17887

**THERMAL EMISSION**

- Electromagnetic radiation energy arrangement --- coatings for solar energy absorption and infrared reflection  
[NASA-CASE-WOO-00428-1] c 32 N79-19186  
Continuous laminar smoke generator  
[NASA-CASE-LAR-13014-1] c 09 N85-21178  
Arc-textured high emittance radiator surfaces  
[NASA-CASE-LEW-14679-1] c 27 N89-28651

**THERMAL ENERGY**

- Energy conversion apparatus Patent  
[NASA-CASE-XLE-00212] c 03 N70-34134  
Device for directionally controlling electromagnetic radiation Patent  
[NASA-CASE-XLE-01716] c 09 N70-40234  
Thermally activated foaming compositions Patent  
[NASA-CASE-LAR-10373-1] c 18 N71-26155  
Gas core nuclear reactor Patent  
[NASA-CASE-LEW-10250-1] c 22 N71-28759  
Electrostatically controlled heat shutter  
[NASA-CASE-NPO-11942-1] c 33 N73-32818  
Solid medium thermal engine  
[NASA-CASE-ARC-10461-1] c 44 N74-33379  
Panel for selectively absorbing solar thermal energy and the method of producing said panel  
[NASA-CASE-MFS-22562-1] c 44 N76-14595  
Thermal energy storage system --- operating on superheating of liquids  
[NASA-CASE-MFS-23167-1] c 44 N76-31667  
Low to high temperature energy conversion system  
[NASA-CASE-NPO-13510-1] c 44 N77-32581  
Thermal energy transformer  
[NASA-CASE-NPO-14058-1] c 44 N79-18443  
Apparatus for improving the fuel efficiency of a gas turbine engine  
[NASA-CASE-LEW-13142-1] c 07 N83-36029  
Method for improving the fuel efficiency of a gas turbine engine  
[NASA-CASE-LEW-13142-2] c 07 N86-20389

**THERMAL EXPANSION**

- Thermally operated valve Patent  
[NASA-CASE-XLE-00815] c 15 N70-35407  
Adjustable mount for a trihedral mirror Patent  
[NASA-CASE-XNP-08907] c 23 N71-29123  
Thermal motor  
[NASA-CASE-NPO-11283] c 09 N72-25260  
Glass-to-metal seals comprising relatively high expansion metals  
[NASA-CASE-LEW-10698-1] c 37 N74-21063  
Daze fasteners  
[NASA-CASE-LAR-13009-1] c 37 N85-29285  
High effectiveness contour matching contact heat exchanger  
[NASA-CASE-MSC-20840-1] c 34 N88-29132

**THERMAL FATIGUE**

- Automatic fatigue test temperature programmer Patent  
[NASA-CASE-XLA-02059] c 33 N71-24276

**THERMAL INSULATION**

- Piping arrangement through a double chamber structure  
[NASA-CASE-XNP-08882] c 15 N69-39935  
Insulating structure Patent  
[NASA-CASE-XMF-00341] c 15 N70-33323  
Unfired-ceramic flame-resistant insulation and method of making the same Patent  
[NASA-CASE-XMF-01030] c 18 N70-41583  
Techniques for insulating cryogenic fuel containers Patent  
[NASA-CASE-XLA-01967] c 31 N70-42015  
Lightweight refractory insulation and method of preparing the same Patent  
[NASA-CASE-XMF-05279] c 18 N71-16124  
Heat protection apparatus Patent  
[NASA-CASE-XLA-00892] c 33 N71-17897  
Cryogenic insulation system Patent  
[NASA-CASE-XLE-04222] c 23 N71-22881

- Insulation system Patent  
[NASA-CASE-XLE-02647] c 18 N71-23658  
Filament wound container Patent  
[NASA-CASE-XLE-03803] c 15 N71-23816  
Panelized high performance multilayer insulation Patent  
[NASA-CASE-MFS-14023] c 33 N71-25351  
Isothermal cover with thermal reservoirs Patent  
[NASA-CASE-MFS-20355] c 33 N71-25353  
Fabric for micrometeoroid protection garment Patent  
[NASA-CASE-MSC-12109] c 18 N71-26285  
Thickness measuring and injection device Patent  
[NASA-CASE-MFS-20261] c 14 N71-27005  
Cryogenic thermal insulation Patent  
[NASA-CASE-XMF-05046] c 33 N71-28892  
Intumescent composition, foamed product prepared therewith, and process for making same  
[NASA-CASE-ARC-10304-1] c 18 N73-26572  
Thermal control system for a spacecraft modular housing  
[NASA-CASE-GSC-11018-1] c 31 N73-30829  
Heater-mixer for stored fluids  
[NASA-CASE-ARC-10442-1] c 35 N74-15093  
Intumescent composition, foamed product prepared therewith and process for making same  
[NASA-CASE-ARC-10304-2] c 27 N74-27037  
High current electrical lead --- for thermionic converters  
[NASA-CASE-LEW-10950-1] c 33 N74-27683  
Structural heat pipe --- for spacecraft wall thermal insulation system  
[NASA-CASE-GSC-11619-1] c 34 N75-12222  
Strain arrestor plate for fused silica tile --- bonding of thermal insulation to metallic plates or structural parts  
[NASA-CASE-MSC-14182-1] c 27 N76-14264  
Auger attachment method for insulation --- of spacecraft  
[NASA-CASE-MSC-12615-1] c 37 N76-19437  
Flexible pile thermal barrier insulator  
[NASA-CASE-MSC-19568-1] c 34 N78-25350  
Thermal insulation attaching means --- adhesive bonding of felt vibration insulators under ceramic tiles  
[NASA-CASE-MSC-12619-2] c 27 N79-12221  
Fibrous refractory composite insulation --- shielding reusable spacecraft  
[NASA-CASE-ARC-11169-1] c 24 N79-24062  
Thermal insulation protection means  
[NASA-CASE-MSC-12737-1] c 24 N79-25142  
Installing fiber insulation  
[NASA-CASE-MSC-16973-1] c 37 N81-14317  
Process for the preparation of polycarbonylphosphazenes --- thermal insulation  
[NASA-CASE-ARC-11176-2] c 27 N81-27271  
Carbonylphosphazenes and their polymers --- thermal insulation  
[NASA-CASE-ARC-11176-1] c 27 N82-18389  
A method and technique for installing light-weight fragile, high-temperature fiber insulation  
[NASA-CASE-MSC-18934-3] c 24 N82-26387  
Thermal garment  
[NASA-CASE-XMS-03694-1] c 54 N82-29002  
Method and technique for installing light-weight, fragile, high-temperature fiber insulation  
[NASA-CASE-MSC-16934-3] c 24 N84-16262  
Insulation bonding test system  
[NASA-CASE-MFS-25862-1] c 27 N85-20126  
Cryogenic insulation strength and bond tester  
[NASA-CASE-MFS-25910-1] c 39 N86-20841  
Ceramic-ceramic shell tile thermal protection system and method thereof  
[NASA-CASE-ARC-11641-1] c 24 N88-18628  
Lightweight ceramic insulation and method  
[NASA-CASE-MSC-20782-1] c 27 N89-13620

**THERMAL MAPPING**

- Noncontact temperature pattern measuring device  
[NASA-CASE-NPO-17024-1-CU] c 35 N88-24943

**THERMAL PLASMAS**

- Continuous plasma light source  
[NASA-CASE-XNP-04167-2] c 25 N72-24753

**THERMAL PROTECTION**

- Thermo-protective device for balances Patent  
[NASA-CASE-XAC-00648] c 14 N70-40400  
Ablation structures Patent  
[NASA-CASE-XMS-01816] c 33 N71-15623  
Spacecraft radiator cover Patent  
[NASA-CASE-MSC-12049] c 31 N71-16080  
Foamed in place ceramic refractory insulating material Patent  
[NASA-CASE-XGS-02435] c 18 N71-22998  
Ceramic insulation for radiant heating environments and method of preparing the same Patent  
[NASA-CASE-MFS-14253] c 33 N71-24858  
Solid state thermal control polymer coating Patent  
[NASA-CASE-XLA-01745] c 33 N71-28903

- Temperature reducing coating for metals subject to flame exposure Patent  
[NASA-CASE-XLE-00035] c 33 N71-29151  
Stand-off type ablative heat shield  
[NASA-CASE-MSC-12143-1] c 33 N72-17947  
Flexible fire retardant polyisocyanate modified neoprene foam --- for thermal protective devices  
[NASA-CASE-ARC-10180-1] c 27 N74-12814  
Adjustable securing base  
[NASA-CASE-MSC-19666-1] c 37 N78-17363  
Reaction cured glass and glass coatings  
[NASA-CASE-ARC-11051-1] c 27 N78-32260  
Corrosion resistant thermal barrier coating --- protecting gas turbines and other engine parts  
[NASA-CASE-LEW-13088-1] c 26 N81-25188  
Attachment system for silica tiles --- thermal protection for space shuttle orbiter  
[NASA-CASE-MSC-18741-1] c 27 N82-29456  
Multiwall thermal protection system  
[NASA-CASE-LAR-12620-1] c 24 N82-32417  
High temperature silicon carbide impregnated insulating fabrics  
[NASA-CASE-MSC-18832-1] c 27 N83-18908  
Silicon-slurry/aluminide coating --- protecting gas turbine engine vanes and blades  
[NASA-CASE-LEW-13343] c 26 N83-31795  
Thermal barrier coating system having improved adhesion  
[NASA-CASE-LEW-1335901] c 27 N83-31855  
Covering solid, film cooled surfaces with a duplex thermal barrier coating  
[NASA-CASE-LEW-13450-1] c 31 N83-35177  
Pre-stressed thermal protection systems  
[NASA-CASE-MSC-20254-1] c 16 N84-22601  
Shell tile thermal protection system  
[NASA-CASE-LAR-12862-1] c 27 N84-27886  
Propulsion apparatus and method using boil-off gas from a cryogenic liquid  
[NASA-CASE-MFS-25946-1] c 20 N86-26368  
Process for preparing essentially colorless polyimide film containing phenoxy-linked diamines  
[NASA-CASE-LAR-13353-1] c 27 N86-29039  
Process for preparing highly optically transparent/colorless aromatic polyimide film  
[NASA-CASE-LAR-13351-1] c 27 N86-31727  
Thermal stress minimized, two component, turbine shroud seal  
[NASA-CASE-LEW-14212-1] c 37 N88-23978

**THERMAL RADIATION**

- Compensating radiometer  
[NASA-CASE-XLA-04556] c 14 N69-27464  
Temperature sensitive capacitor device  
[NASA-CASE-XNP-09750] c 14 N69-39967  
High temperature heat source Patent  
[NASA-CASE-XLE-00490] c 33 N70-34545  
Thermal radiation shielding Patent  
[NASA-CASE-XLE-03432] c 33 N71-24145  
Cavity radiometer Patent  
[NASA-CASE-XNP-08961] c 14 N71-24809  
Method and construction for protecting heat sensitive bodies from thermal radiation and convective heat Patent  
[NASA-CASE-XNP-01310] c 33 N71-28852  
Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NAS 1.71:NPO-15494-2] c 35 N85-34373

**THERMAL REACTORS**

- Non-equilibrium radiation nuclear reactor  
[NASA-CASE-HQN-10841-1] c 73 N78-19920

**THERMAL RESISTANCE**

- Diode and protection fuse unit Patent  
[NASA-CASE-XKS-03381] c 09 N71-22796  
Polyimide foam for the thermal insulation and fire protection  
[NASA-CASE-ARC-10464-1] c 27 N74-12812  
Dual measurement ablation sensor  
[NASA-CASE-LAR-10105-1] c 34 N74-15652  
Self-regulating proportionally controlled heating apparatus and technique  
[NASA-CASE-GSC-11752-1] c 77 N75-20140  
Heat resistant polymers of oxidized styrylphosphine  
[NASA-CASE-MSC-14903-1] c 27 N78-32256  
Ambient cure polyimide foams --- thermal resistant foams  
[NASA-CASE-ARC-11170-1] c 27 N79-11215  
The 1,2,4-oxadiazole elastomers --- heat resistant polymers  
[NASA-CASE-ARC-11253-1] c 27 N81-17262  
Surface conforming thermal/pressure seal --- tail assemblies of space shuttle orbiters  
[NASA-CASE-MSC-18422-1] c 37 N82-16408  
Heat resistant protective hand covering  
[NASA-CASE-MSC-20261-2] c 54 N84-23113  
Heat resistant protective hand covering  
[NASA-CASE-MSC-20261-1] c 54 N84-28484

- Thermal barrier coating system  
[NASA-CASE-LEW-13324-2] c 24 N85-21266
- High temperature polyimide film laminates and process for preparation thereof  
[NASA-CASE-LAR-13384-1] c 27 N86-20561
- Fire resistant polyamide based on 1-(diorganooxyphosphonyl)methyl-2,4- and -2,6-diamino benzene  
[NASA-CASE-ARC-11512-2] c 27 N86-32568
- Fire and heat resistant laminating resins based on maleimido substituted aromatic cyclotriphosphazene polymer  
[NASA-CASE-ARC-11428-2] c 27 N87-16909
- Fire and heat resistant laminating resins based on maleimido and citraconimido substituted 1-2,4- and -2,6-diaminobenzenes  
[NASA-CASE-ARC-11533-1] c 27 N87-23751
- Method of making a flexible diaphragm  
[NASA-CASE-MSC-20797-1] c 37 N87-23981
- Fire and heat resistant laminating resins based on maleimido and citraconimido substituted 1-(diorgano oxyphosphonyl) methyl -2,4- and -2,6-diaminobenzenes  
[NASA-CASE-ARC-11533-3] c 27 N87-24564
- Fire and heat resistant laminating resin based on maleimido and citraconimido substituted 1-(diorganooxyphosphonyl-methyl)-2,4- and -2,6-diaminobenzenes  
[NASA-CASE-ARC-11533-2] c 27 N89-16042
- THERMAL SHOCK**  
Thermal shock apparatus Patent  
[NASA-CASE-XLE-02024] c 14 N71-22964
- Thermal shock resistant hafnia ceramic material  
[NASA-CASE-LAR-10894-1] c 18 N73-14584
- Thermal shock and erosion resistant tantalum carbide ceramic material  
[NASA-CASE-LAR-11902-1] c 27 N78-17206
- Laser surface fusion of plasma sprayed ceramic turbine seals  
[NASA-CASE-LEW-13269-1] c 18 N83-20996
- THERMAL SIMULATION**  
Thermopile vacuum gage tube simulator Patent  
[NASA-CASE-XLA-02758] c 14 N71-18481
- THERMAL STABILITY**  
Bonded solid lubricant coating Patent  
[NASA-CASE-XMS-00259] c 18 N70-36400
- Portable environmental control system Patent  
[NASA-CASE-XMS-09632-1] c 05 N71-11203
- Metal containing polymers from cyclic tetrameric phenylphosphonitridamides Patent  
[NASA-CASE-HQN-10364] c 06 N71-27363
- Method of making a cermet Patent  
[NASA-CASE-LEW-10219-1] c 18 N71-28729
- Ultraviolet and thermally stable polymer compositions  
[NASA-CASE-ARC-10592-1] c 27 N74-21156
- Ultraviolet and thermally stable polymer compositions  
[NASA-CASE-ARC-10592-2] c 27 N76-32315
- Sound-suppressing structure with thermal relief  
[NASA-CASE-LEW-12658-1] c 71 N79-14871
- Infusible silazane polymer and process for producing same --- protective coatings  
[NASA-CASE-XMF-02526-1] c 27 N79-21190
- Catalytic trimerization of aromatic nitriles and triaryl-s-triazine ring cross-linked high temperature resistant polymers and copolymers made thereby  
[NASA-CASE-LEW-12053-2] c 27 N79-28307
- Aluminum ion-containing polyimide adhesives  
[NASA-CASE-LAR-12640-1] c 27 N82-11206
- Low temperature cross linking polyimides  
[NASA-CASE-LEW-12876-2] c 27 N83-29392
- Metal phthalocyanine polymers  
[NASA-CASE-ARC-11405-1] c 27 N84-27884
- High temperature resistant polyimide from tetra ester, diamine, diester and N-arylnadimide  
[NASA-CASE-LEW-13864-1] c 27 N86-19457
- Ethynyl and substituted ethynyl-terminated polysulfones  
[NASA-CASE-LAR-12931-2] c 27 N86-21675
- Sulfone-ester polymers containing pendent ethynyl groups  
[NASA-CASE-LAR-13316-1] c 27 N86-27450
- THERMAL STRESSES**  
Strain gage Patent Application  
[NASA-CASE-FRC-10053] c 14 N70-35587
- Multilegged support system Patent  
[NASA-CASE-XLA-01326] c 11 N71-21481
- Low cycle fatigue testing machine  
[NASA-CASE-LAR-10270-1] c 32 N72-25877
- Apparatus and method for reducing thermal stress in a turbine rotor  
[NASA-CASE-LEW-12232-1] c 07 N79-10057
- Method for alleviating thermal stress damage in laminates --- metal matrix composites  
[NASA-CASE-LEW-12493-1] c 24 N81-17170
- Method for alleviating thermal stress damage in laminates  
[NASA-CASE-LEW-12493-2] c 24 N81-26179
- Fully plasma-sprayed compliant backed ceramic turbine seal  
[NASA-CASE-LEW-13268-2] c 37 N82-26674
- Daze fasteners  
[NASA-CASE-LAR-13009-1] c 37 N85-29285
- Thermal stress minimized, two component, turbine shroud seal  
[NASA-CASE-LEW-14212-1] c 37 N88-23978
- THERMIONIC CATHODES**  
Cavity emitter for thermionic converter Patent  
[NASA-CASE-NPO-10412] c 09 N71-28421
- THERMIONIC CONVERTERS**  
Triode thermionic energy converter  
[NASA-CASE-XLE-01015] c 03 N69-39898
- Thermionic converter with current augmented by self induced magnetic field Patent  
[NASA-CASE-XLE-01903] c 22 N71-23599
- Cavity emitter for thermionic converter Patent  
[NASA-CASE-NPO-10412] c 09 N71-28421
- Solar cell Patent  
[NASA-CASE-ARC-10050] c 03 N71-33409
- Uninsulated in-core thermionic diode  
[NASA-CASE-NPO-10542] c 09 N72-27228
- High current electrical lead --- for thermionic converters  
[NASA-CASE-LEW-10950-1] c 33 N74-27683
- Electric power generation system directory from laser power  
[NASA-CASE-NPO-13308-1] c 36 N75-30524
- Nuclear thermionic converter --- tungsten-thorium oxide rods  
[NASA-CASE-NPO-13121-1] c 73 N77-18891
- High thermal power density heat transfer --- thermionic converters  
[NASA-CASE-LEW-12950-1] c 34 N82-11399
- Thermionic energy converters  
[NASA-CASE-LEW-12443-1] c 44 N83-32175
- THERMIONIC DIODES**  
Heat pipe thermionic diode power system Patent  
[NASA-CASE-XMF-05843] c 03 N71-11055
- Thermionic diode switch Patent  
[NASA-CASE-NPO-10404] c 03 N71-12255
- Micro current measuring device using plural logarithmic response heated filamentary type diodes Patent  
[NASA-CASE-XNP-00384] c 09 N71-13530
- Power system with heat pipe liquid coolant lines Patent  
[NASA-CASE-MFS-14114] c 33 N71-27862
- Uninsulated in-core thermionic diode  
[NASA-CASE-NPO-10542] c 09 N72-27228
- THERMIONIC EMITTERS**  
Thermionic tantalum emitter doped with oxygen Patent Application  
[NASA-CASE-NPO-11138] c 03 N70-34646
- THERMIONIC POWER GENERATION**  
Control for nuclear thermionic power source  
[NASA-CASE-NPO-13114-2] c 73 N78-28913
- High thermal power density heat transfer apparatus providing electrical isolation at high temperature using heat pipes  
[NASA-CASE-LEW-12950-2] c 34 N85-29179
- Thermionic photovoltaic energy converter  
[NASA-CASE-LEW-14077-1] c 44 N85-34441
- THERMISTORS**  
Matched thermistors for microwave power meters Patent  
[NASA-CASE-NPO-10348] c 10 N71-12554
- Thermistor holder for skin temperature measurements  
[NASA-CASE-ARC-10855-1] c 52 N77-10780
- Wedge immersed thermistor bolometers  
[NASA-CASE-XGS-01245-1] c 35 N79-33449
- THERMOCHEMISTRY**  
Thermochemical generation of hydrogen  
[NASA-CASE-NPO-15015-1] c 25 N82-28368
- THERMOCHROMATIC MATERIALS**  
Heat detection and compositions and devices therefor  
[NASA-CASE-NPO-10764-1] c 14 N73-14428
- Heat detection and compositions and devices therefor  
[NASA-CASE-NPO-10764-2] c 35 N75-25122
- THERMOCOUPLE PYROMETERS**  
Dual measurement ablation sensor  
[NASA-CASE-LAR-10105-1] c 34 N74-15652
- THERMOCOUPLES**  
Heat flux sensor assembly  
[NASA-CASE-XMS-05909-1] c 14 N69-27459
- Gas cooled high temperature thermocouple Patent  
[NASA-CASE-XLE-09475-1] c 33 N71-15568
- Weld control system using thermocouple wire Patent  
[NASA-CASE-MFS-06074] c 15 N71-20393
- Heat sensing instrument Patent  
[NASA-CASE-XLA-01551] c 14 N71-22989
- Thermocouple assembly Patent  
[NASA-CASE-XNP-01659] c 14 N71-23039
- Fluid phase analyzer Patent  
[NASA-CASE-NPO-10691] c 14 N71-26199
- Apparatus for sensing temperature  
[NASA-CASE-XLE-05230] c 14 N72-27410
- Method of making apparatus for sensing temperature  
[NASA-CASE-XLE-05230-2] c 14 N73-13417
- Butt welder for fine gauge tungsten/rhenium thermocouple wire  
[NASA-CASE-LAR-10103-1] c 15 N73-14468
- Thermocouple tape  
[NASA-CASE-LEW-11072-1] c 14 N73-24472
- Thermocouple tape --- developed from thermoelectrically different metals  
[NASA-CASE-LEW-11072-2] c 35 N76-15434
- Thermocouple installation  
[NASA-CASE-NPO-13540-1] c 35 N77-14409
- Thermocouples of tantalum and rhenium alloys for more stable vacuum-high temperature performance  
[NASA-CASE-LEW-12050-1] c 35 N77-32454
- Thermocouples of molybdenum and iridium alloys for more stable vacuum-high temperature performance  
[NASA-CASE-LEW-12174-2] c 35 N79-14346
- Thermocouple, multiple junction reference oven  
[NASA-CASE-FRC-10112-1] c 35 N81-26431
- Solar energy control system --- temperature measurement  
[NASA-CASE-MFS-25287-1] c 44 N82-18686
- Joining lead wires to thin platinum alloy films  
[NASA-CASE-LEW-13934-1] c 35 N83-35338
- Thermocouple for heating and cooling of memory metal actuators  
[NASA-CASE-NPO-17068-1-CU] c 35 N88-29151
- THERMODYNAMIC CYCLES**  
Solar engine  
[NASA-CASE-LAR-12148-1] c 44 N82-24640
- THERMODYNAMIC EFFICIENCY**  
Automatic compression adjusting mechanism for internal combustion engines  
[NASA-CASE-MSC-18807-1] c 37 N83-36483
- THERMODYNAMIC PROPERTIES**  
Thermal shock apparatus Patent  
[NASA-CASE-XLE-02024] c 14 N71-22964
- Foamed in place ceramic refractory insulating material Patent  
[NASA-CASE-XGS-02435] c 18 N71-22998
- Superconducting magnet Patent  
[NASA-CASE-XNP-06503] c 23 N71-29049
- Cobalt-base alloy  
[NASA-CASE-LEW-10436-1] c 17 N73-32415
- High stability amplifier  
[NASA-CASE-GSC-12646-1] c 33 N83-34191
- Chemical approach for controlling nadimide cure temperature and rate  
[NASA-CASE-LEW-13770-5] c 27 N85-21352
- Fire resistant polyamide based on 1-(diorganooxyphosphonyl)methyl-2,4- and -2,6-diamino benzene  
[NASA-CASE-ARC-11512-2] c 27 N86-32568
- THERMODYNAMICS**  
Joule Thomson refrigerator  
[NASA-CASE-NPO-17143-1-CU] c 31 N89-14351
- THERMOELECTRIC GENERATORS**  
Protection for energy conversion systems  
[NASA-CASE-XGS-04808] c 03 N69-25146
- Segmenting lead telluride-silicon germanium thermoelements Patent  
[NASA-CASE-XGS-05718] c 26 N71-16037
- Integrated thermoelectric generator/space antenna combination  
[NASA-CASE-XER-09521] c 09 N72-12136
- Thermally cascaded thermoelectric generator  
[NASA-CASE-NPO-10753] c 03 N72-26031
- THERMOELECTRIC MATERIALS**  
Bonding thermoelectric elements to nonmagnetic refractory metal electrodes  
[NASA-CASE-XGS-04554] c 15 N69-39786
- Segmenting lead telluride-silicon germanium thermoelements Patent  
[NASA-CASE-XGS-05718] c 26 N71-16037
- Stabilized lanthanum sulphur compounds --- thermoelectric materials  
[NASA-CASE-NPO-16135-1] c 25 N83-24572
- THERMOELECTRIC POWER GENERATION**  
Two-fluid magnetohydrodynamic system and method for thermal-electric power conversion Patent  
[NASA-CASE-XNP-00644] c 03 N70-36803
- Combined electrolysis device and fuel cell and method of operation Patent  
[NASA-CASE-XLE-01645] c 03 N71-20904
- Thermoelectric power system --- for spacecraft  
[NASA-CASE-MFS-22002-1] c 44 N76-16612
- THERMOELECTRICITY**  
Thermocouple tape  
[NASA-CASE-LEW-11072-1] c 14 N73-24472
- Apparatus and method for measuring the Seebeck coefficient and resistivity of materials  
[NASA-CASE-NPO-11749] c 14 N73-28486

- Improved properties of SiGa/GaP alloys  
[NASA-CASE-NPO-17259-1-CU] c 76 N88-25358
- THERMOLUMINESCENCE**  
Method of detecting oxygen in a gas  
[NASA-CASE-LAR-10668-1] c 06 N73-16106  
Thermoluminescent aerosol analysis  
[NASA-CASE-LAR-12046-1] c 25 N78-15210
- THERMOMAGNETIC EFFECTS**  
Thermomagnetic recording and magneto-optic playback system having constant intensity laser beam control  
[NASA-CASE-NPO-11317-2] c 36 N74-13205  
Thermomagnetic recording and magnetic-optic playback system  
[NASA-CASE-NPO-10872-1] c 35 N79-16246
- THERMOMETERS**  
Platinum resistance thermometer circuit  
[NASA-CASE-MSC-12327-1] c 35 N77-27368  
Temperature sensitive oscillator  
[NASA-CASE-GSC-12958-1] c 33 N86-32624
- THERMOPHYSICAL PROPERTIES**  
Method for determining thermo-physical properties of specimens --- photographic recording of changes in thin film phase-change temperature indicating material in wind tunnel  
[NASA-CASE-LAR-11053-1] c 25 N74-18551  
Apparatus for determining thermophysical properties of test specimens  
[NASA-CASE-LAR-11883-1] c 09 N77-27131
- THERMOPILES**  
Differential temperature transducer Patent  
[NASA-CASE-XAC-00812] c 14 N71-15598  
Horizon sensor with a plurality of fixedly positioned radiation compensated radiation sensitive detectors Patent  
[NASA-CASE-XNP-06957] c 14 N71-21088  
Irradiance measuring device  
[NASA-CASE-NPO-11493] c 14 N73-12447
- THERMOPLASTIC FILMS**  
Advanced inorganic separators for alkaline batteries  
[NASA-CASE-LEW-13171-1] c 44 N82-29708  
Hot melt recharge system --- repairing damaged or missing tiles on space shuttle orbiter  
[NASA-CASE-LAR-12881-1] c 27 N84-14323  
Heat sealable, flame and abrasion resistant coated fabric  
[NASA-CASE-MSC-18382-2] c 27 N84-14324  
Induction heating gun  
[NASA-CASE-LAR-13181-1] c 31 N85-29083  
Polyphenylquinoxalines via aromatic nucleophilic displacement  
[NASA-CASE-LAR-13988-1] c 23 N89-11814
- THERMOPLASTIC RESINS**  
Boron trifluoride coatings for thermoplastic materials and method of applying same in glow discharge  
[NASA-CASE-ARC-11057-1] c 27 N78-31233  
Thermoplastic rubber comprising ethylene-vinyl acetate copolymer, asphalt and fluxing oil  
[NASA-CASE-NPO-08835-1] c 27 N78-33228  
Membrane consisting of polyquaternary amine ion exchange polymer network interpenetrating the chains of thermoplastic matrix polymer  
[NASA-CASE-NPO-14001-1] c 27 N81-14076  
Method of making formulated plastic separators for soluble electrode cells  
[NASA-CASE-LEW-12358-2] c 25 N82-21268  
One-step dual purpose joining technique  
[NASA-CASE-LAR-12595-1] c 33 N82-26571  
Advanced inorganic separators for alkaline batteries  
[NASA-CASE-LEW-13171-1] c 44 N82-29708  
Advanced inorganic separators for alkaline batteries and method of making the same  
[NASA-CASE-LEW-13171-2] c 44 N83-32176  
Polyphenylquinoxalines containing pendant phenylethynyl and ethynyl groups --- for thermoplastic resins  
[NASA-CASE-LAR-12838-1] c 27 N83-34040  
Solvent resistant thermoplastic aromatic poly(imidesulfone) and process for preparing same  
[NASA-CASE-LAR-12858-1] c 27 N83-34041  
Ethynyl and substituted ethynyl-terminated polysulfones  
[NASA-CASE-LAR-12931-1] c 27 N84-22747  
Hot melt adhesive attachment pad  
[NASA-CASE-LAR-12894-1] c 27 N85-20125  
Phenoxy resins containing pendant ethynyl groups and cured resins obtained therefrom  
[NASA-CASE-LAR-13262-1] c 23 N85-28973  
Process for crosslinking and extending conjugated diene-containing polymers  
[NASA-CASE-LAR-13452-1] c 27 N87-22848  
Pultrusion die assembly  
[NASA-CASE-LAR-13719-1] c 37 N89-12867  
Semiinterpenetrating polymer network for tougher and more microcracking resistant high temperature polymers  
[NASA-CASE-LAR-13925-1] c 27 N89-25334

## THERMOPLASTICITY

- Process for preparing thermoplastic aromatic polyimides  
[NASA-CASE-LAR-11828-1] c 27 N78-32261  
Heat sealable, flame and abrasion resistant coated fabric --- clothing and containers for space exploration  
[NASA-CASE-MSC-18382-1] c 27 N82-16238  
Thermoset-thermoplastic aromatic polyamide containing N-propargyl groups  
[NASA-CASE-LAR-12723-2] c 27 N84-22746  
Thermoset-thermoplastic aromatic polyamide containing N-propargyl groups  
[NASA-CASE-LAR-12723-1] c 27 N85-20123  
Process for preparing solvent resistant, thermoplastic aromatic poly(imidesulfone)  
[NASA-CASE-LAR-12858-2] c 27 N85-20124

## THERMOREGULATION

- Garments for controlling the temperature of the body Patent  
[NASA-CASE-XMS-10269] c 05 N71-24147

## THERMOSETTING RESINS

- Method for molding compounds Patent  
[NASA-CASE-XLA-01091] c 15 N71-10672  
Method and apparatus for bonding a plastics sleeve onto a metallic body Patent  
[NASA-CASE-XLA-01262] c 15 N71-21404  
Honeycomb panel and method of making same Patent  
[NASA-CASE-XMF-01402] c 18 N71-21651  
Method of forming shapes from planar sheets of thermosetting materials  
[NASA-CASE-NPO-11036] c 15 N72-24522  
Highly fluorinated polyurethanes  
[NASA-CASE-NPO-10767-2] c 06 N72-27151  
Evacuated displacement compression molding  
[NASA-CASE-LAR-10782-1] c 31 N74-14133  
Method for compression molding of thermosetting plastics utilizing a temperature gradient across the plastic to cure the article  
[NASA-CASE-LAR-10489-1] c 31 N74-18124  
Evacuated, displacement compression mold --- of tubular bodies from thermosetting plastics  
[NASA-CASE-LAR-10782-2] c 31 N75-13111  
Cork-resin ablative insulation for complex surfaces and method for applying the same  
[NASA-CASE-MFS-23626-1] c 24 N80-26388  
Polymeric compositions and their method of manufacture --- forming filled polymer systems using cryogenics  
[NASA-CASE-NPO-10424-1] c 27 N81-24258  
Elastomer toughened polyimide adhesives  
[NASA-CASE-LAR-12775-1] c 27 N83-28240  
Cellular thermosetting fluoropolymers and process for making them  
[NASA-CASE-GSC-13008-1] c 27 N88-23894  
Semiinterpenetrating polymer network for tougher and more microcracking resistant high temperature polymers  
[NASA-CASE-LAR-13925-1] c 27 N89-25334  
Method of controlling a resin curing process --- for fiber reinforced composites  
[NASA-CASE-MSC-21169-1] c 27 N89-29539

## THERMOSTATS

- Thermal switch Patent  
[NASA-CASE-XNP-00463] c 33 N70-36847  
Thermostatic actuator  
[NASA-CASE-NPO-10637] c 15 N72-12409  
Thermostatically controlled non-tracking type solar energy concentrator  
[NASA-CASE-NPO-13497-1] c 44 N76-14602

## THICK FILMS

- Screened circuit capacitors  
[NASA-CASE-LAR-10294-1] c 26 N72-28762

## THICKNESS

- Myocardium wall thickness transducer and measuring method  
[NASA-CASE-NPO-13644-1] c 52 N76-29895  
Thickness measurement system  
[NASA-CASE-MFS-23721-1] c 31 N79-28370  
Strong thin membrane structure --- solar sails  
[NASA-CASE-NPO-14021-2] c 27 N80-16163  
Ice detector  
[NASA-CASE-LAR-13776-1] c 35 N88-29149  
Liquid thickness gauge  
[NASA-CASE-LAR-13826-1] c 35 N88-29150

## THIN FILMS

- Temperature sensitive capacitor device  
[NASA-CASE-XNP-09750] c 14 N69-39937  
Means and methods of depositing thin films on substrates Patent  
[NASA-CASE-XNP-00595] c 15 N70-34967  
Method of forming thin window drifted silicon charged particle detector Patent  
[NASA-CASE-XLE-00808] c 24 N71-10560  
Vacuum deposition apparatus Patent  
[NASA-CASE-XMF-01667] c 15 N71-17647

- GaAs solar detector using manganese as a doping agent Patent  
[NASA-CASE-XNP-01328] c 26 N71-18064  
Stable amplifier having a stable quiescent point Patent  
[NASA-CASE-XGS-02812] c 09 N71-19466  
Evaporant source for vapor deposition Patent  
[NASA-CASE-XMF-06065] c 15 N71-20395  
Method of electrolytically binding a layer of semiconductors together Patent  
[NASA-CASE-XNP-01959] c 26 N71-23043  
Vacuum evaporator with electromagnetic ion steering Patent  
[NASA-CASE-NPO-10331] c 09 N71-26701  
Magnetic recording head and method of making same Patent  
[NASA-CASE-GSC-10097-1] c 08 N71-27210  
Thin film capacitive bolometer and temperature sensor Patent  
[NASA-CASE-NPO-10607] c 09 N71-27232  
Microelectronic module package Patent  
[NASA-CASE-XMS-02182] c 10 N71-28783  
Fabrication of single crystal film semiconductor devices  
[NASA-CASE-ERC-10222] c 09 N72-22199  
Active microwave rises and windows  
[NASA-CASE-LAR-10513-1] c 07 N72-25170  
Light regulator  
[NASA-CASE-LAR-10836-1] c 26 N72-27764  
Thin film microwave iris  
[NASA-CASE-LAR-10511-1] c 09 N72-29172  
Method of forming transparent films of ZnO  
[NASA-CASE-FRC-10019] c 15 N73-12467  
Light intensity strain analysis  
[NASA-CASE-LAR-10765-1] c 32 N73-20740  
Monitoring deposition of films  
[NASA-CASE-MFS-20675] c 26 N73-26751  
Holographic thin film analyzer  
[NASA-CASE-MFS-20823-1] c 16 N73-30476  
Transparent switchboard  
[NASA-CASE-MSC-13746-1] c 10 N73-32143  
Method for determining thermo-physical properties of specimens --- photographic recording of changes in thin film phase-change temperature indicating material in wind tunnel  
[NASA-CASE-LAR-11053-1] c 25 N74-18551  
Method of preparing water purification membranes --- polymerization of allyl amine as thin films in plasma discharge  
[NASA-CASE-ARC-10643-1] c 25 N75-12087  
System for depositing thin films  
[NASA-CASE-MFS-20775-1] c 31 N75-12161  
Method of producing a storage bulb for an atomic hydrogen maser  
[NASA-CASE-NPO-13050-1] c 36 N75-15029  
Integrated structure vacuum tube  
[NASA-CASE-ARC-10445-1] c 31 N76-31365  
Method of forming metal hydride films  
[NASA-CASE-LEW-12083-1] c 37 N78-13436  
Strong thin membrane structure --- solar sails  
[NASA-CASE-NPO-14021-2] c 27 N80-16163  
Partial interlaminar separation system for composites  
[NASA-CASE-LAR-12065-1] c 24 N81-14030  
Thin film strain transducer  
[NASA-CASE-WLP-10055-1] c 35 N84-28015  
Integrating IR detector imaging systems  
[NASA-CASE-NPO-15805-1] c 74 N84-28530  
Glass heating panels and method for preparing the same from architectural reflective glass  
[NASA-CASE-NPO-15753-1] c 27 N84-33599  
Epitaxial thinning process  
[NASA-CASE-NPO-15786-1] c 76 N84-35112  
Deposition of diamondlike carbon films  
[NASA-CASE-LEW-14080-1] c 31 N85-20153  
High intensity casting system  
[NASA-CASE-NPO-16901-1-CU] c 31 N87-15327  
Method and apparatus for making an optical element having a dielectric film  
[NASA-CASE-ARC-11611-1] c 74 N87-28416  
Method of producing high T(subc) superconducting Ni3N films  
[NASA-CASE-NPO-16681-1-CU] c 76 N88-24543  
Preparation of dilute magnetic semiconductor films by metalorganic chemical vapor deposition  
[NASA-CASE-NPO-17399-1-CU] c 76 N89-14120  
Liquid sheet radiator apparatus  
[NASA-CASE-LEW-14295-1] c 31 N89-14548
- THIN PLATES**  
Dichroic plate --- as bandpass filters  
[NASA-CASE-NPO-13506-1] c 35 N76-15435  
Adjustable securing base  
[NASA-CASE-MSC-19666-1] c 37 N78-17383
- THIN WALLED SHELLS**  
Thin-walled pressure vessel Patent  
[NASA-CASE-XLE-04677] c 15 N71-10577

**THIN WALLS**

- Channel-type shell construction for rocket engines and the like Patent  
[NASA-CASE-XLE-00144] c 28 N70-34860
- Sealed separable connection Patent  
[NASA-CASE-NPO-10064] c 15 N71-17693
- Low mass truss structure  
[NASA-CASE-LAR-10546-1] c 11 N72-25287
- Differential pressure control  
[NASA-CASE-MFS-14216] c 14 N73-13418
- Method of fabricating an article with cavities --- with thin bottom walls  
[NASA-CASE-LAR-10318-1] c 31 N74-18089
- Method of fabricating an object with a thin wall having a precisely shaped slit  
[NASA-CASE-LAR-10409-1] c 31 N74-21059

**THORIUM FLUORIDES**

- Ultraviolet filter  
[NASA-CASE-XNP-02340] c 23 N69-24332

**THORIUM OXIDES**

- Nuclear thermionic converter --- tungsten-thorium oxide rods  
[NASA-CASE-NPO-13121-1] c 73 N77-18891

**THREADS**

- Inspection gage for boss Patent  
[NASA-CASE-XMF-04966] c 14 N71-17658
- Threadless fastener apparatus Patent  
[NASA-CASE-XFR-05302] c 15 N71-23254

**THREE AXIS STABILIZATION**

- Three axis attitude control system  
[NASA-CASE-GSC-12970-1] c 08 N88-23808

**THREE DIMENSIONAL MOTION**

- Solid state controller three axes controller  
[NASA-CASE-MSC-12394-1] c 08 N74-10942
- Improved docking alignment system  
[NASA-CASE-MSC-21372-1] c 35 N89-12842

**THRESHOLD GATES**

- Method and apparatus for data compression by a decreasing slope threshold test  
[NASA-CASE-NPO-10769] c 08 N72-11171
- Radiation hardening of MOS devices by boron --- for stabilizing gate threshold potential  
[NASA-CASE-GSC-11425-2] c 76 N75-25730

**THRESHOLD LOGIC**

- SCR blocking pulse gate amplifier Patent  
[NASA-CASE-XLA-07497] c 09 N71-12514

**THROATS**

- Method of making a rocket nozzle  
[NASA-CASE-XMF-06884-1] c 20 N79-21123

**THRUST AUGMENTATION**

- Nozzle Patent  
[NASA-CASE-XLA-00154] c 28 N70-33374
- Construction and method of arranging a plurality of ion engines to form a cluster Patent  
[NASA-CASE-XNP-02923] c 28 N71-23081
- Reversed cowl flap inlet thrust augmentor --- with adjustable airfoil  
[NASA-CASE-ARC-10754-1] c 07 N75-24736
- Method and apparatus for rapid thrust increases in a turbofan engine  
[NASA-CASE-LEW-12971-1] c 07 N80-18039
- Thrust augmented spin recovery device  
[NASA-CASE-LAR-11970-2] c 08 N81-19130

**THRUST BEARINGS**

- Thrust bearing  
[NASA-CASE-LEW-11949-1] c 37 N76-29588

**THRUST CHAMBER PRESSURE**

- Pitch attitude stabilization system utilizing engine pressure ratio feedback signals  
[NASA-CASE-LAR-12562-1] c 08 N81-26152

**THRUST CHAMBERS**

- Rocket chamber leak test fixture  
[NASA-CASE-XFR-09479] c 14 N69-27503
- Supporting and protecting device Patent  
[NASA-CASE-XMF-00580] c 11 N70-35383
- Rocket thrust chamber Patent  
[NASA-CASE-XLE-00145] c 28 N70-36806
- Method of making a rocket motor casing Patent  
[NASA-CASE-XLE-00409] c 28 N71-15658
- Rocket motor casing Patent  
[NASA-CASE-XLE-05689] c 28 N71-15659
- Rocket engine injector Patent  
[NASA-CASE-XLE-03157] c 28 N71-24736
- Injection head for delivering liquid fuel and oxidizers  
[NASA-CASE-NPO-10046] c 28 N72-17843
- Fluidic proportional thruster system  
[NASA-CASE-ARC-10106-1] c 28 N72-22769
- Ion thruster  
[NASA-CASE-LEW-10770-1] c 28 N72-22770
- Thermal flux transfer system  
[NASA-CASE-NPO-12070-1] c 28 N73-32606
- Heat exchanger --- rocket combustion chambers and cooling systems  
[NASA-CASE-LEW-12252-1] c 34 N79-13288

- Heat exchanger and method of making --- bonding rocket chambers with a porous metal matrix  
[NASA-CASE-LEW-12441-1] c 34 N79-13289

**THRUST CONTROL**

- Electromechanical actuator  
[NASA-CASE-XNP-05975] c 15 N69-23185
- Apparatus and method for control of a solid fueled rocket vehicle Patent  
[NASA-CASE-XNP-00217] c 28 N70-38181
- Thrust and direction control apparatus Patent  
[NASA-CASE-XLE-03583] c 31 N71-17629
- Continuous detonation reaction engine Patent  
[NASA-CASE-XMF-06926] c 28 N71-22983
- High efficiency ionizer assembly Patent  
[NASA-CASE-XNP-01954] c 28 N71-28850
- Heated porous plug microthruster  
[NASA-CASE-GSC-10640-1] c 28 N72-18766
- Multi-purpose wind tunnel reaction control model block  
[NASA-CASE-MSC-19706-1] c 09 N78-31129
- Fluid thrust control system --- for liquid propellant rocket engines  
[NASA-CASE-XMF-05964-1] c 20 N79-21124

**THRUST LOADS**

- Thrust measurement  
[NASA-CASE-XMS-05731] c 35 N75-29382

**THRUST MEASUREMENT**

- Thrust dynamometer Patent  
[NASA-CASE-XLE-00702] c 14 N70-40203
- Thrust dynamometer Patent  
[NASA-CASE-XLE-05260] c 14 N71-20429
- Precision thrust gage Patent  
[NASA-CASE-XGS-02319] c 14 N71-22965
- Micro-pound extended range thrust stand Patent  
[NASA-CASE-GSC-10710-1] c 28 N71-27094

**THRUST REVERSAL**

- Thrust reverser for a long duct fan engine --- for turbofan engines  
[NASA-CASE-LEW-13199-1] c 07 N82-26293

**THRUST VECTOR CONTROL**

- Thrust vector control apparatus Patent  
[NASA-CASE-XLE-00208] c 28 N70-34294
- Velocity package Patent  
[NASA-CASE-XLA-01339] c 31 N71-15692
- Ion beam deflector Patent  
[NASA-CASE-LEW-10689-1] c 28 N71-26173
- Tertiary flow injection thrust vectoring system Patent  
[NASA-CASE-MFS-20831] c 28 N71-29153
- Flight control system  
[NASA-CASE-MSC-13397-1] c 21 N72-25595
- Rocket thrust throttling system  
[NASA-CASE-LEW-10374-1] c 28 N73-13773
- System for imposing directional stability on a rocket-propelled vehicle  
[NASA-CASE-MFS-21311-1] c 20 N76-21275
- Hybrid plume plasma rocket  
[NASA-CASE-MSC-20476-2] c 20 N89-25279

**THRUST-WEIGHT RATIO**

- Missile launch release system Patent  
[NASA-CASE-XMF-03198] c 30 N70-40353

**THULIUM**

- Tm,Ho:YLF laser end-pumped by a semiconductor diode laser array  
[NASA-CASE-NPO-17282-1-CU] c 36 N89-12856

**THYRISTORS**

- Electrical power generating system --- for windpowered generation  
[NASA-CASE-MFS-24368-3] c 33 N81-22280
- Pulsed thyristor trigger control circuit  
[NASA-CASE-MFS-25616-1] c 33 N84-16455
- Phase detector for three-phase power factor controller  
[NASA-CASE-MFS-25854-1] c 33 N84-27975
- Three-phase power factor controller with induced EMF sensing  
[NASA-CASE-MFS-25852-1] c 33 N84-33661

**TILES**

- Strain arrestor plate for fused silica tile --- bonding of thermal insulation to metallic plates or structural parts  
[NASA-CASE-MSC-14182-1] c 27 N76-14264
- Attachment system for silica tiles --- thermal protection for space shuttle orbiter  
[NASA-CASE-MSC-18741-1] c 27 N82-29456
- Method for repair of thin glass coatings --- on space shuttle orbiter tiles  
[NASA-CASE-KSC-11097-1] c 27 N82-33520
- Densification of porous refractory substrates --- space shuttle orbiter tiles  
[NASA-CASE-MSC-18737-1] c 24 N83-13171
- Method of repairing surface damage to porous refractory substrates --- space shuttle orbiter tiles  
[NASA-CASE-MSC-18736-1] c 24 N83-13172
- Apparatus for accurately preloading auger attachment means for frangible protective material  
[NASA-CASE-MSC-18791-1] c 37 N83-36482
- Shell tile thermal protection system  
[NASA-CASE-LAR-12862-1] c 27 N84-27886

- Mechanical fastener  
[NASA-CASE-LAR-12738-2] c 37 N85-30335
- Ceramic-ceramic shell tile thermal protection system and method thereof  
[NASA-CASE-ARC-11641-1] c 24 N88-18628

**TILT WING AIRCRAFT**

- Free wing assembly for an aircraft  
[NASA-CASE-FRC-10092-1] c 05 N79-12061

**TIME CONSTANT**

- Variable time constant smoothing circuit Patent  
[NASA-CASE-XGS-01983] c 10 N70-41964

**TIME DEPENDENCE**

- Instrument for determining coincidence and elapse time between independent sources of random sequential events  
[NASA-CASE-LAR-12531-1] c 35 N83-29651

**TIME DISCRIMINATION**

- Ultra-long monostable multivibrator employing bistable semiconductor switch to allow charging of timing circuit Patent  
[NASA-CASE-XGS-00381] c 09 N70-34819

**TIME DIVISION MULTIPLEXING**

- Time division multiplex system  
[NASA-CASE-XGS-05918] c 07 N69-39974
- Time-division multiplexer Patent  
[NASA-CASE-XNP-00431] c 09 N70-38998
- Data processor having multiple sections activated at different times by selective power coupling to the sections Patent  
[NASA-CASE-XGS-04767] c 08 N71-12494
- Data compression system with a minimum time delay unit Patent  
[NASA-CASE-XNP-08832] c 08 N71-12506
- Time division radio relay synchronizing system using different sync code words for in sync and out of sync conditions Patent  
[NASA-CASE-GSC-10373-1] c 07 N71-19773
- Signal processing apparatus for multiplex transmission Patent  
[NASA-CASE-NPO-10388] c 07 N71-24622
- Programmable telemetry system Patent  
[NASA-CASE-GSC-10131-1] c 07 N71-24624
- High dynamic global positioning system receiver  
[NASA-CASE-NPO-16171-1CU] c 04 N86-27270

**TIME FUNCTIONS**

- Single or joint amplitude distribution analyzer Patent  
[NASA-CASE-XNP-01383] c 09 N71-10659

**TIME LAG**

- Closed loop ranging system Patent  
[NASA-CASE-XNP-01501] c 21 N70-41930
- Data compression system with a minimum time delay unit Patent  
[NASA-CASE-XNP-08832] c 08 N71-12506
- Signal phase estimator  
[NASA-CASE-NPO-11203] c 10 N72-20224
- Automatic transponder --- measurement of the internal delay time of a transponder  
[NASA-CASE-GSC-12075-1] c 32 N77-31350
- Time delay and integration detectors using charge transfer devices  
[NASA-CASE-GSC-12324-1] c 33 N81-33403

**TIME MEASUREMENT**

- Time domain phase measuring apparatus  
[NASA-CASE-GSC-12228-1] c 33 N79-10338
- Synchronization tracking in pulse position modulation receiver  
[NASA-CASE-NPO-16256-1] c 32 N87-21207

**TIME MEASURING INSTRUMENTS**

- Measurement of time differences between luminous events Patent  
[NASA-CASE-XLA-01987] c 23 N71-23976
- Error correction method and apparatus for electronic timepieces  
[NASA-CASE-LAR-12654-1] c 33 N83-36357

**TIME OF FLIGHT SPECTROMETERS**

- Time of flight mass spectrometer with feedback means from the detector to the low source and a specific counter Patent  
[NASA-CASE-XNP-01056] c 14 N71-23041

**TIME SERIES ANALYSIS**

- Apparatus for statistical time-series analysis of electrical signals  
[NASA-CASE-MSC-12428-1] c 10 N73-25240
- Solid sorbent air sampler  
[NASA-CASE-MSC-20653-1] c 35 N86-26595

**TIME SHARING**

- Integrated time shared instrumentation display Patent  
[NASA-CASE-XLA-01952] c 08 N71-12507

**TIME SIGNALS**

- System for monitoring signal amplitude ranges  
[NASA-CASE-XMS-04061-1] c 09 N69-39885
- Method of resolving clock synchronization error and means therefor Patent  
[NASA-CASE-XNP-08875] c 10 N71-23099



Time synchronization system utilizing moon reflected coded signals Patent  
[NASA-CASE-NPO-10143] c 10 N71-26326  
Counter Patent  
[NASA-CASE-XNP-06234] c 10 N71-27137  
System for generating timing and control signals  
[NASA-CASE-NPO-13125-1] c 33 N75-19519  
Precise RF timing signal distribution to remote stations --- fiber optics  
[NASA-CASE-NPO-14749-1] c 32 N81-14186

**TIMING DEVICES**

Synchronous servo loop control system Patent  
[NASA-CASE-XNP-03744] c 10 N71-20448  
Method of resolving clock synchronization error and means therefor Patent  
[NASA-CASE-XNP-08875] c 10 N71-23099  
Resettable monostable pulse generator Patent  
[NASA-CASE-GSC-11139] c 09 N71-27016  
Data transfer system Patent  
[NASA-CASE-NPO-12107] c 08 N71-27255  
High speed photo-optical time recording  
[NASA-CASE-KSC-10294] c 14 N72-18411  
Timing control system  
[NASA-CASE-NPO-16882-1-CU] c 33 N88-24863

**TIPS**

Thin wire pointing method  
[NASA-CASE-NPO-15789-1] c 31 N83-19947

**TIRES**

Excessive temperature warning system Patent  
[NASA-CASE-XLA-01926] c 14 N71-15620  
Resilient wheel Patent  
[NASA-CASE-MFS-13929] c 15 N71-27091

**TISSUES (BIOLOGY)**

Servo-controlled intravital microscope system  
[NASA-CASE-NPO-13214-1] c 35 N75-25123  
Method and system for in vivo measurement of bone tissue using a two level energy source  
[NASA-CASE-MSC-14276-1] c 52 N77-14737  
System for and method of freezing biological tissue  
[NASA-CASE-GSC-12173-1] c 51 N79-10694  
Coupling apparatus for ultrasonic medical diagnostic system  
[NASA-CASE-NPO-13935-1] c 52 N79-14751  
Apparatus and method of inserting a microelectrode in body tissue or the like using vibration means  
[NASA-CASE-NPO-13910-1] c 52 N79-27836  
Multifunctional transducer  
[NASA-CASE-NPO-14329-1] c 52 N81-20703  
Enhancement of in vitro guayule propagation  
[NASA-CASE-NPO-15213-1] c 51 N83-17045  
Method for thermal monitoring subcutaneous tissue  
[NASA-CASE-LAR-13028-1] c 52 N85-30618  
Horizontally rotated cell culture system  
[NASA-CASE-MSC-21294-1] c 51 N89-13131  
Spiral vane bioreactor  
[NASA-CASE-MSC-21361-1] c 51 N89-25557

**TITANATES**

Synthesis of zinc titanate pigment and coatings containing the same  
[NASA-CASE-MFS-13532] c 18 N72-17532

**TITANIUM**

Method of joining aluminum to stainless steel Patent  
[NASA-CASE-MFS-07369] c 15 N71-20443  
Weld-bonded titanium structures  
[NASA-CASE-LAR-11549-1] c 37 N77-11397  
Method of mitigating titanium impurities effects in p-type silicon material for solar cells  
[NASA-CASE-NPO-14635-1] c 44 N80-24741  
Method and apparatus for coating substrates using a laser  
[NASA-CASE-LEW-13526-1] c 36 N84-22944  
Oxygen diffusion barrier coating  
[NASA-CASE-LAR-13474-1-SB] c 26 N87-25455

**TITANIUM ALLOYS**

Method of inhibiting stress corrosion cracks in titanium alloys Patent  
[NASA-CASE-NPO-10271] c 17 N71-16393  
Nondestructive spot test method for titanium and titanium alloys  
[NASA-CASE-LAR-10539-1] c 17 N73-12547  
Method and apparatus for coating substrates using a laser  
[NASA-CASE-LEW-13526-1] c 36 N84-22944

**TITANIUM NITRIDES**

Improved refractory coatings --- sputtered coatings on substrates that form stable nitrides  
[NASA-CASE-LEW-23169-2] c 26 N81-16209

**TITANIUM OXIDES**

Method of preparing zinc orthotitanate pigment  
[NASA-CASE-MFS-23345-1] c 27 N77-30237

**TOLERANCES (MECHANICS)**

Universal restrainer and joint Patent  
[NASA-CASE-XNP-02278] c 15 N71-28951

**TOLUENE**

Supercritical multicomponent solvent coal extraction  
[NASA-CASE-NPO-15767-1] c 23 N84-16255

**TOMOGRAPHY**

System for plotting subsoil structure and method therefor  
[NASA-CASE-NPO-14191-1] c 31 N80-32584  
Three-dimensional and tomographic imaging device for X-ray and gamma-ray emitting objects  
[NASA-CASE-GSC-12851-1] c 35 N85-30281

**TOOLS**

Tool attachment for spreading loose elements away from work Patent  
[NASA-CASE-XMF-02107] c 15 N71-10809  
Adjustable attitude guide device Patent  
[NASA-CASE-XLA-07911] c 15 N71-15571  
Tube dimpling tool Patent  
[NASA-CASE-XMS-06876] c 15 N71-21536  
Stud-bonding gun  
[NASA-CASE-MFS-20299] c 15 N72-11392  
Insert facing tool --- manually operated cutting tool for forming studs in honeycomb material  
[NASA-CASE-MFS-21485-1] c 37 N74-25968  
Stator rotor tools  
[NASA-CASE-MSC-16000-1] c 37 N78-24544  
Computer circuit card puller  
[NASA-CASE-FRC-11042-1] c 60 N82-24839  
Open ended tubing cutters  
[NASA-CASE-MSC-18538-1] c 37 N82-26672  
Apparatus for accurately preloading auger attachment means for frangible protective material  
[NASA-CASE-MSC-18791-1] c 37 N83-36482  
Tubing and cable cutting tool  
[NASA-CASE-LAR-12786-1] c 37 N84-28085  
Connection system --- insuring against loss of a tool component without using multiple tethers  
[NASA-CASE-MSC-20319-1] c 37 N85-21649  
Tool and process for miniature explosive joining of tubes  
[NASA-CASE-LAR-13662-1] c 37 N88-14359

**TOOTH DISEASES**

Process for the preparation of brushite crystals  
[NASA-CASE-ERC-10338] c 04 N72-33072

**TOPOGRAPHY**

Method for observing the features characterizing the surface of a land mass  
[NASA-CASE-FRC-11013-1] c 43 N81-17499

**TORCHES**

Apparatus for welding torch angle and seam tracking control Patent  
[NASA-CASE-XMF-03287] c 15 N71-15607  
Electric welding torch Patent  
[NASA-CASE-XMF-02330] c 15 N71-23798  
Computerized system for translating a torch head  
[NASA-CASE-MFS-23620-1] c 37 N79-10421  
Welding torch with arc light reflector  
[NASA-CASE-MFS-29134-1] c 74 N87-17493  
Welding torch gas cup extension  
[NASA-CASE-MFS-29252-1] c 37 N88-23980  
Electrode carrying wire for GTAW welding  
[NASA-CASE-MFS-29491-1] c 31 N89-23738  
Internal wire guide for GTAW welding  
[NASA-CASE-MFS-29489-1] c 31 N89-23739

**TOROIDAL SHELLS**

Toroidal cell and battery --- storage battery for high amp-hour load applications  
[NASA-CASE-LEW-12918-1] c 44 N81-24521

**TOROIDS**

Flux sensing device using a tubular core with toroidal gating coil and solenoidal output coil wound thereon Patent  
[NASA-CASE-XGS-01881] c 09 N70-40123  
Shaft transducer having dc output proportional to angular velocity  
[NASA-CASE-NPO-15706-1] c 35 N84-28017

**TORQUE**

Bidirectional step torque filter with zero backlash characteristic Patent  
[NASA-CASE-XGS-04227] c 15 N71-21744  
Isolation coupling arrangement for a torque measuring system  
[NASA-CASE-XLA-04897] c 15 N72-22482  
High-torque open-end wrench  
[NASA-CASE-NPO-13541-1] c 37 N79-14383  
Acoustic driving of rotor  
[NASA-CASE-NPO-14005-1] c 71 N79-20827  
Magnetic field control --- electromechanical torquing device  
[NASA-CASE-MFS-23828-1] c 33 N82-26569  
Missile rolling tail brake torque system --- simulating bearing friction on canard controlled missiles  
[NASA-CASE-LAR-12751-1] c 15 N84-16231  
Directional gear ratio transmissions  
[NASA-CASE-LAR-12644-1] c 37 N84-28084  
Helicopter anti-torque system using strakes  
[NASA-CASE-LAR-13233-1] c 05 N84-33400  
Dual towline spin-recovery device  
[NASA-CASE-LAR-13076-1] c 08 N85-35200

Helicopter anti-torque system using fuselage strakes  
[NASA-CASE-LAR-13630-1] c 08 N88-23809

**TORQUE MOTORS**

Low speed phaselock speed control system --- for brushless dc motor  
[NASA-CASE-GSC-11127-1] c 09 N75-24758  
Magnetic bearing and motor  
[NASA-CASE-GSC-12726-1] c 37 N83-34323

**TORQUEMETERS**

Optical torquemeter Patent  
[NASA-CASE-XLE-00503] c 14 N70-34818  
Balance torquemeter Patent  
[NASA-CASE-XGS-01013] c 14 N71-23725  
Pressure suit joint analyzer  
[NASA-CASE-ARC-11314-1] c 54 N82-26987

**TORSION**

A torsional suspension system for testing space structures  
[NASA-CASE-LAR-14149-1-SB] c 14 N89-28547

**TORSO**

Restraint torso for a pressurized suit  
[NASA-CASE-MSC-12397-1] c 05 N72-25119  
Spacesuit torso closure  
[NASA-CASE-ARC-11100-1] c 54 N78-31736  
Torso sizing ring construction for hard space suit  
[NASA-CASE-ARC-11616-1] c 54 N86-28618

**TOUCH**

Mechanically actuated triggered hand  
[NASA-CASE-MFS-20413] c 15 N72-21463  
Method for measuring cutaneous sensory perception  
[NASA-CASE-MSC-13609-1] c 05 N72-25122  
Tactile sensing means for prosthetic limbs  
[NASA-CASE-MFS-16570-1] c 05 N73-32013

**TOUGHNESS**

Toughening reinforced epoxy composites with brominated polymeric additives  
[NASA-CASE-ARC-11427-1] c 24 N86-19380  
High performance mixed bisimide resins and composites based thereon  
[NASA-CASE-ARC-11538-1SB] c 24 N86-21590  
Toughening reinforced epoxy composites with brominated polymeric additives  
[NASA-CASE-ARC-11427-2] c 27 N86-27451

**TOWERS**

Aerial capsule emergency separation device Patent  
[NASA-CASE-XLA-00115] c 03 N70-33343

**TOXICITY**

Glass compositions with a high modulus of elasticity --- nontoxic glass fibers  
[NASA-CASE-HQN-10274-1] c 27 N82-29451

**TOXICITY AND SAFETY HAZARD**

Apparatus for remote handling of materials --- mixing or analyzing dangerous chemicals  
[NASA-CASE-LAR-10634-1] c 37 N74-18123

**TOXICOLOGY**

Exposure system for animals Patent  
[NASA-CASE-XAC-05333] c 11 N71-22875

**TRACE CONTAMINANTS**

Microbalance including crystal oscillators for measuring contaminants in a gas system Patent  
[NASA-CASE-NPO-10144] c 14 N71-17701  
Method for removing oxygen impurities from cesium Patent  
[NASA-CASE-XNP-04262-2] c 17 N71-26773  
Electric discharge for treatment of trace contaminants  
[NASA-CASE-ARC-10975-1] c 33 N79-15245  
Nebulization reflux concentrator  
[NASA-CASE-LAR-13254-1CU] c 35 N86-29174

**TRACE ELEMENTS**

Ion microprobe mass spectrometer for analyzing fluid materials Patent  
[NASA-CASE-ERC-10014] c 14 N71-28863  
Automated system for identifying traces of organic chemical compounds in aqueous solutions  
[NASA-CASE-NPO-13063-1] c 25 N76-18245  
Nulling device for detection of trace gases by NDIR absorption  
[NASA-CASE-ARC-10760-1] c 25 N76-22323  
Thermoluminescent aerosol analysis  
[NASA-CASE-LAR-12046-1] c 25 N78-15210  
Reversal electron attachment ionizer for detection of trace species  
[NASA-CASE-NPO-17596-1-CU] c 35 N89-28795

**TRACKED VEHICLES**

Tank tread assemblies with track-linking mechanism  
[NASA-CASE-NPO-16321-1CU] c 37 N87-17034

**TRACKING (POSITION)**

Plurality of photosensitive cells on a pyramidal base for planetary trackers  
[NASA-CASE-XNP-04180] c 07 N69-39736  
Telespectrograph Patent  
[NASA-CASE-XLA-03273] c 14 N71-18699  
Method and apparatus for aligning a laser beam projector Patent  
[NASA-CASE-NPO-11087] c 23 N71-29125

- Mount for continuously orienting a collector dish in a system adapted to perform both diurnal and seasonal solar tracking  
[NASA-CASE-MFS-23267-1] c 35 N77-20401
- System and method for tracking a signal source --- employing feedback control  
[NASA-CASE-HQN-10880-1] c 17 N78-17140
- Sun tracking solar energy collector  
[NASA-CASE-NPO-13921-1] c 44 N79-14526
- TRACKING FILTERS**
- Automatic acquisition system for phase-lock loop  
[NASA-CASE-XGS-04994] c 09 N69-21543
- Apparatus and method for stabilized phase detection for binary signal tracking loops  
[NASA-CASE-MSC-16461-1] c 33 N79-11313
- PN lock indicator for dithered PN code tracking loop  
[NASA-CASE-NPO-14435-1] c 33 N81-33405
- TRACKING RADAR**
- Monopulse system with an electronic scanner  
[NASA-CASE-XGS-05582] c 07 N69-27460
- Phase-locked loop with sideband rejecting properties Patent  
[NASA-CASE-XNP-02723] c 07 N70-41680
- Radar antenna system for acquisition and tracking Patent  
[NASA-CASE-XMS-09610] c 07 N71-24625
- Acquisition and tracking system for optical radar  
[NASA-CASE-MFS-20125] c 16 N72-13437
- Synthetic aperture radar target simulator  
[NASA-CASE-NPO-15024-1] c 32 N84-27951
- TRACKING STATIONS**
- Optical monitor panel Patent  
[NASA-CASE-XKS-03509] c 14 N71-23175
- Simultaneous acquisition of tracking data from two stations  
[NASA-CASE-NPO-13292-1] c 32 N75-15854
- TRAFFIC CONTROL**
- Traffic survey system --- using optical scanners  
[NASA-CASE-MFS-22631-1] c 66 N76-19888
- TRAILERS**
- Low-drag ground vehicle particularly suited for use in safely transporting livestock  
[NASA-CASE-FRC-11058-1] c 85 N82-33288
- TRAILING-EDGE FLAPS**
- Double hinged flap Patent  
[NASA-CASE-XLA-01290] c 02 N70-42016
- Variable area exhaust nozzle  
[NASA-CASE-LEW-12378-1] c 07 N79-14097
- TRAINING DEVICES**
- Visual accommodation trainer-tester  
[NASA-CASE-ARC-11426-1] c 09 N84-12193
- TRAINING SIMULATORS**
- Mechanical simulator of low gravity conditions Patent  
[NASA-CASE-MFS-10555] c 11 N71-19494
- Subgravity simulator Patent  
[NASA-CASE-XMS-04798] c 11 N71-21474
- Kinesthetic control simulator --- for pilot training  
[NASA-CASE-LAR-10276-1] c 09 N75-15662
- TRAJECTORY ANALYSIS**
- Means for visually indicating flight paths of vehicles between the Earth, Venus, and Mercury Patent  
[NASA-CASE-XNP-00708] c 14 N70-35394
- Method of planetary atmospheric investigation using a split-trajectory dual flyby mode Patent  
[NASA-CASE-XAC-08494] c 30 N71-15990
- TRAJECTORY CONTROL**
- Trajectory-correction propulsion system Patent  
[NASA-CASE-XNP-01104] c 28 N70-39931
- Technique for control of free-flight rocket vehicles Patent  
[NASA-CASE-XLA-00937] c 31 N71-17691
- Apparatus for automatically stabilizing the attitude of a nonguided vehicle  
[NASA-CASE-ARC-10134] c 30 N72-17873
- TRANSDUCERS**
- Pressure variable capacitor  
[NASA-CASE-XNP-09752] c 14 N69-21541
- Bootstrap unloader Patent  
[NASA-CASE-XNP-09768] c 09 N71-12516
- Vibrating structure displacement measuring instrument Patent  
[NASA-CASE-XLA-03135] c 32 N71-16428
- Contour surveying system Patent  
[NASA-CASE-XLA-08646] c 14 N71-17586
- Rotary bead dropper and selector for testing micrometeorite detectors Patent  
[NASA-CASE-XGS-03304] c 09 N71-22988
- Self-calibrating displacement transducer Patent  
[NASA-CASE-XLA-00781] c 09 N71-22999
- Extensometer frame  
[NASA-CASE-XLA-10322] c 15 N72-17452
- Split range transducer  
[NASA-CASE-XLA-11189] c 10 N72-20222
- Pulsed excitation voltage circuit for transducers  
[NASA-CASE-FRC-10036] c 09 N72-22200
- Magnifying scratch gage force transducer  
[NASA-CASE-LAR-10496-1] c 14 N72-22437
- Intruder detection system  
[NASA-CASE-ARC-10097-2] c 07 N73-25160
- Acoustical transducer calibrating system and apparatus  
[NASA-CASE-FRC-10060-1] c 14 N73-27379
- Demodulator for carrier transducers  
[NASA-CASE-NUC-10107-1] c 33 N74-17930
- LC-oscillator with automatic stabilized amplitude via bias current control --- power supply circuit for transducers  
[NASA-CASE-MFS-21698-1] c 33 N74-26732
- Arterial pulse wave pressure transducer  
[NASA-CASE-GSC-11531-1] c 52 N74-27566
- Diode-quad bridge circuit means  
[NASA-CASE-ARC-10364-3] c 33 N75-19520
- Subminiature insertable force transducer --- including a strain gage to measure forces in muscles  
[NASA-CASE-NPO-13423-1] c 33 N75-31329
- Self-supporting strain transducer  
[NASA-CASE-LAR-11263-1] c 35 N75-33369
- Miniature muscle displacement transducer  
[NASA-CASE-NPO-13519-1] c 33 N76-19338
- Method and apparatus for nondestructive testing of pressure vessels  
[NASA-CASE-NPO-12142-1] c 38 N76-28563
- Myocardium wall thickness transducer and measuring method  
[NASA-CASE-NPO-13644-1] c 52 N76-29895
- Solar cell angular position transducer  
[NASA-CASE-LAR-11999-1] c 44 N80-18552
- Simultaneous muscle force and displacement transducer  
[NASA-CASE-NPO-14212-1] c 52 N80-27072
- Multifunctional transducer  
[NASA-CASE-NPO-14329-1] c 52 N81-20703
- Photomechanical transducer  
[NASA-CASE-NPO-14363-1] c 39 N81-25400
- Hot foil transducer skin friction sensor  
[NASA-CASE-LAR-12321-1] c 35 N82-24470
- Thin film strain transducer  
[NASA-CASE-WLP-10055-1] c 35 N84-28015
- Strain gage calibration  
[NASA-CASE-LAR-12743-1] c 35 N84-28019
- Thin film strain transducer --- suitable for in-flight measurement of scientific balloon strain  
[NASA-CASE-WLP-10055-2] c 35 N85-21598
- Gravity enhanced acoustic levitation method and apparatus  
[NASA-CASE-NPO-16147-1-CU] c 71 N85-29693
- Adjustable mount for electro-optic transducers in an evacuated cryogenic system  
[NASA-CASE-LAR-13100-1] c 37 N87-23982
- Single mode levitation and translation  
[NASA-CASE-NPO-16675-1-CU] c 71 N88-24241
- Low power consumption current transducer  
[NASA-CASE-NPO-16888-1-CU] c 33 N89-29681
- TRANSFER FUNCTIONS**
- Method and apparatus for transfer function simulator for testing complex systems  
[NASA-CASE-NPO-15696-1] c 33 N85-34333
- TRANSFORMERS**
- Signal multiplexer  
[NASA-CASE-XGS-01110] c 07 N69-24334
- Insertion loss measuring apparatus having transformer means connected across a pair of bolometers Patent  
[NASA-CASE-XNP-01193] c 10 N71-16057
- Saturation current protection apparatus for saturable core transformers Patent  
[NASA-CASE-ERC-10075] c 09 N71-24800
- Unsaturating saturable core transformer Patent  
[NASA-CASE-ERC-10125] c 09 N71-24893
- Electronically resettable fuse Patent  
[NASA-CASE-XGS-11177] c 09 N71-27001
- Voltage regulator Patent  
[NASA-CASE-ERC-10113] c 09 N71-27053
- Radial heat flux transformer  
[NASA-CASE-NPO-10828] c 33 N72-17948
- Saturation current protection apparatus for saturable core transformers  
[NASA-CASE-ERC-10075-2] c 09 N72-22196
- Failsafe multiple transformer circuit configuration  
[NASA-CASE-NPO-11078] c 09 N72-25262
- Banded transformer cores  
[NASA-CASE-NPO-11966-1] c 33 N74-17928
- Solid-state current transformer  
[NASA-CASE-MFS-22560-1] c 33 N77-14335
- Transformer regulated self-stabilizing chopper  
[NASA-CASE-XGS-09186] c 33 N78-17295
- Apparatus including a plurality of spaced transformers for locating short circuits in cables  
[NASA-CASE-KSC-10899-1] c 33 N79-18193
- Circuit for automatic load sharing in parallel converter modules  
[NASA-CASE-NPO-14056-1] c 33 N79-24257
- System for automatically switching transformer coupled lines  
[NASA-CASE-MSC-16697-1] c 33 N79-28415
- Three phase power factor controller  
[NASA-CASE-MFS-25535-1] c 33 N81-12330
- Base drive for paralleled inverter systems  
[NASA-CASE-NPO-14163-1] c 33 N81-14220
- Low current linearization of magnetic amplifier for dc transducer  
[NASA-CASE-NPO-14617-1] c 33 N81-24338
- Push-pull converter with energy saving circuit for protecting switching transistors from peak power stress  
[NASA-CASE-NPO-14316-1] c 33 N81-33404
- Non-contacting power transfer device  
[NASA-CASE-GSC-12595-1] c 33 N82-24422
- High voltage isolation transformer  
[NASA-CASE-GSC-12817-1] c 33 N85-29146
- TRANSIENT HEATING**
- Thermocouple installation  
[NASA-CASE-NPO-13540-1] c 35 N77-14409
- Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NASA-CASE-NPO-15494-1] c 35 N82-25484
- Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NAS 1.71-NPO-15494-2] c 35 N85-34373
- TRANSIENT LOADS**
- Deployable solar cell array  
[NASA-CASE-NPO-10883] c 31 N72-22874
- TRANSISTOR AMPLIFIERS**
- Apparatus for overcurrent protection of a push-pull amplifier Patent  
[NASA-CASE-MSC-12033-1] c 09 N71-13531
- TRANSISTOR CIRCUITS**
- Low power drain semi-conductor circuit  
[NASA-CASE-XGS-04999] c 09 N69-24317
- Ring counter  
[NASA-CASE-XGS-03095] c 09 N69-27463
- Pulse counting circuit which simultaneously indicates the occurrence of the nth pulse Patent  
[NASA-CASE-XMF-00906] c 09 N70-41655
- Linear sawtooth voltage-wave generator employing transistor timing circuit having capacitor-zener diode combination feedback Patent  
[NASA-CASE-XMS-01315] c 09 N70-41675
- Switching circuit employing regeneratively connected complementary transistors Patent  
[NASA-CASE-XNP-02654] c 10 N70-42032
- High voltage transistor circuit Patent  
[NASA-CASE-XNP-06937] c 09 N71-19516
- Complementary regenerative switch Patent  
[NASA-CASE-XGS-02751] c 09 N71-23015
- Transistor drive regulator Patent  
[NASA-CASE-LEW-10233] c 10 N71-27126
- Multiple slope sweep generator Patent  
[NASA-CASE-XMS-03542] c 09 N71-28926
- Broadband video process with very high input impedance  
[NASA-CASE-NPO-10199] c 09 N72-17156
- Ultra-stable oscillator with complementary transistors  
[NASA-CASE-GSC-11513-1] c 33 N74-20862
- Inrush current limiter  
[NASA-CASE-GSC-11789-1] c 33 N77-14333
- Temperature compensated current source  
[NASA-CASE-MSC-11235] c 33 N78-17294
- Push-pull converter with energy saving circuit for protecting switching transistors from peak power stress  
[NASA-CASE-NPO-14316-1] c 33 N81-33404
- Power converter  
[NASA-CASE-FRC-11014-1] c 33 N82-18494
- TRANSISTORS**
- Power supply circuit Patent  
[NASA-CASE-XMS-00913] c 10 N71-23543
- Switching circuit Patent  
[NASA-CASE-XNP-06505] c 10 N71-24799
- Cascaded complementary pair broadband transistor amplifiers Patent  
[NASA-CASE-NPO-10003] c 10 N71-26415
- Fast response low power drain logic circuits  
[NASA-CASE-GSC-10878-1] c 10 N72-22236
- Coaxial inverted geometry transistor having buried emitter  
[NASA-CASE-ARC-10330-1] c 09 N73-32112
- Four phase logic systems --- including integrated microcircuits  
[NASA-CASE-MSC-14240-1] c 33 N75-14957
- Complementary DMOS-VMOS integrated circuit structure  
[NASA-CASE-GSC-12190-1] c 33 N79-12321
- Circuit for automatic load sharing in parallel converter modules  
[NASA-CASE-NPO-14056-1] c 33 N79-24257
- Base drive for paralleled inverter systems  
[NASA-CASE-NPO-14163-1] c 33 N81-14220

Four quadrant control circuit for a brushless three-phase dc motor  
[NASA-CASE-MFS-28080-1] c 33 N87-21233

**TRANSITION FLOW**  
Ablation article and method  
[NASA-CASE-LAR-10439-1] c 33 N73-27796

**TRANSITION TEMPERATURE**  
Process for preparing thermoplastic aromatic polyimides  
[NASA-CASE-LAR-11828-1] c 27 N78-32261  
Method of producing high T(subc) superconducting NBN films  
[NASA-CASE-NPO-16681-1-CU] c 76 N88-24543

**TRANSLATIONAL MOTION**  
Centrifuge mounted motion simulator Patent  
[NASA-CASE-XAC-00399] c 11 N70-34815  
Translating horizontal tail Patent  
[NASA-CASE-XLA-08801-1] c 02 N71-11043  
Semi-linear ball bearing Patent  
[NASA-CASE-XLA-02809] c 15 N71-22982  
Positioning mechanism  
[NASA-CASE-NPO-10679] c 15 N72-21462  
Improved docking alignment system  
[NASA-CASE-MSC-21372-1] c 35 N89-12842

**TRANSLATORS**  
Serial data correlator/code translator  
[NASA-CASE-KSC-11025-1] c 32 N83-13323

**TRANSLUCENCE**  
Light transmitting window assembly  
[NASA-CASE-MSC-18417-1] c 74 N85-29750

**TRANSMISSION CIRCUITS**  
Beam forming network  
[NASA-CASE-NPO-15743-1] c 32 N85-29118

**TRANSMISSION EFFICIENCY**  
Microwave power transmission system wherein level of transmitted power is controlled by reflections from receiver  
[NASA-CASE-MFS-21470-1] c 44 N74-19870  
Linear phase demodulator including a phase locked loop with auxiliary feedback loop  
[NASA-CASE-GSC-12018-1] c 33 N77-14334  
Apparatus and method for characterizing the transmission efficiency of a mass spectrometer  
[NASA-CASE-NPO-16989-1-CU] c 35 N89-28794

**TRANSMISSION LINES**  
Validation device for spacecraft checkout equipment Patent  
[NASA-CASE-XKS-10543] c 07 N71-26292  
Collapsible antenna boom and transmission line Patent  
[NASA-CASE-MFS-20068] c 07 N71-27191  
Phase modulator Patent  
[NASA-CASE-MSC-13201-1] c 07 N71-28429  
Shielded flat cable  
[NASA-CASE-MFS-13687-2] c 09 N72-22198  
Phase control circuits using frequency multiplications for phased array antennas  
[NASA-CASE-ERC-10285] c 10 N73-16206  
Phase protection system for ac power lines  
[NASA-CASE-MSC-17832-1] c 33 N74-14956  
System for stabilizing cable phase delay utilizing a coaxial cable under pressure  
[NASA-CASE-NPO-13138-1] c 33 N74-17927  
Telephone multiline signaling using common signal pair  
[NASA-CASE-KSC-11023-1] c 32 N79-23310  
System for automatically switching transformer coupled lines  
[NASA-CASE-MSC-16697-1] c 33 N79-28415

**TRANSMISSION LOSS**  
Low-loss, high-isolation, fiber-optic isolator  
[NASA-CASE-NPO-17207-1-CU] c 74 N88-25304

**TRANSMISSIONS (MACHINE ELEMENTS)**  
Compensating linkage for main rotor control  
[NASA-CASE-LAR-11797-1] c 05 N81-19087  
Directional gear ratio transmissions  
[NASA-CASE-LAR-12644-1] c 37 N84-28084  
Magnetic drive coupling  
[NASA-CASE-MSC-21171-1] c 37 N88-23973

**TRANSMISSIVITY**  
Process of making medical clip  
[NASA-CASE-LAR-12650-2] c 52 N84-28389

**TRANSMITTANCE**  
Light transmitting window assembly  
[NASA-CASE-MSC-18417-1] c 74 N85-29750

**TRANSMITTER RECEIVERS**  
Integrated thermoelectric generator/space antenna combination  
[NASA-CASE-XER-09521] c 09 N72-12136  
Location identification system  
[NASA-CASE-ERC-10324] c 07 N72-25173  
Automatic vehicle location system  
[NASA-CASE-NPO-11850-1] c 32 N74-12912  
Digital communication system  
[NASA-CASE-MSC-13912-1] c 32 N74-30524

**TRANSMITTERS**

Temperature telemetric transmitter Patent  
[NASA-CASE-NPO-10649] c 07 N71-24840

Two carrier communication system with single transmitter  
[NASA-CASE-NPO-11548] c 07 N73-26118  
Miniature multichannel biotelemetry system  
[NASA-CASE-NPO-13065-1] c 52 N74-26625

Digital transmitter for data bus communications system  
[NASA-CASE-MSC-14558-1] c 32 N75-21486  
Apparatus for endoscopic examination --- analysis of the propulsion system configuration and transmitter  
[NASA-CASE-NPO-14092-1] c 52 N80-16725  
Single frequency multitransmitter telemetry  
[NASA-CASE-LAR-13006-1] c 17 N87-16863

**TRANSONIC SPEED**  
Leading edge curvature based on convective heating Patent  
[NASA-CASE-XLA-01486] c 01 N71-23497

**TRANSONIC WIND TUNNELS**  
Wind tunnel test section  
[NASA-CASE-MFS-20509] c 11 N72-17183  
Miniature remote dead weight calibrator  
[NASA-CASE-LAR-13564-1] c 35 N87-25558

**TRANSPARENCE**  
Helmet assembly and latch means therefor Patent  
[NASA-CASE-XMS-04935] c 05 N71-11190  
Method and apparatus for producing an image from a transparent object  
[NASA-CASE-GSC-11989-1] c 74 N77-28932  
Method of fabricating a photovoltaic module of a substantially transparent construction  
[NASA-CASE-NPO-14303-1] c 44 N80-18550  
Light transmitting window assembly  
[NASA-CASE-MSC-18417-1] c 74 N85-29750  
Process for preparing essentially colorless polyimide film containing phenoxy-linked diamines  
[NASA-CASE-LAR-13353-1] c 27 N86-29039  
Process for preparing highly optically transparent/colorless aromatic polyimide film  
[NASA-CASE-LAR-13351-1] c 27 N86-31727  
Procedure to prepare transparent silica gels  
[NASA-CASE-LAR-13476-1-CU] c 76 N87-29360  
Method for investigating the formation of crystals in a transparent material  
[NASA-CASE-MFS-26008-1-CU] c 76 N88-14835

**TRANSPARATION**  
Rocket chamber and method of making  
[NASA-CASE-LEW-11118-2] c 20 N76-14191

**TRANSPONDERS**  
Dynamic Doppler simulator Patent  
[NASA-CASE-XMS-05454-1] c 07 N71-12391  
Method and apparatus for mapping planets  
[NASA-CASE-NPO-11001] c 07 N72-21118  
Code regenerative clean-up loop transponder for a mu-type ranging system  
[NASA-CASE-NPO-11707] c 07 N73-25161  
Automatic vehicle location system  
[NASA-CASE-NPO-11850-1] c 32 N74-12912  
Simultaneous acquisition of tracking data from two stations  
[NASA-CASE-NPO-13292-1] c 32 N75-15854  
Automatic transponder --- measurement of the internal delay time of a transponder  
[NASA-CASE-GSC-12075-1] c 32 N77-31350  
Video processor for air traffic control beacon system  
[NASA-CASE-KSC-11155-1] c 04 N86-19304

**TRANSPORTATION**  
Supporting and protecting device Patent  
[NASA-CASE-XMF-00580] c 11 N70-35383  
Shuttle car loading system  
[NASA-CASE-NPO-15949-1] c 85 N85-34722

**TRANSVERSE ACCELERATION**  
Rim inertial measuring system  
[NASA-CASE-LAR-12052-1] c 18 N81-29152

**TRAPS**  
Deep trap, laser activated image converting system  
[NASA-CASE-NPO-13131-1] c 36 N75-19652

**TRAVELING WAVE AMPLIFIERS**  
Serrordyne frequency converter re-entrant amplifier system Patent  
[NASA-CASE-XGS-01022] c 07 N71-16088  
Traveling wave solid state amplifier utilizing a semiconductor with negative differential mobility  
[NASA-CASE-HQN-10069] c 33 N75-27251  
Resonant isolator for maser amplifier  
[NASA-CASE-NPO-15201-1] c 36 N83-35350  
Ladder supported ring bar circuit  
[NASA-CASE-LEW-13570-1] c 33 N84-16452

**TRAVELING WAVE MASERS**  
Folded traveling wave maser structure Patent  
[NASA-CASE-XNP-05219] c 16 N71-15550  
High-gain, broadband traveling wave maser Patent  
[NASA-CASE-NPO-10548] c 16 N71-24831

Independent gain and bandwidth control of a traveling wave maser  
[NASA-CASE-NPO-13801-1] c 36 N78-18410

**TRAVELING WAVE TUBES**  
Segmented superconducting magnet for a broadband traveling wave maser Patent  
[NASA-CASE-XGS-10518] c 16 N71-28554  
Traveling wave tube circuit  
[NASA-CASE-LEW-12013-1] c 33 N79-10339  
Multistage depressed collector for dual mode operation --- for microwave transmitting tubes  
[NASA-CASE-LEW-13282-1] c 33 N82-24415  
Linearized traveling wave amplifier with hard limiter characteristics  
[NASA-CASE-LEW-13981-2] c 33 N86-21742  
Miniature traveling wave tube and method of making  
[NASA-CASE-LEW-14520-1] c 33 N88-23936

**TRAVELING WAVES**  
Maser for frequencies in the 7-20 GHz range  
[NASA-CASE-NPO-11437] c 16 N72-28521

**TREADMILLS**  
Tread drum for animals --- having an electrical shock station  
[NASA-CASE-ARC-10917-1] c 51 N78-27733

**TREADS**  
Tank tread assemblies with track-linking mechanism  
[NASA-CASE-NPO-16321-1-CU] c 37 N87-17034

**TRIGGER CIRCUITS**  
Ring counter  
[NASA-CASE-XGS-03095] c 09 N69-27463  
Electric arc driven wind tunnel Patent  
[NASA-CASE-XMF-00411] c 11 N70-36913  
Automatic signal range selector for metering devices Patent  
[NASA-CASE-XMS-06497] c 14 N71-26244  
Multivibrator circuit with means to prevent false triggering from supply voltage fluctuations Patent  
[NASA-CASE-ARC-10137-1] c 09 N71-28468  
SCR lamp driver  
[NASA-CASE-GSC-10221-1] c 09 N72-23171  
Rapidly pulsed, high intensity, incoherent light source  
[NASA-CASE-XLE-2529-3] c 33 N74-20859  
Pulsed thyristor trigger control circuit  
[NASA-CASE-MFS-25616-1] c 33 N84-16455

**TRIGONOMETRY**  
Trigonometric vehicle guidance assembly which aligns the three perpendicular axes of two three-axes systems Patent  
[NASA-CASE-XMF-00684] c 21 N71-21688

**TRIMERS**  
Trifunctional alcohol  
[NASA-CASE-NPO-10714] c 06 N69-31244  
Trimerization of aromatic nitriles  
[NASA-CASE-LEW-12053-1] c 27 N78-15276  
Catalytic trimerization of aromatic nitriles and triaryl-s-triazine ring cross-linked high temperature resistant polymers and copolymers made thereby  
[NASA-CASE-LEW-12053-2] c 27 N79-28307

**TRIODES**  
Triode thermionic energy converter  
[NASA-CASE-XLE-01015] c 03 N69-39898  
Textured carbon surfaces on copper by sputtering  
[NASA-CASE-LEW-14130-1] c 31 N86-32587

**TRITIUM**  
Method for determining the state of charge of batteries by the use of tracers Patent  
[NASA-CASE-XNP-01464] c 03 N71-10728

**TROPOPAUSE**  
CAT altitude avoidance system  
[NASA-CASE-NPO-15351-1] c 06 N83-10040

**TRUCKS**  
Fifth wheel  
[NASA-CASE-FRC-10081-1] c 37 N77-14477  
Low-drag ground vehicle particularly suited for use in safely transporting livestock  
[NASA-CASE-FRC-11058-1] c 85 N82-33288

**TRUSSES**  
Low mass truss structure  
[NASA-CASE-LAR-10546-1] c 11 N72-25287  
Lightweight structural columns --- space erectable trusses  
[NASA-CASE-LAR-12095-1] c 31 N81-25258  
Structural members, method and apparatus  
[NASA-CASE-MSC-16217-1] c 31 N81-27323  
Sequentially deployable maneuverable tetrahedral beam  
[NASA-CASE-LAR-13098-1] c 31 N86-19479  
Shuttle-launch triangular space station  
[NASA-CASE-MSC-20676-1] c 18 N86-24729  
Synchronously deployable truss structure  
[NASA-CASE-LAR-13117-1] c 37 N86-25789  
Deployable M-braced truss structure  
[NASA-CASE-LAR-13081-1] c 37 N86-32737  
Synchronously deployable double fold beam and planar truss structure  
[NASA-CASE-LAR-13490-1] c 18 N87-14413

- Deployable geodesic truss structure  
[NASA-CASE-LAR-13113-1] c 31 N87-25492
- Preloaded space structural coupling joints  
[NASA-CASE-LAR-13489-1] c 18 N87-27713
- Mobile remote manipulator system for a tetrahedral truss  
[NASA-CASE-MS-C-20985-1] c 18 N88-26398
- Collet lock joint for space station truss  
[NASA-CASE-MS-C-21207-1] c 37 N88-29180
- Clevis joint for deployable space structures  
[NASA-CASE-LAR-13898-1] c 37 N88-30130
- TUBE GRIDS**  
Method for fabricating solar cells having integrated collector grids  
[NASA-CASE-LEW-12819-2] c 44 N79-18444
- TUBE HEAT EXCHANGERS**  
Electrothermal rockets having improved heat exchangers Patent  
[NASA-CASE-XLE-01783] c 28 N70-34175
- Procedure and apparatus for determination of water in nitrogen tetroxide  
[NASA-CASE-NPO-10234] c 06 N72-17094
- Liquid cooled brassiere and method of diagnosing malignant tumors therewith  
[NASA-CASE-ARC-11007-1] c 52 N77-14736
- Solar energy receiver for a Stirling engine  
[NASA-CASE-NPO-14619-1] c 44 N81-17518
- TUBES**  
Method of making tubes Patent  
[NASA-CASE-XGS-04175] c 15 N71-18579
- Tube sealing device Patent  
[NASA-CASE-NPO-10431] c 15 N71-29132
- TUMBLING MOTION**  
Tumbler system to provide random motion  
[NASA-CASE-XGS-02437] c 15 N69-21472
- TUMORS**  
Liquid cooled brassiere and method of diagnosing malignant tumors therewith  
[NASA-CASE-ARC-11007-1] c 52 N77-14736
- TUNABLE LASERS**  
Spectrophone stabilized laser with line center offset frequency control  
[NASA-CASE-NPO-15516-1] c 36 N84-22943
- Portable remote laser sensor for methane leak detection  
[NASA-CASE-NPO-15790-1] c 36 N85-21631
- Digital control of diode laser for atmospheric spectroscopy  
[NASA-CASE-NPO-16000-1] c 36 N85-29264
- Method and means for generation of tunable laser sidebands in the far-infrared region  
[NASA-CASE-NPO-16497-1-CU] c 36 N87-25567
- Isotope separation using tuned laser and electron beam  
[NASA-CASE-NPO-16907-1-CU] c 25 N88-24732
- TUNGSTEN**  
Bonding thermoelectric elements to nonmagnetic refractory metal electrodes  
[NASA-CASE-XGS-04554] c 15 N69-39786
- Method of producing porous tungsten ionizers for ion rocket engines Patent  
[NASA-CASE-XLE-00455] c 28 N70-38197
- Small plasma probe Patent  
[NASA-CASE-XLE-02578] c 25 N71-20747
- Fabrication of controlled-porosity metals Patent  
[NASA-CASE-XNP-04339] c 17 N71-29137
- Tungsten contacts on silicon substrates  
[NASA-CASE-GSC-10695-1] c 09 N72-25259
- Nuclear thermionic converter --- tungsten-thorium oxide rods  
[NASA-CASE-NPO-13121-1] c 73 N77-18891
- TUNGSTEN ALLOYS**  
Evaporant holder  
[NASA-CASE-XLA-03105] c 15 N69-27483
- Cobalt-base alloy  
[NASA-CASE-LEW-10436-1] c 17 N73-32415
- Directionally solidified eutectic gamma plus beta nickel-base superalloys  
[NASA-CASE-LEW-12906-1] c 26 N77-32279
- TUNING**  
Active tuned circuit  
[NASA-CASE-GSC-11340-1] c 10 N72-33230
- Magnetically actuated tuning method for Gunn oscillators  
[NASA-CASE-NPO-12106] c 09 N73-15235
- Tuned analog network  
[NASA-CASE-GSC-12650-1] c 33 N84-14421
- Spectrophone stabilized laser with line center offset frequency control  
[NASA-CASE-NPO-15516-1] c 36 N84-22943
- Aircraft rotor blade with passive tuned tab  
[NASA-CASE-ARC-11444-1] c 05 N85-29947
- Precision tunable resonant microwave cavity  
[NASA-CASE-LEW-13935-1] c 33 N87-21234
- Programmable electronic synthesized capacitance  
[NASA-CASE-GSC-12961-1] c 33 N87-22895
- Tailorable infrared sensing device with strain layer superlattice structure  
[NASA-CASE-NPO-16607-1-CU] c 76 N88-14836
- Field induced gap infrared detector  
[NASA-CASE-NPO-17526-1-CU] c 35 N89-28796
- TUNNEL DIODES**  
Low power drain semi-conductor circuit  
[NASA-CASE-XGS-04999] c 09 N69-24317
- High band gap 2-6 and 3-5 tunneling junctions for silicon multijunction solar cells  
[NASA-CASE-NPO-16526-1-CU] c 44 N87-17399
- TUNNELING (EXCAVATION)**  
Scanning seismic intrusion detection method and apparatus --- monitoring unwanted subterranean entry and departure  
[NASA-CASE-ARC-11317-1] c 35 N83-34272
- TUNNELS**  
Deployable flexible tunnel  
[NASA-CASE-MFS-22636-1] c 37 N76-22540
- Smart tunnel: Docking mechanism  
[NASA-CASE-MS-C-21360-1] c 18 N89-25263
- TURBINE BLADES**  
Transpiration cooled turbine blade manufactured from wires Patent  
[NASA-CASE-XLE-00020] c 15 N70-33226
- Modification and improvements to cooled blades Patent  
[NASA-CASE-XLE-00092] c 15 N70-33264
- High temperature nickel-base alloy Patent  
[NASA-CASE-XLE-00151] c 17 N70-33283
- External liquid-spray cooling of turbine blades Patent  
[NASA-CASE-XLE-00037] c 28 N70-33372
- Liquid spray cooling method Patent  
[NASA-CASE-XLE-00027] c 33 N71-29152
- Welding blades to rotors  
[NASA-CASE-LEW-10533-1] c 15 N73-28515
- Leading edge protection for composite blades  
[NASA-CASE-LEW-12550-1] c 24 N77-19170
- Fully plasma-sprayed compliant backed ceramic turbine seal  
[NASA-CASE-LEW-13268-2] c 37 N82-26674
- Method of protecting a surface with a silicon-slurry/aluminide coating --- coatings for gas turbine engine blades and vanes  
[NASA-CASE-LEW-13343-1] c 27 N82-28441
- Fully plasma-sprayed compliant backed ceramic turbine seal  
[NASA-CASE-LEW-13268-1] c 27 N82-29453
- Vertical shaft windmill  
[NASA-CASE-LAR-12923-1] c 37 N84-12493
- TURBINE ENGINES**  
High speed, self-acting shaft seal --- for use in turbine engines  
[NASA-CASE-LEW-11274-1] c 37 N75-21631
- Dual cycle aircraft turbine engine  
[NASA-CASE-LAR-11310-1] c 07 N77-28118
- Composite seal for turbomachinery --- backings for turbine engine shrouds  
[NASA-CASE-LEW-12131-1] c 37 N79-18318
- Self stabilizing sonic inlet  
[NASA-CASE-LEW-11890-1] c 05 N79-24976
- Composite seal for turbomachinery  
[NASA-CASE-LEW-12131-2] c 37 N80-26658
- TURBINE PUMPS**  
Pulsed energy power system Patent  
[NASA-CASE-MS-C-13112] c 03 N71-11057
- Cryogenic cooling system Patent  
[NASA-CASE-NPO-10467] c 23 N71-26654
- Supersonic-combustion rocket  
[NASA-CASE-LEW-11058-1] c 20 N74-13502
- Supercharged topping rocket propellant feed system  
[NASA-CASE-XLE-02062-1] c 20 N80-14188
- Rotor self-lubricating axial stop  
[NASA-CASE-MFS-28273-1] c 37 N88-23974
- TURBINE WHEELS**  
Locking device for turbine rotor blades Patent  
[NASA-CASE-XNP-00816] c 28 N71-28928
- Apparatus for welding blades to rotors  
[NASA-CASE-LEW-10533-2] c 37 N74-11300
- Blade retainer assembly  
[NASA-CASE-LEW-12608-1] c 07 N77-27116
- TURBINES**  
Rotating shaft seal Patent  
[NASA-CASE-XNP-02862-1] c 15 N71-26294
- Method for driving two-phase turbines with enhanced efficiency  
[NASA-CASE-NPO-15037-2] c 37 N85-29282
- TURBOCOMPRESSORS**  
Multistage multiple-reentry turbine Patent  
[NASA-CASE-XLE-00170] c 15 N70-36412
- Apparatus and method for reducing thermal stress in a turbine rotor  
[NASA-CASE-LEW-12232-1] c 07 N79-10057
- Combustor liner construction  
[NASA-CASE-LEW-14035-1] c 07 N84-24577
- Diesel engine catalytic combustor system --- aircraft engines  
[NASA-CASE-LEW-12995-1] c 37 N84-33808
- TURBOFAN ENGINES**  
Supersonic fan blading --- noise reduction in turbofan engines  
[NASA-CASE-LEW-11402-1] c 07 N74-28226
- Noise suppressor --- for turbofan engine by incorporating annular acoustically porous elements in exhaust and inlet ducts  
[NASA-CASE-LAR-11141-1] c 07 N74-32418
- Variable thrust nozzle for quiet turbofan engine and method of operating same  
[NASA-CASE-LEW-12317-1] c 07 N78-17055
- Method and apparatus for rapid thrust increases in a turbofan engine  
[NASA-CASE-LEW-12971-1] c 07 N80-18039
- Integrated control system for a gas turbine engine  
[NASA-CASE-LEW-12594-2] c 07 N81-19116
- Thrust reverser for a long duct fan engine --- for turbofan engines  
[NASA-CASE-LEW-13199-1] c 07 N82-26293
- Noise suppressor for turbo fan jet engines  
[NASA-CASE-ARC-10812-1] c 07 N83-33884
- TURBOFANS**  
Dual output variable pitch turbofan actuation system  
[NASA-CASE-LEW-12419-1] c 07 N77-14025
- Reverse pitch fan with divided splitter  
[NASA-CASE-LEW-12760-1] c 07 N77-17059
- TURBOGENERATORS**  
Wind and solar powered turbine  
[NASA-CASE-NPO-15496-1] c 44 N84-23018
- TURBOJET ENGINE CONTROL**  
Integrated control system for a gas turbine engine  
[NASA-CASE-LEW-12594-2] c 07 N81-19116
- TURBOJET ENGINES**  
Telescoping-spike supersonic inlet for aircraft engines Patent  
[NASA-CASE-XLE-00005] c 28 N70-39899
- Gas turbine combustion apparatus Patent  
[NASA-CASE-XLE-103477-1] c 28 N71-20330
- Reduction of nitric oxide emissions from a combustor  
[NASA-CASE-ARC-10814-2] c 07 N80-26298
- TURBOMACHINE BLADES**  
Platform for a swing root turbomachinery blade  
[NASA-CASE-LEW-12312-1] c 07 N77-32148
- Composite seal for turbomachinery  
[NASA-CASE-LEW-12131-2] c 37 N80-26658
- TURBOMACHINERY**  
Turbo-machine blade vibration damper Patent  
[NASA-CASE-XLE-00155] c 28 N71-29154
- Composite seal for turbomachinery  
[NASA-CASE-LEW-12131-3] c 37 N82-19540
- Fully plasma-sprayed compliant backed ceramic turbine seal  
[NASA-CASE-LEW-13268-1] c 27 N82-29453
- Method of fabricating an abrasible gas path seal  
[NASA-CASE-LEW-13269-2] c 37 N84-22957
- Wind and solar powered turbine  
[NASA-CASE-NPO-15496-1] c 44 N84-23018
- Compliant hydrodynamic fluid journal bearing  
[NASA-CASE-LEW-13670-1] c 37 N86-19606
- Damping seal for turbomachinery  
[NASA-CASE-MFS-25842-2] c 37 N86-20788
- Turbomachinery shaft insert  
[NASA-CASE-MFS-28345-2] c 37 N89-28842
- TURBOSHAFTS**  
Optical torque meter Patent  
[NASA-CASE-XLE-00503] c 14 N70-34818
- High speed, self-acting shaft seal --- for use in turbine engines  
[NASA-CASE-LEW-11274-1] c 37 N75-21631
- TURBULENCE METERS**  
Hot foil transducer skin friction sensor  
[NASA-CASE-LAR-12321-1] c 35 N82-24470
- TURBULENT BOUNDARY LAYER**  
Sound shield  
[NASA-CASE-LAR-12883-1] c 71 N83-17235
- Method for laminar boundary layer transition visualization in flight  
[NASA-CASE-LAR-13554-1] c 02 N89-12551
- TURBULENT FLOW**  
Exhaust flow deflector --- for ducted gas flow  
[NASA-CASE-LAR-11570-1] c 34 N76-18364
- System for measuring Reynolds in a turbulently flowing fluid --- signal processing  
[NASA-CASE-ARC-10755-2] c 34 N76-27517
- System for measuring three fluctuating velocity components in a turbulently flowing fluid  
[NASA-CASE-ARC-10974-1] c 34 N77-27345
- Detection of the transitional layer between laminar and turbulent flow areas on a wing surface --- using an accelerometer to measure pressure levels during wind tunnel tests  
[NASA-CASE-LAR-12261-1] c 02 N80-20224

- Amplified wind turbine apparatus  
[NASA-CASE-MFS-23830-1] c 44 N82-24639
- Active control of boundary layer transition and turbulence  
[NASA-CASE-LAR-13532-1] c 34 N86-26575
- TURNSTILE ANTENNAS**  
Method and means for damping nutation in a satellite Patent  
[NASA-CASE-XMF-00442] c 31 N71-10747
- Broadband modified turnstile antenna Patent  
[NASA-CASE-MSC-12209] c 09 N71-24842
- Turnstile slot antenna  
[NASA-CASE-GSC-11428-1] c 32 N74-20864
- Turnstile and flared cone UHF antenna  
[NASA-CASE-LAR-10970-1] c 33 N76-14372
- TURRET**  
Electron beam tube containing a multiple cathode array employing indexing means for cathode substitution Patent  
[NASA-CASE-NPO-10625] c 09 N71-26182
- TWISTING**  
Means for controlling aerodynamically induced twist  
[NASA-CASE-LAR-12175-1] c 05 N82-28279
- TWO BODY PROBLEM**  
Instrument for measuring potentials on two dimensional electric field plots Patent  
[NASA-CASE-XLA-08493] c 10 N71-19421
- TWO DIMENSIONAL BODIES**  
Two-dimensional radiant energy array computers and computing devices  
[NASA-CASE-GSC-11839-1] c 60 N77-14751
- TWO PHASE FLOW**  
Two-step rocket engine bipropellant valve Patent  
[NASA-CASE-XMS-04890-1] c 15 N70-22192
- Booster tank system Patent  
[NASA-CASE-MSC-12390] c 27 N71-29155
- Two phase flow system with discrete impinging two-phase jets  
[NASA-CASE-NPO-11556] c 12 N72-25292
- Method and turbine for extracting kinetic energy from a stream of two-phase fluid  
[NASA-CASE-NPO-14130-1] c 34 N79-20335
- Method for driving two-phase turbines with enhanced efficiency  
[NASA-CASE-NPO-15037-2] c 37 N85-29282
- Pumped two-phase heat transfer loop  
[NASA-CASE-MSC-20841-1] c 34 N87-22950
- Pumped two-phase heat transfer loop  
[NASA-CASE-MSC-20841-2] c 34 N88-23958
- TYPEWRITERS**  
Guide for a typewriter  
[NASA-CASE-MFS-15218-1] c 37 N77-19457
- U**
- U BENDS**  
Technique of elbow bending small jacketed transfer lines Patent  
[NASA-CASE-XNP-10475] c 15 N71-24679
- Method for distillation of liquids  
[NASA-CASE-XNP-08124-2] c 06 N73-13129
- ULCERS**  
Indomethacin-anthistamine combination for gastric ulceration control  
[NASA-CASE-ARC-11118-2] c 52 N81-14613
- Indomethacin-anthistamine combination for gastric ulceration control  
[NASA-CASE-ARC-11118-1] c 52 N81-29764
- ULLAGE**  
Penetrating radiation system for detecting the amount of liquid in a tank Patent  
[NASA-CASE-MSC-12280] c 27 N71-16348
- ULTRAHIGH FREQUENCIES**  
Turnstile and flared cone UHF antenna  
[NASA-CASE-LAR-10970-1] c 33 N76-14372
- Dual band combiner for horn antenna  
[NASA-CASE-NPO-14519-1] c 32 N80-23524
- ULTRAHIGH VACUUM**  
Method of lubricating rolling element bearings Patent  
[NASA-CASE-XLE-09527] c 15 N71-17688
- Gauge calibration by diffusion  
[NASA-CASE-XGS-07752] c 14 N73-30390
- Ultrahigh vacuum gauge having two collector electrodes  
[NASA-CASE-LAR-02743] c 14 N73-32324
- In situ transfer standard for ultrahigh vacuum gage calibration  
[NASA-CASE-LAR-10862-1] c 35 N74-15092
- Precision manipulator heating and cooling apparatus for use in UHV systems with sample transfer capability  
[NASA-CASE-LAR-13040-1] c 37 N85-29286
- ULTRAPURE METALS**  
Apparatus for production of ultrapure amorphous metals utilizing acoustic cooling  
[NASA-CASE-NPO-15658-1] c 26 N86-32551

**ULTRASONIC AGITATION**

- Apparatus for recovering matter adhered to a host surface  
[NASA-CASE-NPO-11213] c 15 N73-20514
- ULTRASONIC CLEANING**  
Acoustic tooth cleaner  
[NASA-CASE-LAR-12471-1] c 52 N82-29862
- ULTRASONIC FLAW DETECTION**  
Length mode piezoelectric ultrasonic transducer for inspection of solid objects  
[NASA-CASE-MSC-19672-1] c 38 N79-14398
- Two-dimensional scanner apparatus --- flaw detector in small flat plates  
[NASA-CASE-MFS-25687-1] c 35 N84-22928
- Ultrasonic angle beam standard reflector --- ultrasonic nondestructive inspection  
[NASA-CASE-LAR-13153-1] c 71 N86-21276
- Ultrasonic method and apparatus for determining crack opening load  
[NASA-CASE-LAR-13889-1] c 39 N88-30160
- ULTRASONIC RADIATION**  
Ultrasonic biomedical measuring and recording apparatus --- for recording motion of internal organs such as heart valves  
[NASA-CASE-ARC-10597-1] c 52 N74-20726
- Biomedical ultrasonoscope  
[NASA-CASE-ARC-10994-1] c 52 N76-33835
- Biomedical ultrasonoscope  
[NASA-CASE-ARC-10994-2] c 52 N79-26771
- Dual differential interferometer  
[NASA-CASE-LAR-12966-1] c 35 N85-30282
- Method for thermal monitoring subcutaneous tissue  
[NASA-CASE-LAR-13028-1] c 52 N85-30618
- Acoustic radiation stress measurement  
[NASA-CASE-LAR-13440-1] c 71 N87-21653
- ULTRASONIC SCANNERS**  
Cutting head for ultrasonic lithotripsy  
[NASA-CASE-GSC-12944-1] c 52 N86-19885
- ULTRASONIC TESTS**  
Ultrasonic scanner for radial and flat panels  
[NASA-CASE-MFS-20335-1] c 35 N74-10415
- Ultrasonic scanning system for in-place inspection of brazed tube joints  
[NASA-CASE-MFS-20767-1] c 38 N74-15130
- Method and apparatus for nondestructive testing --- using high frequency arc discharges  
[NASA-CASE-MFS-21233-1] c 38 N74-15395
- CW ultrasonic bolt tensioning monitor  
[NASA-CASE-LAR-12016-1] c 39 N78-15512
- Rapid quantification of an internal property --- ultrasonic determination of bladder urine quantity  
[NASA-CASE-LAR-13689-1-NP] c 35 N87-23941
- Ultrasonic method and apparatus for determining crack opening load  
[NASA-CASE-LAR-13889-1] c 39 N88-30160
- ULTRASONIC WAVE TRANSDUCERS**  
Apparatus for recovering matter adhered to a host surface  
[NASA-CASE-NPO-11213] c 15 N73-20514
- Ultrasonic bone densitometer  
[NASA-CASE-MFS-20994-1] c 35 N75-12271
- Reference apparatus for medical ultrasonic transducer  
[NASA-CASE-ARC-10753-1] c 54 N75-27760
- Ultrasonic calibration device --- for producing changes in acoustic attenuation and phase velocity  
[NASA-CASE-LAR-11435-1] c 35 N76-15432
- Coupling apparatus for ultrasonic medical diagnostic system  
[NASA-CASE-NPO-13935-1] c 52 N79-14751
- CDS solid state phase insensitive ultrasonic transducer --- annealing cadmium sulfide crystals  
[NASA-CASE-LAR-12304-1] c 35 N80-20559
- Liquid-immersible electrostatic ultrasonic transducer  
[NASA-CASE-LAR-12465-1] c 33 N82-26572
- Ultrasonic transducer with Gaussian radial pressure distribution  
[NASA-CASE-LAR-12967-1] c 35 N84-22932
- Apparatus for disintegrating kidney stones  
[NASA-CASE-GSC-12652-1] c 52 N84-34913
- Ultrasonic depth gauge for liquids under high pressure  
[NASA-CASE-LAR-13300-1-CU] c 35 N89-14407
- ULTRASONIC WELDING**  
Ultrasonically bonded valve assembly  
[NASA-CASE-NPO-13360-1] c 37 N75-25185
- ULTRASONICS**  
Methods and apparatus employing vibratory energy for wrenching Patent  
[NASA-CASE-MFS-20586] c 15 N71-17686
- Pseudo continuous wave instrument --- ultrasonics  
[NASA-CASE-LAR-12260-1] c 35 N79-10390
- Dual differential interferometer  
[NASA-CASE-LAR-12966-1] c 35 N85-30282
- Method for thermal monitoring subcutaneous tissue  
[NASA-CASE-LAR-13028-1] c 52 N85-30618
- Ultrasonic depth gauge for liquids under high pressure  
[NASA-CASE-LAR-13300-1-CU] c 35 N89-14407

**ULTRAVIOLET FILTERS**

- Ultraviolet filter  
[NASA-CASE-XNP-02340] c 23 N69-24332
- Ultraviolet resonance lamp Patent  
[NASA-CASE-ARC-10030] c 09 N71-12521
- ULTRAVIOLET LASERS**  
Stabilization of He2(a 3 Sigma u+ molecules in liquid helium by optical pumping for vacuum UV laser 6  
[NASA-CASE-NPO-13993-1] c 72 N79-13826
- ULTRAVIOLET RADIATION**  
Alkali-metal silicate protective coating  
[NASA-CASE-XGS-04119] c 18 N69-39979
- Ultraviolet resonance lamp Patent  
[NASA-CASE-ARC-10030] c 09 N71-12521
- Leak detector wherein a probe is monitored with ultraviolet radiation Patent  
[NASA-CASE-ERC-10034] c 15 N71-24896
- Phototropic composition of matter  
[NASA-CASE-XGS-03736] c 14 N72-22443
- Transmitting and reflecting diffuser --- for ultraviolet light  
[NASA-CASE-LAR-10385-2] c 70 N74-13436
- Ultraviolet and thermally stable polymer compositions  
[NASA-CASE-ARC-10592-1] c 27 N74-21156
- Light shield and cooling apparatus --- high intensity ultraviolet lamp  
[NASA-CASE-LAR-10089-1] c 34 N74-23066
- Flame detector operable in presence of proton radiation  
[NASA-CASE-MFS-21577-1] c 19 N74-29410
- Method and apparatus for generating coherent radiation in the ultra-violet region and above by use of distributed feedback  
[NASA-CASE-NPO-13346-1] c 36 N76-29575
- Ultraviolet and thermally stable polymer compositions  
[NASA-CASE-ARC-10592-2] c 27 N76-32315
- Vitro-violet process for producing flame resistant polyamides and products produced thereby --- protective clothing for high oxygen environments  
[NASA-CASE-MSC-16074-1] c 27 N80-26446
- ULTRAVIOLET REFLECTION**  
Alkali metal silicate protective coating Patent  
[NASA-CASE-XGS-04799] c 18 N71-24183
- Ultraviolet light reflective coating  
[NASA-CASE-GSC-11786-1] c 24 N76-24363
- Transmitting and reflecting diffuser --- using ultraviolet grade fused silica coatings  
[NASA-CASE-LAR-10385-3] c 74 N78-15879
- ULTRAVIOLET SPECTRA**  
Ultraviolet atomic emission detector  
[NASA-CASE-HQN-10756-1] c 14 N72-25428
- ULTRAVIOLET SPECTROMETERS**  
Concave grating spectrometer Patent  
[NASA-CASE-XGS-01036] c 14 N70-40003
- Telespectrograph Patent  
[NASA-CASE-XLA-03273] c 14 N71-18699
- UMBILICAL CONNECTORS**  
Umbilical separator for rockets Patent  
[NASA-CASE-XNP-00425] c 11 N70-38202
- Umbilical disconnect Patent  
[NASA-CASE-XLA-00711] c 03 N71-12258
- Remote controlled tubular disconnect Patent  
[NASA-CASE-XLA-01396] c 03 N71-12259
- Serpentuator Patent  
[NASA-CASE-XMF-05344] c 31 N71-16345
- Breakaway connector  
[NASA-CASE-NPO-11140] c 15 N72-17455
- Quick disconnect coupling  
[NASA-CASE-NPO-11202] c 15 N72-25450
- Deployable flexible tunnel  
[NASA-CASE-MFS-22636-1] c 37 N76-22540
- High acceleration cable deployment system  
[NASA-CASE-ARC-11256-1] c 15 N82-24272
- UMBILICAL TOWERS**  
Emergency escape system Patent  
[NASA-CASE-XKS-02342] c 05 N71-11199
- UNDERWATER ENGINEERING**  
Ejectable underwater sound source recovery assembly  
[NASA-CASE-LAR-10595-1] c 35 N74-16135
- Underwater seismic source --- for petroleum exploration  
[NASA-CASE-NPO-14255-1] c 46 N79-23555
- UNDERWATER TESTS**  
Underwater space suit pressure control regulator  
[NASA-CASE-MFS-20332] c 05 N72-20097
- Underwater space suit pressure control regulator  
[NASA-CASE-MFS-20332-2] c 05 N73-25125
- UNIFORM FLOW**  
Wind tunnel flow generation section  
[NASA-CASE-ARC-10710-1] c 09 N75-12969
- UNIONS (CONNECTORS)**  
Beam connector apparatus and assembly  
[NASA-CASE-MFS-25134-1] c 31 N83-31895
- Preloaded space structural coupling joints  
[NASA-CASE-LAR-13489-1] c 18 N87-27713

## UNLOADING

- Bootstrap unloader Patent  
[NASA-CASE-XNP-09768] c 09 N71-12516

## UNMANNED SPACECRAFT

- Material handling device Patent  
[NASA-CASE-XNP-09770-3] c 11 N71-27036

## UNSATURATION (CHEMISTRY)

- Stabilized unsaturated polyesters  
[NASA-CASE-NPO-16103-1] c 27 N85-29043

## UP-CONVERTERS

- Method and apparatus for quadriphase-shift-key and linear phase modulation  
[NASA-CASE-NPO-14444-1] c 33 N81-15192

## UPPER ATMOSPHERE

- Telespectrograph Patent  
[NASA-CASE-XLA-03273] c 14 N71-18699
- Apparatus for sampling particulates in gases  
[NASA-CASE-HQN-10037-1] c 14 N73-27376
- Rocket having barium release system to create ion clouds in the upper atmosphere  
[NASA-CASE-LAR-10670-2] c 15 N74-27360
- Microwave limb sounder --- measuring trace gases in the upper atmosphere  
[NASA-CASE-NPO-14544-1] c 46 N82-12685

## URANIUM 235

- Isotope separation using metallic vapor lasers  
[NASA-CASE-NPO-13550-1] c 36 N77-26477

## UREAS

- Aldehyde-containing urea-absorbing polysaccharides  
[NASA-CASE-NPO-13620-1] c 27 N77-30236
- Dialysis system --- using ion exchange resin membranes permeable to urea molecules  
[NASA-CASE-NPO-14101-1] c 52 N80-14687
- Reverse osmosis membrane of high urea rejection properties --- water purification  
[NASA-CASE-ARC-10980-1] c 27 N80-23452

## URETHANES

- Viscoelastic cationic polymers containing the urethane linkage  
[NASA-CASE-NPO-10830-1] c 27 N81-15104

## URINALYSIS

- Automated fluid chemical analyzer Patent  
[NASA-CASE-XNP-09451] c 06 N71-26754
- Method of detecting and counting bacteria in body fluids  
[NASA-CASE-GSC-11092-2] c 04 N73-27052
- Automatic instrument for chemical processing to detect microorganism in biological samples by measuring light reactions  
[NASA-CASE-GSC-11169-2] c 05 N73-32011
- Determination of antimicrobial susceptibilities on infected urines without isolation  
[NASA-CASE-GSC-12046-1] c 52 N79-14750

## URINATION

- Open type urine receptacle  
[NASA-CASE-MSC-12324-1] c 05 N72-22093
- Urine collection device  
[NASA-CASE-MSC-16433-1] c 52 N81-24711
- Urine collection apparatus --- feminine hygiene  
[NASA-CASE-MSC-18381-1] c 52 N81-28740

## URINE

- Rapid quantification of an internal property --- ultrasonic determination of bladder urine quantity  
[NASA-CASE-LAR-13689-1-NP] c 35 N87-23941

## UROLOGY

- Urine collection device  
[NASA-CASE-MSC-16433-1] c 52 N81-24711

## UTERUS

- Cervix-to-rectum measuring device in a radiation applicator for use in the treatment of cervical cancer  
[NASA-CASE-GSC-12081-2] c 52 N82-22875

## V

## V GROOVES

- Vee-notching device --- with adjustable carriage  
[NASA-CASE-MFS-20730-1] c 39 N74-13131
- Complementary DMOS-VMOS integrated circuit structure  
[NASA-CASE-GSC-12190-1] c 33 N79-12321
- High voltage v-groove solar cell  
[NASA-CASE-LEW-13401-2] c 44 N83-32177

## VACANCIES (CRYSTAL DEFECTS)

- Bimetallic junctions  
[NASA-CASE-LEW-11573-1] c 26 N77-28265

## VACUUM

- Depositing semiconductor films utilizing a thermal gradient  
[NASA-CASE-XKS-04614] c 15 N69-21460
- Superconducting magnet Patent  
[NASA-CASE-XNP-06503] c 23 N71-29049
- Thermocouples of molybdenum and iridium alloys for more stable vacuum-high temperature performance  
[NASA-CASE-LEW-12174-2] c 35 N79-14346

- Bakeable McLeod gauge  
[NASA-CASE-XGS-01293-1] c 35 N79-33450
- Spray applicator for spraying coatings and other fluids in space  
[NASA-CASE-MSC-18852-1] c 37 N85-29283
- VACUUM APPARATUS**
- Null-type vacuum microbalance Patent  
[NASA-CASE-XAC-00472] c 15 N70-40180
- Evacuation port seal Patent  
[NASA-CASE-XMF-03290] c 15 N71-23256
- Apparatus for testing polymeric materials Patent  
[NASA-CASE-XNP-09699] c 06 N71-24607
- Trap for preventing diffusion pump backstreaming  
[NASA-CASE-GSC-10518-1] c 15 N72-22489
- Inductance device with vacuum insulation  
[NASA-CASE-LEW-10330-1] c 09 N72-27226
- Apparatus for producing metal powders  
[NASA-CASE-XLE-06461-2] c 17 N72-28535
- Vacuum probe surface sampler  
[NASA-CASE-LAR-10623-1] c 14 N73-30395
- Vacuum leak detector  
[NASA-CASE-LAR-11237-1] c 35 N75-19612
- Apparatus for positioning modular components on a vertical or overhead surface  
[NASA-CASE-LAR-11465-1] c 37 N76-21554
- Safety shield for vacuum/pressure chamber viewing port  
[NASA-CASE-GSC-12513-1] c 31 N81-19343
- Head for high speed spinner having a vacuum chuck --- holding silicon dioxide chips for etching  
[NASA-CASE-NPO-15227-1] c 37 N81-33482
- Static continuous electrophoresis device  
[NASA-CASE-MFS-25306-1] c 25 N83-13187
- Method and apparatus for supercooling and solidifying substances  
[NASA-CASE-MFS-25242-1] c 35 N83-29650
- Space ultra-vacuum facility and method of operation  
[NASA-CASE-MFS-28139-1] c 29 N87-18679
- Low temperature storage container for transporting perishables to space station  
[NASA-CASE-MFS-28248-1] c 31 N88-24817
- VACUUM CHAMBERS**
- High-vacuum condenser tank for ion rocket tests Patent  
[NASA-CASE-XLE-00168] c 11 N70-33278
- Split welding chamber Patent  
[NASA-CASE-LEW-11531] c 15 N71-14932
- Space environmental work simulator Patent  
[NASA-CASE-XMF-07488] c 11 N71-18773
- Pressure monitoring with a plurality of ionization gauges controlled at a central location Patent  
[NASA-CASE-XLE-00787] c 14 N71-21090
- Device for measuring light scattering wherein the measuring beam is successively reflected between a pair of parallel reflectors Patent  
[NASA-CASE-XER-11203] c 14 N71-28994
- Cryogenic feedthrough  
[NASA-CASE-LAR-10031] c 15 N72-22484
- Altitude simulation chamber for rocket engine testing  
[NASA-CASE-MFS-20620] c 11 N72-27262
- Evacuation valve  
[NASA-CASE-LAR-10061-1] c 15 N72-31483
- Method and apparatus for determining the contents of contained gas samples  
[NASA-CASE-GSC-10903-1] c 14 N73-12444
- Test stand system for vacuum chambers  
[NASA-CASE-MFS-21362] c 11 N73-20267
- Atomic hydrogen storage --- cryotrapping and magnetic field strength  
[NASA-CASE-LEW-12081-2] c 28 N80-20402
- Containerless high temperature calorimeter apparatus  
[NASA-CASE-MFS-23923-1] c 35 N81-19426
- Hermetic seal for a shaft  
[NASA-CASE-NPO-15115-1] c 37 N82-24493
- Method for sequentially processing a multi-level interconnect circuit in a vacuum chamber  
[NASA-CASE-MFS-15670-1] c 33 N82-33634
- Sphere forming method and apparatus  
[NASA-CASE-NPO-15070-1] c 31 N83-35176
- Method for sequentially processing a multi-level interconnect circuit in a vacuum chamber  
[NASA-CASE-MFS-256704-1] c 33 N84-22884
- Ion generator and ion application system  
[NASA-CASE-MFS-28122-1] c 72 N88-24253
- Oxidation of semiconductors and superconductors  
[NASA-CASE-NPO-17534-1-CU] c 76 N89-30076
- VACUUM DEPOSITION**
- A method for the deposition of beta-silicon carbide by isoeptaxy  
[NASA-CASE-ERC-10120] c 26 N69-33482
- Vacuum deposition apparatus Patent  
[NASA-CASE-XMF-01667] c 15 N71-17647
- Evaporant source for vapor deposition Patent  
[NASA-CASE-XMF-06065] c 15 N71-20395

- Vacuum evaporator with electromagnetic ion steering Patent  
[NASA-CASE-NPO-10331] c 09 N71-26701
- Preparation of dielectric coating of variable dielectric constant by plasma polymerization  
[NASA-CASE-ARC-10892-2] c 27 N79-14214
- Refractory coatings and method of producing the same  
[NASA-CASE-LEW-13169-1] c 26 N82-29415
- Diamondlike flakes  
[NASA-CASE-LEW-13837-2] c 24 N85-21267
- VACUUM EFFECTS**
- High power RF coaxial switch  
[NASA-CASE-NPO-14229-1] c 33 N80-18285
- VACUUM FURNACES**
- Apparatus for inserting and removing specimens from high temperature vacuum furnaces  
[NASA-CASE-LAR-10841-1] c 31 N74-27900
- VACUUM GAGES**
- Thermopile vacuum gage tube simulator Patent  
[NASA-CASE-XLA-02758] c 14 N71-18481
- Gauge calibration by diffusion  
[NASA-CASE-XGS-07752] c 14 N73-30390
- Ultrahigh vacuum measuring ionization gage  
[NASA-CASE-XLA-05087] c 14 N73-30391
- In situ transfer standard for ultrahigh vacuum gage calibration  
[NASA-CASE-LAR-10862-1] c 35 N74-15092
- VACUUM MELTING**
- High temperature furnace for melting materials in space  
[NASA-CASE-MFS-20710] c 11 N72-23215
- VACUUM PUMPS**
- Pressure control valve --- inflating flexible bladders  
[NASA-CASE-ARC-11251-1] c 37 N81-17433
- VACUUM SPECTROSCOPY**
- Optical multiple sample vacuum integrating sphere  
[NASA-CASE-GSC-12849-1] c 74 N86-26190
- VACUUM SYSTEMS**
- Shrink-fit gas valve Patent  
[NASA-CASE-XGS-00587] c 15 N70-35087
- Cryogenic connector for vacuum use Patent  
[NASA-CASE-XGS-02441] c 15 N70-41629
- Ionization vacuum gauge with all but the end of the ion collector shielded Patent  
[NASA-CASE-XLA-07424] c 14 N71-18482
- Sorption vacuum trap Patent  
[NASA-CASE-XER-09519] c 14 N71-18483
- Vacuum leak detector  
[NASA-CASE-LAR-11237-1] c 35 N75-19612
- Ampoule sealing apparatus and process --- for housing a semiconductor growth charge under vacuum  
[NASA-CASE-LAR-12847-1] c 33 N83-16633
- VACUUM TUBES**
- Integrated structure vacuum tube  
[NASA-CASE-ARC-10445-1] c 31 N76-31365
- Method of purifying metallurgical grade silicon employing reduced pressure atmospheric control  
[NASA-CASE-NPO-14474-1] c 26 N80-14229
- VALUE**
- High impact pressure regulator Patent  
[NASA-CASE-NPO-10175] c 14 N71-18625
- VALVES**
- Valve actuator Patent  
[NASA-CASE-XHQ-01208] c 15 N70-35409
- Fluid coupling Patent  
[NASA-CASE-XLE-00397] c 15 N70-36492
- High pressure four-way valve Patent  
[NASA-CASE-XNP-00214] c 15 N70-36908
- Reinforcing means for diaphragms Patent  
[NASA-CASE-XNP-01962] c 32 N70-41370
- Multway vortex valve system Patent  
[NASA-CASE-XMF-04709] c 15 N71-15609
- Multiple orifice throttle valve Patent  
[NASA-CASE-XNP-09698] c 15 N71-18580
- High pressure air valve Patent  
[NASA-CASE-MSC-11010] c 15 N71-19485
- Valve seat with resilient support member Patent  
[NASA-CASE-XKS-02582] c 15 N71-21234
- Positive locking check valve Patent  
[NASA-CASE-XMS-09310] c 15 N71-22706
- Dual latching solenoid valve Patent  
[NASA-CASE-XMS-05890] c 09 N71-23191
- Valve seat  
[NASA-CASE-NPO-10606] c 15 N72-25451
- Evacuation valve  
[NASA-CASE-LAR-10061-1] c 15 N72-31483
- Flow control valve --- for high temperature fluids  
[NASA-CASE-NPO-11951-1] c 37 N74-21065
- Airlock  
[NASA-CASE-MFS-20922-1] c 18 N74-22136
- Reciprocating engines  
[NASA-CASE-MSC-16239-1] c 37 N81-32510
- Prosthetic occlusive device for an internal passageway  
[NASA-CASE-MFS-25740-1] c 52 N84-11744



## VANES

- Moisture content and gas sampling device  
[NASA-CASE-MSC-18866-1] c 35 N85-29213
- Linear motion valve  
[NASA-CASE-MSC-20148-1] c 37 N85-29284
- Reactant pressure differential control for fuel cell gases  
[NASA-CASE-MSC-20127-2] c 37 N85-34403

## VANES

- Solar vane actuator Patent  
[NASA-CASE-XNP-05535] c 14 N71-23040
- Rotary vane attenuator wherein rotor has orthogonally disposed resistive and dielectric cards  
[NASA-CASE-NPO-11418-1] c 14 N73-13420
- Amplified wind turbine apparatus  
[NASA-CASE-MFS-23830-1] c 44 N82-24639
- Method of protecting a surface with a silicon-slurry/aluminide coating --- coatings for gas turbine engine blades and vanes  
[NASA-CASE-LEW-13343-1] c 27 N82-28441

## VAPOR DEPOSITION

- A method for the deposition of beta-silicon carbide by isoeptaxy  
[NASA-CASE-ERC-10120] c 26 N69-33482
- Apparatus for producing high purity silicon carbide crystals Patent  
[NASA-CASE-XLA-02057] c 26 N70-40015
- Method of changing the conductivity of vapor deposited gallium arsenide by the introduction of water into the vapor deposition atmosphere Patent  
[NASA-CASE-XNP-01961] c 26 N71-29156
- Tungsten contacts on silicon substrates  
[NASA-CASE-GSC-10695-1] c 09 N72-25259
- Deposition apparatus  
[NASA-CASE-LAR-10541-1] c 15 N72-32487
- Deposition of alloy films --- on irregularly shaped metal object  
[NASA-CASE-LEW-11262-1] c 27 N74-13270
- System for depositing thin films  
[NASA-CASE-MFS-20775-1] c 31 N75-12161
- Vapor deposition apparatus --- semiconductors and gallium arsenides  
[NASA-CASE-HQN-10462] c 25 N75-29192
- Chemical vapor deposition reactor --- providing uniform film thickness  
[NASA-CASE-NPO-13650-1] c 25 N79-28253
- Corrosion resistant coating  
[NASA-CASE-NPO-15928-1] c 26 N85-29005
- Ceramic honeycomb structures and the method thereof  
[NASA-CASE-ARC-11652-1] c 27 N87-23737
- Preparation of dilute magnetic semiconductor films by metalorganic chemical vapor deposition  
[NASA-CASE-NPO-17399-1-CU] c 76 N89-14120

## VAPOR PHASES

- Fluid dispensing apparatus and method Patent  
[NASA-CASE-XLE-01182] c 27 N71-15635
- Simple method of making photovoltaic junctions Patent  
[NASA-CASE-XNP-01960] c 09 N71-23027
- Fluid phase analyzer Patent  
[NASA-CASE-NPO-10691] c 14 N71-26199
- Propellant mass distribution metering apparatus Patent  
[NASA-CASE-NPO-10185] c 10 N71-26339
- Pumped two-phase heat transfer loop  
[NASA-CASE-MSC-20841-1] c 34 N87-22950

## VAPOR PRESSURE

- Venting vapor apparatus Patent  
[NASA-CASE-XLE-00288] c 15 N70-34247
- Vapor liquid separator Patent  
[NASA-CASE-XMF-04042] c 15 N71-23023
- Method and apparatus for convection control of metallic halide vapor density in a metallic halide laser  
[NASA-CASE-NPO-15021-1] c 36 N83-10417

## VAPOR TRAPS

- Sorption vacuum trap Patent  
[NASA-CASE-XER-09519] c 14 N71-18483

## VAPORIZERS

- Boiler for generating high quality vapor Patent  
[NASA-CASE-XLE-00785] c 33 N71-16104
- Particle analyzing method and apparatus  
[NASA-CASE-NPO-15292-1] c 35 N83-27184
- Continuous laminar smoke generator  
[NASA-CASE-LAR-13014-1] c 09 N85-21178

## VAPORIZING

- Gas liquefaction and dispensing apparatus Patent  
[NASA-CASE-NPO-10070] c 15 N71-27372
- Method for controlling vapor content of a gas  
[NASA-CASE-NPO-10633] c 03 N72-28025

## VAPORS

- Method of evaporation  
[NASA-CASE-NPO-15609-2] c 25 N88-23846

## VARACTOR DIODE CIRCUITS

- Phase modulator Patent  
[NASA-CASE-MSC-13201-1] c 07 N71-28429

## VARACTOR DIODES

- Varactor high level mixer  
[NASA-CASE-XGS-02171] c 09 N69-24324
- Multiple varactor frequency doubler Patent  
[NASA-CASE-XMF-04958-1] c 10 N71-26414
- Millimeter wave pumped parametric amplifier  
[NASA-CASE-GSC-11617-1] c 33 N74-32660
- Maser cavity servo-tuning system  
[NASA-CASE-NPO-15890-1-CU] c 33 N85-29143

## VARIABILITY

- Variable speed drive  
[NASA-CASE-GSC-12643-1] c 37 N83-26078
- Slotted variable camber flap  
[NASA-CASE-LAR-12541-1] c 05 N84-22551

## VARIABLE CYCLE ENGINES

- Dual cycle aircraft turbine engine  
[NASA-CASE-LAR-11310-1] c 07 N77-28118
- Variable cycle gas turbine engines  
[NASA-CASE-LEW-12916-1] c 37 N78-17384
- Variable mixer propulsion cycle  
[NASA-CASE-LEW-12917-1] c 07 N78-18067

## VARIABLE GEOMETRY STRUCTURES

- Landing arrangement for aerial vehicles Patent  
[NASA-CASE-XLA-00142] c 02 N70-33286
- Variable geometry wind tunnels  
[NASA-CASE-XLA-07430] c 11 N72-22246
- Aircraft engine nozzle  
[NASA-CASE-ARC-10977-1] c 07 N80-32392

## VARIABLE PITCH PROPELLERS

- Dual output variable pitch turbofan actuation system  
[NASA-CASE-LEW-12419-1] c 07 N77-14025
- Impact absorbing blade mounts for variable pitch blades  
[NASA-CASE-LEW-12313-1] c 37 N78-10468

## VARIABLE SWEEP WINGS

- Variable sweep wing configuration Patent  
[NASA-CASE-XLA-00230] c 02 N70-33255
- Variable sweep wing aircraft Patent  
[NASA-CASE-XLA-00221] c 02 N70-33266
- Variable-span aircraft Patent  
[NASA-CASE-XLA-00166] c 02 N70-34178
- Variable sweep aircraft wing Patent  
[NASA-CASE-XLA-00350] c 02 N70-38011
- Variable sweep aircraft Patent  
[NASA-CASE-XLA-03659] c 02 N71-11041
- Dual-fuselage aircraft having yawable wing and horizontal stabilizer  
[NASA-CASE-ARC-10470-1] c 02 N73-26005

## VARIABLE THRUST

- Variable thrust ion engine utilizing thermally decomposable solid fuel Patent  
[NASA-CASE-XMF-00923] c 28 N70-36802
- Method for continuous variation of propellant flow and thrust in propulsive devices Patent  
[NASA-CASE-XLE-00177] c 28 N70-40367
- Variable thrust nozzle for quiet turbofan engine and method of operating same  
[NASA-CASE-LEW-12317-1] c 07 N78-17055

## VARIATIONS

- Bidirectional step torque filter with zero backlash characteristic Patent  
[NASA-CASE-XGS-04227] c 15 N71-21744

## VECTOR ANALYSIS

- Two force component measuring device Patent  
[NASA-CASE-XAC-04886-1] c 14 N71-20439

## VECTOR CURRENTS

- Preloadable vector sensitive latch  
[NASA-CASE-MSC-20910-1] c 37 N87-25582

## VECTOCARDIOGRAPHY

- Biomedical electrode arrangement Patent  
[NASA-CASE-XFR-10856] c 05 N71-11189

## VEGETATION GROWTH

- Rotary plant growth accelerating apparatus --- weightlessness  
[NASA-CASE-ARC-10722-1] c 51 N75-25503
- Remote sensing of vegetation and soil using microwave ellipsometry  
[NASA-CASE-GSC-11976-1] c 43 N78-10529
- Enhancement of in vitro guayule propagation  
[NASA-CASE-NPO-15213-1] c 51 N83-17045

## VEHICLE WHEELS

- Deformable vehicle wheel Patent  
[NASA-CASE-MFS-20400] c 31 N71-18611
- Resilient wheel Patent  
[NASA-CASE-MFS-13929] c 15 N71-27091
- Omnidirectional wheel  
[NASA-CASE-MFS-21309-1] c 37 N74-18125
- Two speed drive system --- mechanical device for changing speed on rotating vehicle wheel  
[NASA-CASE-MFS-20645-1] c 37 N74-23070
- Fifth wheel  
[NASA-CASE-FRC-10081-1] c 37 N77-14477
- Tire/wheel concept  
[NASA-CASE-LAR-11695-2] c 37 N81-24443

- Suspension system for a wheel rolling on a flat track --- bearings for directional antennas  
[NASA-CASE-NPO-14395-1] c 37 N82-21587

## VEHICLES

- Magnetic suspension and pointing system  
[NASA-CASE-LAR-11889-2] c 37 N78-27424

## VEHICULAR TRACKS

- Suspension system for a wheel rolling on a flat track --- bearings for directional antennas  
[NASA-CASE-NPO-14395-1] c 37 N82-21587
- Tank tread assemblies with track-linking mechanism  
[NASA-CASE-NPO-16321-1CU] c 37 N87-17034

## VELOCITY

- Velocity limiting safety system Patent  
[NASA-CASE-XLA-07473] c 15 N71-24895

## VELOCITY COUPLING

- Coupled cavity traveling wave tube with velocity tapering  
[NASA-CASE-LEW-12296-1] c 33 N82-26568

## VELOCITY MEASUREMENT

- Micrometeoroid velocity measuring device Patent  
[NASA-CASE-XLA-00495] c 14 N70-41332
- Superconductive accelerometer Patent  
[NASA-CASE-XMF-01099] c 14 N71-15969
- Gravimeter Patent  
[NASA-CASE-XMF-05844] c 14 N71-17587
- Laser Doppler system for measuring three dimensional vector velocity Patent  
[NASA-CASE-MFS-20386] c 21 N71-19212
- Particle detection apparatus including a ballistic pendulum Patent  
[NASA-CASE-XMS-04201] c 14 N71-22990
- Angular velocity and acceleration measuring apparatus  
[NASA-CASE-ERC-10292] c 14 N72-25410
- Flow velocity and directional instrument  
[NASA-CASE-LAR-10855-1] c 14 N73-13415
- Doppler shift system --- system for measuring velocities of radiating particles  
[NASA-CASE-HQN-10740-1] c 72 N74-19310
- Tachometer  
[NASA-CASE-MFS-23175-1] c 35 N77-30436
- Velocity measurement system  
[NASA-CASE-MFS-23363-1] c 35 N78-32396
- Fluid velocity measuring device  
[NASA-CASE-LAR-11729-1] c 34 N79-12359
- Air speed and attitude probe  
[NASA-CASE-FRC-11009-1] c 06 N80-18036
- Fluidic angular velocity sensor  
[NASA-CASE-NPO-16479-1CU] c 35 N86-32695
- Spinning disk calibration method and apparatus for laser Doppler velocimeter  
[NASA-CASE-ARC-11510-1] c 35 N86-32697

## VELOCITY MODULATION

- Molecular beam velocity selector Patent  
[NASA-CASE-XLE-01533] c 11 N71-10777
- Apparatus for controlling the velocity of an electromechanical drive for interferometers and the like Patent  
[NASA-CASE-XGS-03532] c 14 N71-17627

## VENTILATION

- Protective garment ventilation system  
[NASA-CASE-XMS-04928] c 54 N78-17679
- Low-drag ground vehicle particularly suited for use in safely transporting livestock  
[NASA-CASE-FRC-11058-1] c 85 N82-33288

## VENTILATORS

- Heat sterilizable patient ventilator  
[NASA-CASE-NPO-13313-1] c 54 N75-27761

## VENTING

- Venting vapor apparatus Patent  
[NASA-CASE-XLE-00288] c 15 N70-34247
- Liquid storage tank venting device for zero gravity environment Patent  
[NASA-CASE-XLE-01449] c 15 N70-41643
- Valve seat with resilient support member Patent  
[NASA-CASE-XKS-02582] c 15 N71-21234
- Venting device for pressurized space suit helmet Patent  
[NASA-CASE-XMS-09652-1] c 05 N71-26333
- Solid propellant rocket motor  
[NASA-CASE-XNP-03282] c 28 N72-20753
- Passive venting technique for shallow cavities  
[NASA-CASE-LAR-14031-1] c 05 N89-14232
- Passive venting technique for shallow cavities  
[NASA-CASE-LAR-13875-1] c 05 N89-14233

## VENTURI TUBES

- Liquid seeding atomizer  
[NASA-CASE-ARC-11631-1] c 34 N87-21255

## VENUS (PLANET)

- Space simulator Patent  
[NASA-CASE-XNP-00459] c 11 N70-38675

## VERTICAL FLIGHT

- Aircraft instrument Patent  
[NASA-CASE-XLA-00487] c 14 N70-40157

**VERTICAL LANDING**

Landing gear Patent  
[NASA-CASE-XMF-01174] c 02 N70-41589

**VERTICAL ORIENTATION**

Vertical shaft windmill  
[NASA-CASE-LAR-12923-1] c 37 N84-12493

**VERTICAL TAKEOFF AIRCRAFT**

Mechanical stability augmentation system Patent  
[NASA-CASE-XLA-06339] c 02 N71-13422  
Attitude controls for VTOL aircraft Patent  
[NASA-CASE-XAC-08972] c 02 N71-20570

**VERY HIGH FREQUENCIES**

VHF/UHF parasitic probe antenna Patent  
[NASA-CASE-XKS-09340] c 07 N71-24614

**VERY LARGE SCALE INTEGRATION**

Split-cross-bridge resistor for testing for proper fabrication of integrated circuits  
[NASA-CASE-NPO-16021-1] c 33 N85-30187  
Method of examining microcircuit patterns  
[NASA-CASE-NPO-16299-1] c 33 N87-14594  
Systolic VLSI array for implementing the Kalman filter algorithm  
[NASA-CASE-NPO-17108-1-CU] c 33 N89-28713

**VERY LONG BASE INTERFEROMETRY**

System for real-time crustal deformation monitoring  
[NASA-CASE-NPO-14124-1] c 46 N80-14603

**VESTS**

Life preserver Patent  
[NASA-CASE-XMS-00864] c 05 N70-36493

**VIBRATION**

Passive caging mechanism Patent  
[NASA-CASE-GSC-10306-1] c 15 N71-24694  
Active vibration isolator for flexible bodies Patent  
[NASA-CASE-LAR-10106-1] c 15 N71-27169  
Apparatus for disintegrating kidney stones  
[NASA-CASE-GSC-12652-1] c 52 N84-34913  
Vibrating-chamber levitation systems  
[NASA-CASE-NPO-16142-1-CU] c 35 N86-20752  
Vibration analyzer  
[NASA-CASE-MSC-21408-1] c 37 N89-28829

**VIBRATION DAMPING**

Viscous pendulum damper Patent  
[NASA-CASE-LAR-10274-1] c 14 N71-17626  
Digital filter for reducing sampling jitter in digital control systems Patent  
[NASA-CASE-NPO-11088] c 08 N71-29034  
Turbo-machine blade vibration damper Patent  
[NASA-CASE-XLE-00155] c 28 N71-29154  
Active notch filter network with variable notch depth, width and frequency  
[NASA-CASE-FRC-11055-1] c 33 N80-29583  
Variable force, eddy-current or magnetic damper  
[NASA-CASE-LEW-13717-1] c 37 N85-30333  
Variable friction secondary seal for face seals  
[NASA-CASE-LEW-14170-1] c 37 N86-25790  
Tensile film clamps and mounting block for the rheovibron and autovibron viscoelastometer  
[NASA-CASE-LAR-13696-1] c 37 N89-23880

**VIBRATION EFFECTS**

Thermal detector of electromagnetic energy by means of a vibrating electrode Patent  
[NASA-CASE-XAC-10768] c 09 N71-18830  
Apparatus for recovering matter adhered to a host surface  
[NASA-CASE-NPO-11213] c 15 N73-20514  
Spherical bearing --- to reduce vibration effects  
[NASA-CASE-MFS-23447-1] c 37 N79-11404  
Self-locking double retention redundant full pin release  
[NASA-CASE-NPO-16233-1] c 37 N86-20801

**VIBRATION ISOLATORS**

Variable stiffness polymeric damper  
[NASA-CASE-XAC-11225] c 14 N69-27486  
Miniature vibration isolator Patent  
[NASA-CASE-XLA-01019] c 15 N70-40156  
Vibration damping system Patent  
[NASA-CASE-XMS-01620] c 23 N71-15673  
Hermetic sealed vibration damper Patent  
[NASA-CASE-MSC-10959] c 15 N71-26243  
Dynamic vibration absorber Patent  
[NASA-CASE-LAR-10083-1] c 15 N71-27006  
Vibration isolation system using compression springs  
[NASA-CASE-NPO-11012] c 15 N72-11391  
Thrust-isolating mounting --- characteristics of support for loads mounted in spacecraft  
[NASA-CASE-MFS-21680-1] c 18 N74-27397  
Shock absorbing mount for electrical components  
[NASA-CASE-NPO-13253-1] c 37 N75-18573  
Thermal insulation attaching means --- adhesive bonding of felt vibration insulators under ceramic tiles  
[NASA-CASE-MSC-12619-2] c 27 N79-12221  
Shock isolator for operating a diode laser on a closed-cycle refrigerator  
[NASA-CASE-GSC-12297-1] c 37 N79-28549  
Decoupler pylon: wing/store flutter suppressor  
[NASA-CASE-LAR-12468-1] c 08 N82-32373

Vibration isolation and pressure compensation apparatus for sensitive instrumentation  
[NASA-CASE-LAR-12728-1] c 35 N83-32026

Aircraft rotor blade with passive tuned tab  
[NASA-CASE-ARC-11444-1] c 05 N85-29947  
Variable force, eddy-current or magnetic damper  
[NASA-CASE-LEW-13717-1] c 37 N85-30333  
Segmented tubular cushion springs and spring assembly  
[NASA-CASE-ARC-11349-1] c 37 N86-20797

**VIBRATION MEASUREMENT**

Method and apparatus for measuring the damping characteristics of a structure  
[NASA-CASE-ARC-10154-1] c 14 N72-22440  
Method and apparatus for vibration analysis utilizing the Mossbauer effect  
[NASA-CASE-XMF-05882] c 35 N75-27329  
Displacement probes with self-contained exciting medium  
[NASA-CASE-LAR-11690-1] c 35 N80-14371  
Emitted vibration measurement device and method  
[NASA-CASE-MFS-25981-1] c 35 N87-14670

**VIBRATION METERS**

Fiber optic vibration transducer and analyzer Patent  
[NASA-CASE-XMF-02433] c 14 N71-10616  
Ride quality meter  
[NASA-CASE-LAR-12882-1] c 35 N84-12445

**VIBRATION MODE**

Function generator for synthesizing complex vibration mode patterns  
[NASA-CASE-LAR-10310-1] c 10 N73-20253

**VIBRATION SIMULATORS**

Apparatus for vibrational testing of articles  
[NASA-CASE-GSC-11302-1] c 14 N73-13416

**VIBRATION TESTS**

Peak acceleration limiter for vibrational tester Patent  
[NASA-CASE-NPO-10556] c 14 N71-27185  
Fixture for supporting articles during vibration tests  
[NASA-CASE-MFS-20523] c 14 N72-27412  
Apparatus for vibrational testing of articles  
[NASA-CASE-GSC-11302-1] c 14 N73-13416  
Multi axes vibration fixtures  
[NASA-CASE-MFS-20242] c 14 N73-19421  
Aeroelastic instability stoppers for wind tunnel models  
[NASA-CASE-LAR-12458-1] c 44 N83-21503

**VIBRATIONAL SPECTRA**

Dynamic vibration absorber Patent  
[NASA-CASE-LAR-10083-1] c 15 N71-27006

**VIDEO COMMUNICATION**

Means for generating a sync signal in an FM communication system Patent  
[NASA-CASE-XNP-10830] c 07 N71-11281  
Reduced bandwidth video communication system utilizing sampling techniques Patent  
[NASA-CASE-XNP-02791] c 07 N71-23026  
Video communication system and apparatus Patent  
[NASA-CASE-XNP-06611] c 07 N71-26102  
Sampling video compression system  
[NASA-CASE-ARC-10984-1] c 32 N77-24328

**VIDEO DATA**

Digital television camera control system Patent  
[NASA-CASE-XNP-01472] c 14 N70-41807  
Transient video signal recording with expanded playback Patent  
[NASA-CASE-ARC-10003-1] c 09 N71-25866  
Facsimile video remodulation network  
[NASA-CASE-GSC-10185-1] c 07 N72-12081  
Dual digital video switcher  
[NASA-CASE-KSC-10782-1] c 33 N75-30431  
Neighborhood comparison operator  
[NASA-CASE-NPO-16464-1CU] c 60 N86-24224

**VIDEO EQUIPMENT**

Television signal processing system Patent  
[NASA-CASE-NPO-10140] c 07 N71-24742  
Video sync processor Patent  
[NASA-CASE-KSC-10002] c 10 N71-25865  
Video communication system and apparatus Patent  
[NASA-CASE-XNP-06611] c 07 N71-26102  
Video signal enhancement system with dynamic range compression and modulation index expansion Patent  
[NASA-CASE-NPO-10343] c 07 N71-27341  
Broadband video process with very high input impedance  
[NASA-CASE-NPO-10199] c 09 N72-17156  
Electronic video editor  
[NASA-CASE-KSC-10003] c 10 N73-13235  
Scan converting video tape recorder  
[NASA-CASE-NPO-10166-1] c 07 N73-22076  
Scan converting video tape recorder  
[NASA-CASE-NPO-10166-2] c 35 N76-16391  
Stack plume visualization system  
[NASA-CASE-LAR-11675-1] c 45 N76-17656  
Reconfigurable work station for a video display unit and keyboard  
[NASA-CASE-MFS-26009-1-SB] c 54 N88-24163

Programmable pipelined image processor  
[NASA-CASE-NPO-16461-1CU] c 60 N89-26400

**VIDEO SIGNALS**

Programmable scan/read circuitry for charge coupled device imaging detectors --- spacecraft attitude control and star trackers  
[NASA-CASE-NPO-15345-1] c 74 N84-23247  
Television camera video level control system  
[NASA-CASE-MSC-18578-1] c 32 N85-21427  
Large TV display system  
[NASA-CASE-NPO-16932-1CU] c 33 N87-15413  
Method and apparatus for telemetry adaptive bandwidth compression  
[NASA-CASE-MSC-20821-1] c 17 N87-25348

**VIDICONS**

Method of erasing target material of a vidicon tube or the like Patent  
[NASA-CASE-XNP-06028] c 09 N71-23189  
Material handling device Patent  
[NASA-CASE-XNP-09770-3] c 11 N71-27036

**VIEWING**

Real-time 3-D X-ray and gamma-ray viewer  
[NASA-CASE-GSC-12640-1] c 74 N84-11920  
Double window viewing chamber assembly  
[NASA-CASE-MFS-28057-1] c 09 N87-14355

**VINYL COPOLYMERS**

Copolymers of vinyl styrylpyridines or vinyl stilbazoles with bismaleimide  
[NASA-CASE-ARC-11429-1-CU] c 27 N86-20560  
Vinyl stilbazoles  
[NASA-CASE-ARC-11429-3CU] c 27 N87-16908  
Structural panels  
[NASA-CASE-ARC-11429-2-CU] c 27 N87-22845

**VINYL POLYMERS**

Method of using photovoltaic cell using poly-N-vinylcarbazole complex Patent  
[NASA-CASE-NPO-10373] c 03 N71-18698  
Heat resistant polymers of oxidized styrylphosphine  
[NASA-CASE-MSC-14903-1] c 27 N78-32256  
Compound oxidized styrylphosphine --- flame resistant vinyl polymers  
[NASA-CASE-MSC-14903-2] c 27 N80-10358  
Heat resistant polymers of oxidized styrylphosphine  
[NASA-CASE-MSC-14903-3] c 27 N80-24438

**VINYLDENE**

Dicyanoacetylene polymers Patent  
[NASA-CASE-XNP-03250] c 06 N71-23500

**VIRUSES**

Water system virus detection  
[NASA-CASE-MSC-16098-1] c 51 N79-10693

**VISCOELASTICITY**

Resilience testing device Patent  
[NASA-CASE-XLA-08254] c 14 N71-26161  
Parallel-plate viscometer with double diaphragm suspension  
[NASA-CASE-NPO-11387] c 14 N73-14429  
Shock absorbing mount for electrical components  
[NASA-CASE-NPO-13253-1] c 37 N75-18573  
Viscoelastic cationic polymers containing the urethane linkage  
[NASA-CASE-NPO-10830-1] c 27 N81-15104

**VISCOMETERS**

Parallel plate viscometer Patent  
[NASA-CASE-XNP-09462] c 14 N71-17584  
Parallel-plate viscometer with double diaphragm suspension  
[NASA-CASE-NPO-11387] c 14 N73-14429

**VISCOSITY**

Low viscosity magnetic fluid obtained by the colloidal suspension of magnetic particles Patent  
[NASA-CASE-XLE-01512] c 12 N70-40124  
Viscosity measuring instrument  
[NASA-CASE-NPO-14501-1] c 35 N80-18357  
Process of end-capping a polyimide system  
[NASA-CASE-LAR-13135-1] c 27 N86-19456

**VISCOUS DAMPING**

Variable stiffness polymeric damper  
[NASA-CASE-XAC-11225] c 14 N69-27486  
Viscous-pendulum-damper Patent  
[NASA-CASE-XLA-02079] c 12 N71-16894  
Viscous pendulum damper Patent  
[NASA-CASE-LAR-10274-1] c 14 N71-17626  
Multiple plate hydrostatic viscous damper  
[NASA-CASE-LEW-12445-1] c 37 N81-22360

**VISIBILITY**

Controlled visibility device for an aircraft Patent  
[NASA-CASE-XFR-04147] c 11 N71-10748  
Reusable captive blind fastener  
[NASA-CASE-MSC-18742-1] c 37 N82-26673

**VISIBLE SPECTRUM**

Spectrally balanced chromatic landing approach lighting system  
[NASA-CASE-ARC-10990-1] c 04 N82-16059

## VISION

Retinally stabilized differential resolution television display  
[NASA-CASE-NPO-15432-1] c 32 N85-29117

## VISORS

Anti-fog composition --- for prevention of fogging on surfaces such as space helmet visors and windshields  
[NASA-CASE-MSC-13530-2] c 23 N75-14834

## VISUAL ACUITY

Multiparameter vision testing apparatus  
[NASA-CASE-MSC-13601-2] c 54 N75-27759

## VISUAL CONTROL

Visual target for retrofire attitude control  
[NASA-CASE-XMS-12158-1] c 31 N69-27499  
Spectrally balanced chromatic landing approach lighting system  
[NASA-CASE-ARC-10990-1] c 04 N82-16059

## VISUAL FIELDS

Visual examination apparatus  
[NASA-CASE-ARC-10329-1] c 05 N73-26072  
Visual examination apparatus  
[US-PATENT-RE-28,921] c 52 N76-30793  
Binocular device for displaying numerical information in field of view  
[NASA-CASE-LAR-11782-1] c 74 N77-20882  
Visual accommodation trainer-tester  
[NASA-CASE-ARC-11426-1] c 09 N84-12193

## VISUAL OBSERVATION

Automatic visual inspection system for microelectronics  
[NASA-CASE-NPO-13282] c 38 N78-17396

## VISUAL PERCEPTION

Liquid flow sight assembly Patent  
[NASA-CASE-XLE-02998] c 14 N70-42074  
Aircraft control position indicator  
[NASA-CASE-LAR-12984-1] c 06 N87-22678  
Visual accommodation trainer-tester  
[NASA-CASE-ARC-11426-2] c 52 N89-16256

## VISUAL STIMULI

Reaction tester  
[NASA-CASE-MSC-13604-1] c 05 N73-13114

## VITERBI DECODERS

Space communication system for compressed data with a concatenated Reed-Solomon-Viterbi coding channel  
[NASA-CASE-NPO-13545-1] c 32 N77-12240

## VOICE COMMUNICATION

Position location system and method Patent  
[NASA-CASE-GSC-10087-2] c 21 N71-13958  
Satellite communication system and method Patent  
[NASA-CASE-GSC-10118-1] c 07 N71-24621  
Protective suit having an audio transceiver Patent  
[NASA-CASE-KSC-10164] c 07 N71-33108  
Technique for recovery of voice data from heat damaged magnetic tape  
[NASA-CASE-MSC-14219-1] c 32 N74-27612  
Filtering device --- removing electromagnetic noise from voice communication signals  
[NASA-CASE-MFS-22729-1] c 32 N76-21366  
Real time analysis of voiced sounds  
[NASA-CASE-NPO-13465-1] c 32 N76-31372  
Satellite personal communications system  
[NASA-CASE-NPO-14480-1] c 32 N80-20448

## VOICE DATA PROCESSING

Digital communication system  
[NASA-CASE-MSC-13912-1] c 32 N74-30524  
Method and apparatus for operating on compressed PCM voice data  
[NASA-CASE-KSC-11285-1] c 32 N86-27513

## VOLATILITY

Apparatus for testing polymeric materials Patent  
[NASA-CASE-XNP-09699] c 06 N71-24607

## VOLT-AMPERE CHARACTERISTICS

Voltage-current characteristic simulator Patent  
[NASA-CASE-XMS-01554] c 10 N71-10578  
The dc-to-dc converters employing staggered-phase power switches with two-loop control  
[NASA-CASE-NPO-13512-1] c 33 N77-10428  
Apparatus including a plurality of spaced transformers for locating short circuits in cables  
[NASA-CASE-KSC-10899-1] c 33 N79-18193

## VOLTAGE AMPLIFIERS

Electronic amplifier with power supply switching Patent  
[NASA-CASE-XMS-00945] c 09 N71-10798  
Bootstrap unloader Patent  
[NASA-CASE-XNP-09768] c 09 N71-12516  
Active RC networks  
[NASA-CASE-ARC-10020] c 10 N72-17172  
Wide range analog-to-digital converter with a variable gain amplifier  
[NASA-CASE-NPO-11018] c 08 N72-21200  
Voltage feed through apparatus having reduced partial discharge  
[NASA-CASE-GSC-12347-1] c 33 N80-18286  
Arc lamp power supply using a voltage multiplier  
[NASA-CASE-LAR-13202-1] c 33 N88-23942

## VOLTAGE CONTROLLED OSCILLATORS

Pulsed phase locked loop strain monitor --- voltage controlled oscillators  
[NASA-CASE-LAR-12772-1] c 33 N83-16626  
Automatic oscillator frequency control system  
[NASA-CASE-GSC-12804-1] c 33 N86-20668  
Radio Frequency (RF) strain monitor  
[NASA-CASE-LAR-13705-1] c 39 N88-25011

## VOLTAGE CONVERTERS (DC TO DC)

Regulated dc-to-dc converter for voltage step-up or step-down with input-output isolation  
[NASA-CASE-HQN-10792-1] c 33 N74-11049  
The dc-to-dc converters employing staggered-phase power switches with two-loop control  
[NASA-CASE-NPO-13512-1] c 33 N77-10428  
Inrush current limiter  
[NASA-CASE-GSC-11789-1] c 33 N77-14333  
Phase substitution of spare converter for a failed one of parallel phase staggered converters  
[NASA-CASE-NPO-13812-1] c 33 N77-30365  
Regulated high efficiency, lightweight capacitor-diode multiplier dc to dc converter  
[NASA-CASE-LEW-12791-1] c 33 N78-32341  
Buck/boost regulator  
[NASA-CASE-GSC-12360-1] c 33 N81-19392  
Elimination of current spikes in buck power converters  
[NASA-CASE-NPO-14505-1] c 33 N81-19393  
Push-pull converter with energy saving circuit for protecting switching transistors from peak power stress  
[NASA-CASE-NPO-14316-1] c 33 N81-33404  
Power converter  
[NASA-CASE-FRC-11014-1] c 33 N82-18494  
A dc to dc converter  
[NASA-CASE-MFS-25430-1] c 33 N84-16453  
Simplified dc to dc converter  
[NASA-CASE-LEW-13495-1] c 33 N84-33663

## VOLTAGE GENERATORS

Pulsed energy power system Patent  
[NASA-CASE-MSC-13112] c 03 N71-11057  
Telemetry adaptable for implanting in an animal Patent  
[NASA-CASE-XAC-05706] c 05 N71-12342  
Multiple slope sweep generator Patent  
[NASA-CASE-XMS-03542] c 09 N71-28926  
Controllable load insensitive power converters  
[NASA-CASE-ERC-10268] c 09 N72-25252  
Driver for solar cell I-V characteristic plots  
[NASA-CASE-NPO-14096-1] c 44 N80-18551  
Adaptive reference voltage generator for firing angle control of line-commutated inverters  
[NASA-CASE-MFS-25215-1] c 33 N83-31953

## VOLTAGE REGULATORS

Regulated dc to dc converter  
[NASA-CASE-XGS-03429] c 03 N69-21330  
Power control circuit  
[NASA-CASE-XNP-02713] c 10 N69-39888  
Amplifier drift tester  
[NASA-CASE-XMS-05562-1] c 09 N69-39986  
Bus voltage compensation circuit for controlling direct current motor  
[NASA-CASE-XMS-04215-1] c 09 N69-39987  
Regulated power supply Patent  
[NASA-CASE-XMS-01991] c 09 N71-21449  
High voltage divider system Patent  
[NASA-CASE-XLE-02008] c 09 N71-21583  
Power supply circuit Patent  
[NASA-CASE-XMS-00913] c 10 N71-23543  
Voltage to frequency converter Patent  
[NASA-CASE-GSC-10022-1] c 10 N71-25882  
Buck boost voltage regulation circuit Patent  
[NASA-CASE-GSC-10735-1] c 10 N71-26085  
Automatic signal range selector for metering devices Patent  
[NASA-CASE-XMS-06497] c 14 N71-26244  
Voltage regulator with plural parallel power source sections Patent  
[NASA-CASE-GSC-10891-1] c 10 N71-26626  
Maximum power point tracker Patent  
[NASA-CASE-GSC-10376-1] c 14 N71-27407  
High power microwave power divider Patent  
[NASA-CASE-NPO-11031] c 07 N71-33606  
Reference voltage switching unit  
[NASA-CASE-NPO-11253] c 09 N72-17157  
Switching regulator  
[NASA-CASE-LEW-11005-1] c 09 N72-21243  
Controllable load insensitive power converters  
[NASA-CASE-ERC-10268] c 09 N72-25252  
Regulated dc-to-dc converter for voltage step-up or step-down with input-output isolation  
[NASA-CASE-HQN-10792-1] c 33 N74-11049  
Overvoltage protection network  
[NASA-CASE-ARC-10197-1] c 33 N74-17929  
Low distortion automatic phase control circuit --- voltage controlled phase shifter  
[NASA-CASE-MFS-21671-1] c 33 N74-22885

Voltage monitoring system  
[NASA-CASE-KSC-10736-1] c 33 N75-19521  
Transformer regulated self-stabilizing chopper  
[NASA-CASE-XGS-09186] c 33 N78-17295  
Voltage regulator for battery power source --- using a bipolar transistor  
[NASA-CASE-FRC-10116-1] c 33 N79-23345  
Buck/boost regulator  
[NASA-CASE-GSC-12360-1] c 33 N81-19392  
Motor power factor controller with a reduced voltage starter  
[NASA-CASE-MFS-25586-1] c 33 N82-11360  
Pulse switching for high energy lasers  
[NASA-CASE-NPO-14556-1] c 33 N82-24418  
Three phase power factor controller  
[NASA-CASE-MFS-25535-2] c 33 N84-22885  
High voltage isolation transformer  
[NASA-CASE-GSC-12817-1] c 33 N85-29146

## VOLTMETERS

Voltage monitoring system  
[NASA-CASE-KSC-10736-1] c 33 N75-19521

## VOLUME

Mining volume measurement system  
[NASA-CASE-LAR-13519-1] c 35 N88-23963

## VOLUMETRIC ANALYSIS

Volumetric direct nuclear pumped laser  
[NASA-CASE-LAR-12183-1] c 36 N79-18307

## VOMITING

Venting device for pressurized space suit helmet: Patent  
[NASA-CASE-XMS-09652-1] c 05 N71-26333

## VORTEX BREAKDOWN

Wingtip vortex dissipator for aircraft  
[NASA-CASE-LAR-11645-1] c 02 N77-10001

## VORTEX GENERATORS

Multitway vortex valve system Patent  
[NASA-CASE-XMF-04709] c 15 N71-15609  
Vortex generator for controlling the dispersion of effluents in a flowing liquid  
[NASA-CASE-LAR-12045-1] c 34 N77-24423  
Vortex generating flow passage design for increased film cooling effectiveness  
[NASA-CASE-LEW-14039-1] c 34 N85-33433  
Wingtip vortex propeller  
[NASA-CASE-LAR-13019-1] c 07 N85-35194

## VORTICES

Vortex-lift roll-control device  
[NASA-CASE-LAR-11868-2] c 08 N79-14108

## VORTICITY

Crossflow vorticity sensor  
[NASA-CASE-LAR-13436-1-CU] c 02 N88-23759

## VULCANIZING

Method for compression molding of thermosetting plastics utilizing a temperature gradient across the plastic to cure the article  
[NASA-CASE-LAR-10489-1] c 31 N74-18124

## W

## WAFERS

Apparatus and method for separating a semiconductor wafer Patent  
[NASA-CASE-ERC-10138] c 26 N71-14354  
Apparatus for use in examining the lattice of a semiconductor wafer by X-ray diffraction  
[NASA-CASE-MFS-23315-1] c 76 N78-24950  
System for slicing silicon wafers  
[NASA-CASE-NPO-14406-1] c 37 N80-29703  
Scriber for silicon wafers  
[NASA-CASE-NPO-15539-1] c 37 N82-11469  
Method of Fabricating Schottky Barrier solar cell  
[NASA-CASE-NPO-13689-4] c 44 N82-28780  
Method of making a high voltage V-groove solar cell  
[NASA-CASE-LEW-13401-1] c 44 N82-29709  
High voltage planar multijunction solar cell  
[NASA-CASE-LEW-13400-1] c 44 N82-31764  
Method for sequentially processing a multi-level interconnect circuit in a vacuum chamber  
[NASA-CASE-MFS-15670-1] c 33 N82-33634  
High voltage V-groove solar cell  
[NASA-CASE-LEW-13401-2] c 44 N83-32177  
Method of increasing minority carrier lifetime in silicon web or the like  
[NASA-CASE-NPO-15530-1] c 76 N83-35888  
Method for sequentially processing a multi-level interconnect circuit in a vacuum chamber  
[NASA-CASE-MFS-256704-1] c 33 N84-22884  
Imaging X-ray spectrometer  
[NASA-CASE-GSC-12682-1] c 35 N84-33765  
Epitaxial thinning process  
[NASA-CASE-NPO-15786-1] c 76 N84-35112  
Process and apparatus for growing a crystal ribbon  
[NASA-CASE-NPO-15629-1] c 76 N84-35113  
Ingot slicing machine and method  
[NASA-CASE-NPO-15483-1] c 37 N85-21650

Lithium counterdoped silicon solar cell  
[NASA-CASE-LEW-14177-1] c 44 N86-32875

Cross-contact chain  
[NASA-CASE-NPO-16784-1] c 33 N87-10231

Floating emitter solar cell  
[NASA-CASE-NPO-16467-1-CU] c 33 N87-23879

**WAKES**  
Space ultra-vacuum facility and method of operation  
[NASA-CASE-MFS-28139-1] c 29 N87-18679

**WALKING**  
Drop foot corrective device  
[NASA-CASE-LAR-12259-2] c 54 N86-22112

**WALKING MACHINES**  
Space spider crane  
[NASA-CASE-LAR-13411-1-SB] c 18 N88-23828

**WALL TEMPERATURE**  
Method of making apparatus for sensing temperature  
[NASA-CASE-XLE-05230-2] c 14 N73-13417

Structural heat pipe --- for spacecraft wall thermal insulation system  
[NASA-CASE-GSC-11619-1] c 34 N75-12222

Thermal control canister  
[NASA-CASE-GSC-12253-1] c 34 N79-31523

Curved film cooling admission tube  
[NASA-CASE-LEW-13174-1] c 34 N83-27144

**WALLS**  
Formed metal ribbon wrap Patent  
[NASA-CASE-XLE-00164] c 15 N70-36411

Method and apparatus for mapping the distribution of chemical elements in an extended medium  
[NASA-CASE-GSC-12808-1] c 25 N85-21279

Apparatus and method to keep the walls of a free-space reactor free from deposits of solid materials  
[NASA-CASE-NPO-15851-1] c 37 N85-21652

**WARNING SYSTEMS**  
Out of tolerance warning alarm system for plurality of monitored circuits Patent  
[NASA-CASE-XMS-10984-1] c 10 N71-19417

Unsaturation saturable core transformer Patent  
[NASA-CASE-ERC-10125] c 09 N71-24893

Electrical apparatus for detection of thermal decomposition of insulation Patent  
[NASA-CASE-XMF-03968] c 14 N71-27186

Combustion products generating and metering device  
[NASA-CASE-GSC-11095-1] c 14 N72-10375

Stacked array of omnidirectional antennas  
[NASA-CASE-LAR-10545-1] c 09 N72-21244

Display research collision warning system  
[NASA-CASE-HQN-10703] c 21 N73-13643

System for indicating direction of intruder aircraft  
[NASA-CASE-ERC-10226-1] c 14 N73-16483

Silent emergency alarm system for schools and the like  
[NASA-CASE-NPO-11307-1] c 10 N73-30205

Apparatus for aiding a pilot in avoiding a midair collision between aircraft  
[NASA-CASE-LAR-10717-1] c 21 N73-30641

Inverter ratio failure detector  
[NASA-CASE-NPO-13160-1] c 35 N74-18090

Hearing aid malfunction detection system  
[NASA-CASE-MSC-14916-1] c 33 N78-10375

Automatic communication signal monitoring system  
[NASA-CASE-NPO-13941-1] c 32 N79-10262

Passive intrusion detection system  
[NASA-CASE-NPO-13804-1] c 33 N80-23559

Scanning seismic intrusion detection method and apparatus --- monitoring unwanted subterranean entry and departure  
[NASA-CASE-ARC-11317-1] c 35 N83-34272

**WASHING**  
Method of neutralizing the corrosive surface of amine-cured epoxy resins  
[NASA-CASE-GSC-12686-1] c 27 N83-34039

**WASTE DISPOSAL**  
Relief container  
[NASA-CASE-XMS-06761] c 05 N69-23192

An airlock  
[NASA-CASE-MFS-20922] c 31 N72-20840

Liquid waste feed system  
[NASA-CASE-LAR-10365-1] c 05 N72-27102

Reduced gravity fecal collector seat and urinal  
[NASA-CASE-MFS-22102-1] c 54 N74-20725

Airlock  
[NASA-CASE-MFS-20922-1] c 18 N74-22136

Automatic liquid inventory collecting and dispensing unit  
[NASA-CASE-LAR-11071-1] c 35 N75-19611

Automatic biowaste sampling  
[NASA-CASE-MSC-14640-1] c 54 N76-14804

Absorbent product and articles made therefrom  
[NASA-CASE-MSC-18223-2] c 54 N84-11758

Improved method and apparatus for waste collection and storage  
[NASA-CASE-MSC-21025-1] c 31 N87-25495

**WASTE ENERGY UTILIZATION**

Automotive absorption air conditioner utilizing solar and motor waste heat  
[NASA-CASE-NPO-15183-1] c 44 N82-26776

Apparatus for improving the fuel efficiency of a gas turbine engine  
[NASA-CASE-LEW-13142-1] c 07 N83-36029

Method for improving the fuel efficiency of a gas turbine engine  
[NASA-CASE-LEW-13142-2] c 07 N86-20389

**WASTE HEAT**

Thermal control system --- removing waste heat from industrial process spacecraft  
[NASA-CASE-GSC-12771-1] c 34 N84-14461

**WASTE TREATMENT**

Method and apparatus for bio-regenerative life support system  
[NASA-CASE-MSC-21629-1] c 54 N89-29027

**WASTE UTILIZATION**

Simultaneous treatment of SO<sub>2</sub> containing stack gases and waste water  
[NASA-CASE-MSC-16258-1] c 45 N79-12584

**WASTE WATER**

Water system virus detection  
[NASA-CASE-MSC-16098-1] c 51 N79-10693

Process for purification of waste water produced by a Kraft process pulp and paper mill  
[NASA-CASE-NPO-13847-2] c 85 N79-17747

Method for treating wastewater using microorganisms and vascular aquatic plants  
[NASA-CASE-NSTL-10] c 45 N84-12654

A combined air and water pollution control system  
[NASA-CASE-NST-00007-1] c 45 N89-28967

**WATER**

High power-high voltage waterfall Patent  
[NASA-CASE-XNP-05381] c 09 N71-20842

Procedure and apparatus for determination of water in nitrogen tetroxide  
[NASA-CASE-NPO-10234] c 06 N72-17094

Hydrogen rich gas generator  
[NASA-CASE-NPO-13342-1] c 37 N76-16446

Solar hydrogen generator  
[NASA-CASE-LAR-11361-1] c 44 N77-22607

Remote water monitoring system  
[NASA-CASE-LAR-11973-1] c 35 N78-27384

Solar photolysis of water  
[NASA-CASE-NPO-14126-1] c 44 N79-11470

**WATER FLOW**

Potable water dispenser  
[NASA-CASE-MFS-21115-1] c 54 N74-12779

Self-contained, single-use hose and tubing cleaning module  
[NASA-CASE-MSC-20857-1] c 37 N87-17035

**WATER INJECTION**

Reentry communication by material addition Patent  
[NASA-CASE-XLA-01552] c 07 N71-11284

**WATER LANDING**

Vehicle parachute and equipment jettison system Patent  
[NASA-CASE-XLA-00195] c 02 N70-38009

Emergency earth orbital escape device  
[NASA-CASE-MSC-13281] c 31 N72-18859

**WATER MANAGEMENT**

Water management system and an electrolytic cell therefor Patent  
[NASA-CASE-MSC-10960-1] c 03 N71-24718

Solar-powered pump  
[NASA-CASE-NPO-13567-1] c 44 N76-29701

**WATER POLLUTION**

Compact solar still Patent  
[NASA-CASE-XMS-04533] c 15 N71-23086

Bacterial contamination monitor  
[NASA-CASE-GSC-10879-1] c 14 N72-25413

Method and automated apparatus for detecting coliform organisms  
[NASA-CASE-MSC-16777-1] c 51 N80-27067

A combined air and water pollution control system  
[NASA-CASE-NST-00007-1] c 45 N89-28967

**WATER QUALITY**

Fluid sample collection and distribution system --- qualitative analysis of aqueous samples from several points  
[NASA-CASE-MSC-16841-1] c 34 N79-24285

Rapid, quantitative determination of bacteria in water --- adenosine triphosphate  
[NASA-CASE-GSC-12158-1] c 51 N83-27569

Method for detecting coliform organisms  
[NASA-CASE-ARC-11322-1] c 51 N83-28849

**WATER RECLAMATION**

Recovery of potable water from human wastes in below-G conditions Patent  
[NASA-CASE-XLA-03213] c 05 N71-11207

Water system virus detection  
[NASA-CASE-MSC-16098-1] c 51 N79-10693

Water separator  
[NASA-CASE-XMS-01295-1] c 37 N79-21345

**WATER RESOURCES**

Radar target for remotely sensing hydrological phenomena  
[NASA-CASE-LAR-12344-1] c 43 N80-18498

**WATER TEMPERATURE**

Differential temperature transducer Patent  
[NASA-CASE-XAC-00812] c 14 N71-15598

**WATER TREATMENT**

Water management system and an electrolytic cell therefor Patent  
[NASA-CASE-MSC-10960-1] c 03 N71-24718

Method of preparing water purification membranes --- polymerization of allyl amine as thin films in plasma discharge  
[NASA-CASE-ARC-10643-1] c 25 N75-12087

Iodine generator for reclaimed water purification  
[NASA-CASE-MSC-14632-1] c 54 N78-14784

Water system virus detection  
[NASA-CASE-MSC-16098-1] c 51 N79-10693

Simultaneous treatment of SO<sub>2</sub> containing stack gases and waste water  
[NASA-CASE-MSC-16258-1] c 45 N79-12584

Process for purification of waste water produced by a Kraft process pulp and paper mill  
[NASA-CASE-NPO-13847-2] c 85 N79-17747

Ozonation of cooling tower waters  
[NASA-CASE-NPO-14340-1] c 45 N80-14579

Reverse osmosis membrane of high urea rejection properties --- water purification  
[NASA-CASE-ARC-10980-1] c 27 N80-23452

Membrane consisting of polyquaternary amine ion exchange polymer network interpenetrating the chains of thermoplastic matrix polymer  
[NASA-CASE-NPO-14001-1] c 27 N81-14076

Sewage sludge additive  
[NASA-CASE-NPO-13877-1] c 45 N82-11634

Method for treating wastewater using microorganisms and vascular aquatic plants  
[NASA-CASE-NSTL-10] c 45 N84-12654

A combined air and water pollution control system  
[NASA-CASE-NST-00007-1] c 45 N89-28967

Method and apparatus for bio-regenerative life support system  
[NASA-CASE-MSC-21629-1] c 54 N89-29027

**WATER VAPOR**

Vapor pressure measuring system and method Patent  
[NASA-CASE-XMS-01618] c 14 N71-20741

Cell and method for electrolysis of water and anode  
[NASA-CASE-MSC-16394-1] c 28 N81-24280

Geodetic distance measuring apparatus  
[NASA-CASE-GSC-12609-2] c 36 N83-29681

**WATER WAVES**

Surface roughness measuring system --- synthetic aperture radar measurements of ocean wave height and terrain peaks  
[NASA-CASE-NPO-13862-1] c 35 N79-10391

Oceanic wave measurement system  
[NASA-CASE-MFS-23862-1] c 48 N80-18667

**WATERPROOFING**

Glass-to-metal seals comprising relatively high expansion metals  
[NASA-CASE-LEW-10698-1] c 37 N74-21063

Elevated waterproof access floor system and method of making the same  
[NASA-CASE-ARC-11363-1] c 31 N87-16918

**WATERWAVE ENERGY CONVERSION**

Natural turbulence electrical power generator --- using wave action or random motion  
[NASA-CASE-LAR-11551-1] c 44 N80-29834

**WAVE AMPLIFICATION**

Distributed feedback acoustic surface wave oscillator  
[NASA-CASE-NPO-13673-1] c 71 N77-26919

**WAVE DIFFRACTION**

Diffraction grating configuration for X-ray and ultraviolet focusing  
[NASA-CASE-GSC-12357-1] c 74 N80-21140

**WAVE FRONT RECONSTRUCTION**

Recording and reconstructing focused image holograms Patent  
[NASA-CASE-ERC-10017] c 16 N71-15567

**WAVE GENERATION**

Wind tunnel airstream oscillating apparatus Patent  
[NASA-CASE-XLA-00112] c 11 N70-33287

Linear sawtooth voltage-wave generator employing transistor timing circuit having capacitor-zener diode combination feedback Patent  
[NASA-CASE-XMS-01315] c 09 N70-41675

Waveform simulator Patent  
[NASA-CASE-NPO-10251] c 10 N71-27365

Wide band doubler and sine wave quadrature generator  
[NASA-CASE-NPO-11133] c 10 N72-20223

Material suspension within an acoustically excited resonant chamber --- at near weightless conditions  
[NASA-CASE-NPO-13263-1] c 12 N75-24774

Vibrating-chamber levitation systems  
[NASA-CASE-NPO-16142-1-CU] c 35 N86-20752

**WAVE INTERACTION**  
Coupled cavity traveling wave tube with velocity tapering  
[NASA-CASE-LEW-12296-1] c 33 N82-26568

**WAVE PROPAGATION**  
Double reference pulsed phase locked loop  
[NASA-CASE-LAR-13310-1] c 32 N87-14559

**WAVE REFLECTION**  
Microwave flow detector Patent  
[NASA-CASE-ARC-10009-1] c 15 N71-17822  
Millimeter wave antenna system Patent Application  
[NASA-CASE-GSC-10949-1] c 07 N71-28965

**WAVE RESISTANCE**  
Reactanceless synthesized impedance bandpass amplifier  
[NASA-CASE-GSC-12788-1] c 33 N85-29145

**WAVE SCATTERING**  
Device and method for determining X ray reflection efficiency of optical surfaces  
[NASA-CASE-MFS-20243] c 23 N73-13662  
Method and apparatus for Delta Kappa synthetic aperture radar measurement of ocean current  
[NASA-CASE-NPO-15704-1] c 32 N85-34327

**WAVEFORMS**  
Variable frequency magnetic multivibrator Patent  
[NASA-CASE-XGS-00131] c 09 N70-38995  
Single or joint amplitude distribution analyzer Patent  
[NASA-CASE-XNP-01383] c 09 N71-10659  
Peak polarity selector Patent  
[NASA-CASE-FRC-10010] c 10 N71-24862  
Family of frequency to amplitude converters  
[NASA-CASE-MS-12395] c 09 N72-25257  
Apparatus for statistical time-series analysis of electrical signals  
[NASA-CASE-MS-12428-1] c 10 N73-25240  
Low distortion receiver for bi-level baseband PCM waveforms  
[NASA-CASE-MS-14557-1] c 32 N76-16249  
Speech analyzer  
[NASA-CASE-GSC-11898-1] c 32 N77-30309  
Lightning current waveform measuring system  
[NASA-CASE-KSC-11018-1] c 33 N79-10337

**WAVEGUIDE ANTENNAS**  
Virtual wall slot circularly polarized planar array antenna  
[NASA-CASE-NPO-10301] c 07 N72-11148

**WAVEGUIDE FILTERS**  
High power microwave power divider Patent  
[NASA-CASE-NPO-11031] c 07 N71-33606

**WAVEGUIDE WINDOWS**  
Broadband microwave waveguide window Patent  
[NASA-CASE-XNP-08880] c 09 N71-24808

**WAVEGUIDES**  
Dual waveguide mode source having control means for adjusting the relative amplitude of two modes Patent  
[NASA-CASE-XNP-03134] c 07 N71-10676  
Folded traveling wave maser structure Patent  
[NASA-CASE-XNP-05219] c 16 N71-15550  
Quasi-optical microwave component Patent  
[NASA-CASE-ERC-10011] c 07 N71-29065  
Waveguide mixer  
[NASA-CASE-ERC-10179] c 07 N72-20141  
Active microwave irises and windows  
[NASA-CASE-LAR-10513-1] c 07 N72-25170  
Thin film microwave iris  
[NASA-CASE-LAR-10511-1] c 09 N72-29172  
Resonant waveguide stark cell --- using microwave spectrometers  
[NASA-CASE-LAR-11352-1] c 33 N75-26245  
Diffused waveguiding capillary tube with distributed feedback for a gas laser  
[NASA-CASE-NPO-13544-1] c 36 N76-18428  
Dielectric-loaded waveguide circulator for cryogenically cooled and cascaded maser waveguide structures  
[NASA-CASE-NPO-14254-1] c 36 N80-18372  
Support assembly for cryogenically coolable low-noise choke waveguide  
[NASA-CASE-NPO-14253-1] c 32 N80-32605  
Coaxial phased array antenna  
[NASA-CASE-MS-16800-1] c 32 N81-14187  
Coupled cavity traveling wave tube with velocity tapering  
[NASA-CASE-LEW-12296-1] c 33 N82-26568  
Waveguide cooling system  
[NASA-CASE-NPO-15401-1] c 32 N83-27085

**WAVELENGTHS**  
Method and apparatus for wavelength tuning of liquid lasers  
[NASA-CASE-ERC-10187] c 16 N69-31343  
Instrument for the quantitative measurement of radiation at multiple wave lengths Patent  
[NASA-CASE-XLE-00011] c 14 N70-41946  
Optical systems having spatially invariant outputs  
[NASA-CASE-ERC-10248] c 14 N72-17323

Two color horizon sensor  
[NASA-CASE-ERC-10174] c 14 N72-25409

Monitoring deposition of films  
[NASA-CASE-MFS-20675] c 26 N73-26751

Dual wavelength scanning Doppler velocimeter --- without perturbation of flow fields  
[NASA-CASE-ARC-10637-1] c 35 N75-16783

Diatom infrared gasdynamic laser --- for producing different wavelengths  
[NASA-CASE-ARC-10370-1] c 36 N75-31426

Fluorescent radiation converter  
[NASA-CASE-GSC-12528-1] c 74 N81-24900

Acoustic levitation methods and apparatus  
[NASA-CASE-NPO-15562-1] c 71 N82-27086

Extended range X-ray telescope  
[NASA-CASE-MFS-25282-1] c 34 N83-19015

Dual laser optical system and method for studying fluid flow  
[NASA-CASE-MFS-25315-1] c 36 N83-29680

Acoustic suspension system  
[NASA-CASE-NPO-15435-1] c 71 N83-36846

Dual wavelength holographic interferometry system  
[NASA-CASE-MFS-28242-1] c 35 N89-26202

Field induced gap infrared detector  
[NASA-CASE-NPO-17526-1-CU] c 35 N89-28796

**WAVES**  
Natural turbulence electrical power generator --- using wave action or random motion  
[NASA-CASE-LAR-11551-1] c 44 N80-29834

**WEAR**  
Refractory coatings  
[NASA-CASE-LEW-13169-2] c 26 N82-30371

**WEAR INHIBITORS**  
Composite seal for turbomachinery  
[NASA-CASE-LEW-12131-3] c 37 N82-19540

**WEATHERPROOFING**  
Weatherproof helix antenna Patent  
[NASA-CASE-KKS-08485] c 07 N71-19493

**WEBS (SHEETS)**  
Method and apparatus for measuring web material wound on a reel  
[NASA-CASE-GSC-11902-1] c 38 N77-17495  
Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NASA-CASE-NPO-15494-1] c 35 N82-25484  
Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NAS 1.71-NPO-15494-2] c 35 N85-34373

**WEBS (SUPPORTS)**  
Integrated gas turbine engine-nacelle  
[NASA-CASE-LEW-12389-2] c 07 N78-18066  
Integrated gas turbine engine-nacelle  
[NASA-CASE-LEW-12389-3] c 07 N79-14096

**WEDGES**  
Two dimensional wedge/translating shroud nozzle  
[NASA-CASE-LAR-11919-1] c 07 N78-27121

**WEIGHT (MASS)**  
Suspended mass impact damper Patent  
[NASA-CASE-LAR-10193-1] c 15 N71-27146  
System for indicating fuel-efficient aircraft altitude  
[NASA-CASE-NPO-15351-2] c 06 N84-34443

**WEIGHT INDICATORS**  
Device for monitoring a change in mass in varying gravimetric environments  
[NASA-CASE-MFS-21556-1] c 35 N74-26945  
Miniature remote dead weight calibrator  
[NASA-CASE-LAR-13564-1] c 35 N87-25558

**WEIGHT MEASUREMENT**  
Automatic force measuring system Patent  
[NASA-CASE-XLA-02605] c 14 N71-10773  
Device for monitoring a change in mass in varying gravimetric environments  
[NASA-CASE-MFS-21556-1] c 35 N74-26945  
Portable pallet weighing apparatus  
[NASA-CASE-GSC-12789-1] c 35 N85-20294

**WEIGHTLESSNESS**  
Apparatus for transferring cryogenic liquids Patent  
[NASA-CASE-XLE-00345] c 15 N70-38020  
Liquid-gas separation system Patent  
[NASA-CASE-XMS-01624] c 15 N70-40062  
Measuring device Patent  
[NASA-CASE-XMS-01546] c 14 N70-40233  
Zero gravity starting means for liquid propellant motors Patent  
[NASA-CASE-XNP-01390] c 28 N70-41275  
Liquid-gas separator for zero gravity environment Patent  
[NASA-CASE-XMS-01492] c 05 N70-41297  
Recovery of potable water from human wastes in below-G conditions Patent  
[NASA-CASE-XLA-03213] c 05 N71-11207  
Zero gravity separator Patent  
[NASA-CASE-XLE-00586] c 15 N71-15968  
Reduced gravity simulator Patent  
[NASA-CASE-XLA-01787] c 11 N71-16028

Method and apparatus of simulating zero gravity conditions Patent  
[NASA-CASE-MFS-12750] c 27 N71-16223  
Quick disconnect latch and handle combination Patent  
[NASA-CASE-MFS-11132] c 15 N71-17649

Spherical tank gauge Patent  
[NASA-CASE-XMS-06236] c 14 N71-21007

Zero gravity apparatus Patent  
[NASA-CASE-XMF-06515] c 14 N71-23227

Skeletal stressing method and apparatus Patent  
[NASA-CASE-ARC-10100-1] c 05 N71-24738

Material handling device Patent  
[NASA-CASE-XNP-09770-3] c 11 N71-27036

Method of making foamed materials in zero gravity  
[NASA-CASE-XMF-09902] c 15 N72-11387

Remote control manipulator for zero gravity environment  
[NASA-CASE-MFS-14405] c 15 N72-28495

Zero gravity liquid mixer  
[NASA-CASE-LAR-10195-1] c 15 N73-19458

Zero gravity liquid transfer screen  
[NASA-CASE-KSC-10626] c 14 N73-27378

Reduced gravity fecal collector seat and urinal  
[NASA-CASE-MFS-22102-1] c 54 N74-20725

Apparatus for conducting flow electrophoresis in the substantial absence of gravity  
[NASA-CASE-MFS-21394-1] c 34 N74-27744

Rotary plant growth accelerating apparatus --- weightlessness  
[NASA-CASE-ARC-10722-1] c 51 N75-25503

Fluid control apparatus and method  
[NASA-CASE-LAR-11110-1] c 34 N75-26282

Method for manufacturing mirrors in zero gravity environment  
[NASA-CASE-MS-12611-1] c 12 N76-15189

Fluid mass sensor for a zero gravity environment  
[NASA-CASE-MS-14653-1] c 35 N77-19385

Method of crystallization --- in gravity-free environments  
[NASA-CASE-MFS-23001-1] c 76 N77-32919

Passive propellant system  
[NASA-CASE-MFS-23642-1] c 20 N80-10278

Method and apparatus for producing concentric hollow spheres --- inertial confinement fusion targets  
[NASA-CASE-NPO-14596-1] c 31 N81-333'9

Sample levitation and melt in microgravity  
[NASA-CASE-NPO-17022-1-CU] c 29 N87-25489

**WEIGHTLESSNESS SIMULATION**  
Reduced gravity liquid configuration simulator  
[NASA-CASE-XLE-02624] c 12 N69-39988

Mass measuring system Patent  
[NASA-CASE-XMS-03371] c 05 N70-42000

Harness assembly Patent  
[NASA-CASE-MFS-14671] c 05 N71-12341

Whole body measurement systems --- for weightlessness simulation  
[NASA-CASE-MS-13972-1] c 52 N74-10975

Weightlessness simulation system and process  
[NASA-CASE-ARC-11646-1] c 14 N87-25344

Hollow fiber clinostat: Technical abstract  
[NASA-CASE-MFS-28370-1] c 35 N89-28793

**WELD STRENGTH**  
Grain refinement control in TIG arc welding  
[NASA-CASE-MS-19095-1] c 37 N75-19683

**WELD TESTS**  
Determination of spot weld quality Patent  
[NASA-CASE-XNP-02588] c 15 N71-18613

Method and apparatus for swept-frequency impedance measurements of welds  
[NASA-CASE-ARC-10176-1] c 15 N72-21454

**WELDED JOINTS**  
Apparatus for welding blades to rotors  
[NASA-CASE-LEW-10533-2] c 37 N74-11300

Ultrasonic scanning system for in-place inspection of brazed tube joints  
[NASA-CASE-MFS-20767-1] c 38 N74-15130

Device for measuring the ferrite content in an austenitic stainless-steel weld  
[NASA-CASE-MFS-22907-1] c 26 N76-18237

Capillary flow weld-bonding  
[NASA-CASE-LAR-11726-1] c 37 N76-27538

Automated weld torch guidance control system  
[NASA-CASE-MFS-25807-2] c 37 N86-21850

**WELDED STRUCTURES**  
Grain refinement control in TIG arc welding  
[NASA-CASE-MS-19095-1] c 37 N75-19633

Flanged major modular assembly jig  
[NASA-CASE-MS-19372-1] c 39 N76-31552

Weld-bonded titanium structures  
[NASA-CASE-LAR-11549-1] c 37 N77-11397

Bimetallic junctions  
[NASA-CASE-LEW-11573-1] c 26 N77-28265

**WELDING**  
Segmented back-up bar Patent  
[NASA-CASE-XMF-00640] c 15 N70-39924

Flexible back-up bar Patent  
[NASA-CASE-XMF-00722] c 15 N70-40204

Apparatus for welding sheet material --- butt joints  
[NASA-CASE-XMS-01330] c 37 N75-27376

Weld-bonded titanium structures  
[NASA-CASE-LAR-11549-1] c 37 N77-11397

Method and apparatus for holding two separate metal pieces together for welding  
[NASA-CASE-GSC-12318-1] c 37 N80-23655

Automatic weld torch guidance control system  
[NASA-CASE-MFS-25807] c 37 N83-20154

Joining lead wires to thin platinum alloy films  
[NASA-CASE-LEW-13934-1] c 35 N83-35338

Method of repairing hidden leaks in tubes  
[NASA-CASE-MFS-19796-1] c 37 N86-32736

Alignment and assembly tool for very large diameter cylinders  
[NASA-CASE-MFS-28001-2] c 37 N88-14360

Optically controlled welding system  
[NASA-CASE-MFS-29291-1] c 37 N89-12868

**WELDING MACHINES**

Apparatus for welding torch angle and seam tracking control Patent  
[NASA-CASE-XMF-03287] c 15 N71-15607

Automatic welding speed controller Patent  
[NASA-CASE-XMF-01730] c 15 N71-23050

Electric welding torch Patent  
[NASA-CASE-XMF-02330] c 15 N71-23798

Welding skate with computerized control Patent  
[NASA-CASE-XMF-07069] c 15 N71-23815

Computerized system for translating a torch head  
[NASA-CASE-MFS-23620-1] c 37 N79-10421

Welding torch with arc light reflector  
[NASA-CASE-MFS-29134-1] c 74 N87-17493

Welding monitoring system  
[NASA-CASE-MFS-29177-1] c 37 N88-14362

**WET CELLS**

Method and device for determining battery state of charge Patent  
[NASA-CASE-NPO-10194] c 03 N71-20407

**WETTING**

Pretreatment method for anti-wettable materials  
[NASA-CASE-XMS-03537] c 15 N69-21471

**WHEATSTONE BRIDGES**

Self-balancing strain gage transducer Patent  
[NASA-CASE-MFS-12827] c 14 N71-17656

Method for improving the signal-to-noise ratio of the Wheatstone bridge type bolometer Patent  
[NASA-CASE-XLA-02810] c 14 N71-25901

Temperature control system with a pulse width modulated bridge  
[NASA-CASE-NPO-11304] c 14 N73-26430

Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NASA 1.71:NPO-15494-2] c 35 N85-34373

**WHEELS**

Non-backdrivable free wheeling coupling  
[NASA-CASE-MSC-20475-1] c 37 N87-17037

**WHISKER COMPOSITES**

Reinforced metallic composites Patent  
[NASA-CASE-XLE-00228] c 17 N70-38490

**WHISKERS (CRYSTALS)**

Catalyst for growth of boron carbide single crystal whiskers  
[NASA-CASE-XHQ-03903] c 15 N69-21922

**WICKS**

Method of forming a wick for a heat pipe  
[NASA-CASE-NPO-13391-1] c 34 N76-27515

Monogroove heat pipe design: Insulated liquid channel with bridging wick  
[NASA-CASE-MSC-20497-1] c 34 N85-29180

Polymeric heat pipe wick  
[NASA-CASE-GSC-13019-1] c 34 N88-29133

**WIDE ANGLE LENSES**

Wide angle long eye relief eyepiece Patent  
[NASA-CASE-XMS-06056-1] c 23 N71-24857

**WIDEBAND COMMUNICATION**

Wideband heterodyne receiver for laser communication system  
[NASA-CASE-GSC-12053-1] c 32 N77-28346

Multiple band circularly polarized microstrip antenna  
[NASA-CASE-MSC-18334-1] c 32 N80-32604

**WINCHES**

Winch having cable position and load indicators Patent  
[NASA-CASE-MSC-12052-1] c 15 N71-24599

**WIND DIRECTION**

Radionuclide counting technique for measuring wind velocity and direction  
[NASA-CASE-LAR-12971-1] c 47 N84-28292

**WIND EFFECTS**

Viscous pendulum damper Patent  
[NASA-CASE-LAR-10274-1] c 14 N71-17626

Aircraft lifter  
[NASA-CASE-LAR-12518-1] c 06 N86-27280

**WIND MEASUREMENT**

Passive optical wind and turbulence detection system Patent  
[NASA-CASE-XMF-14032] c 20 N71-16340

Maxometers (peak wind speed anemometers)  
[NASA-CASE-MFS-20916] c 14 N73-25460

Wind sensor  
[NASA-CASE-NPO-13462-1] c 35 N76-24524

Focused laser Doppler velocimeter  
[NASA-CASE-MFS-23178-1] c 35 N77-10493

Wind measurement system  
[NASA-CASE-MFS-23362-1] c 47 N77-10753

**WIND PROFILES**

Wind velocity probing device and method Patent  
[NASA-CASE-XLA-02081] c 20 N71-16281

**WIND SHEAR**

CAT altitude avoidance system  
[NASA-CASE-NPO-15351-1] c 06 N83-10040

Aircraft lifter  
[NASA-CASE-LAR-12518-1] c 06 N86-27280

**WIND TUNNEL APPARATUS**

Wind tunnel airstream oscillating apparatus Patent  
[NASA-CASE-XLA-00112] c 11 N70-33287

Electric arc device for heating gases Patent  
[NASA-CASE-XAC-00319] c 25 N70-41628

Test unit free-flight suspension system Patent  
[NASA-CASE-XLA-00939] c 11 N71-15926

Burst diaphragm flow initiator Patent  
[NASA-CASE-MFS-12915] c 11 N71-17600

Electric arc apparatus Patent  
[NASA-CASE-XAC-01677] c 09 N71-20816

Model launcher for wind tunnels Patent  
[NASA-CASE-XNP-03578] c 11 N71-23030

Wind tunnel microphone structure Patent  
[NASA-CASE-XNP-00250] c 11 N71-28779

Wind tunnel  
[NASA-CASE-LAR-10135-1] c 09 N79-21083

Metric half-span model support system  
[NASA-CASE-LAR-12441-1] c 09 N82-23254

Airfoil flutter model suspension system  
[NASA-CASE-LAR-13522-1-SB] c 09 N87-25334

**WIND TUNNEL CALIBRATION**

Rotary target V-block  
[NASA-CASE-LAR-12007-3] c 35 N84-16523

**WIND TUNNEL DRIVES**

Electric arc driven wind tunnel Patent  
[NASA-CASE-XMF-00411] c 11 N70-36913

**WIND TUNNEL MODELS**

Flow field simulation Patent  
[NASA-CASE-LAR-11138] c 12 N71-20436

Multilegged support system Patent  
[NASA-CASE-XLA-01326] c 11 N71-21481

Model launcher for wind tunnels Patent  
[NASA-CASE-XNP-03578] c 11 N71-23030

Wind tunnel model damper Patent  
[NASA-CASE-XLA-09480] c 11 N71-33612

Wind tunnel model and method  
[NASA-CASE-LAR-10812-1] c 09 N74-17955

Method for determining thermo-physical properties of specimens --- photographic recording of changes in thin film phase-change temperature indicating material in wind tunnel  
[NASA-CASE-LAR-11053-1] c 25 N74-18551

Metric half-span model support system  
[NASA-CASE-LAR-12441-1] c 09 N82-23254

Aeroelastic instability stoppers for wind tunnel models  
[NASA-CASE-LAR-12458-1] c 44 N83-21503

Aeroelastic instability stoppers for wind tunnel models  
[NASA-CASE-LAR-12720-1] c 44 N83-21504

Model mount system for testing flutter  
[NASA-CASE-LAR-12950-1] c 09 N84-34448

Airfoil flutter model suspension system  
[NASA-CASE-LAR-13522-1-SB] c 09 N87-25334

**WIND TUNNEL NOZZLES**

Multi-purpose wind tunnel reaction control model block  
[NASA-CASE-MSC-19706-1] c 09 N78-31129

Wind tunnel supplementary Mach number minimum section insert  
[NASA-CASE-LAR-12532-1] c 09 N82-11088

**WIND TUNNEL TESTS**

Metallic hot wire anemometer --- for high speed wind tunnel tests  
[NASA-CASE-ARC-10911-1] c 35 N77-20400

Multi-purpose wind tunnel reaction control model block  
[NASA-CASE-MSC-19706-1] c 09 N78-31129

Metric half-span model support system  
[NASA-CASE-LAR-12441-1] c 09 N82-23254

Miniature remote dead weight calibrator  
[NASA-CASE-LAR-13564-1] c 35 N87-25558

Device for quick changeover between wind tunnel force and pressure testing  
[NASA-CASE-LAR-13512-1] c 35 N87-28884

Thermal remote anemometer system  
[NASA-CASE-LAR-13508-1] c 35 N88-23962

**WIND TUNNEL WALLS**

Sound shield  
[NASA-CASE-LAR-12883-1] c 71 N83-17235

**WIND TUNNELS**

Thin film gauge --- for measuring convective heat transfer rates along test surfaces in wind tunnels  
[NASA-CASE-NPO-10617-1] c 35 N74-22095

Wind tunnel flow generation section  
[NASA-CASE-ARC-10710-1] c 09 N75-12969

Apparatus for reducing aerodynamic noise in a wind tunnel  
[NASA-CASE-MFS-23099-1] c 09 N76-23273

Static pressure orifice system testing method and apparatus  
[NASA-CASE-LAR-12269-1] c 35 N80-18358

**WIND TURBINES**

Amplified wind turbine apparatus  
[NASA-CASE-MFS-23830-1] c 44 N82-24639

Wind and solar powered turbine  
[NASA-CASE-NPO-15496-1] c 44 N84-23018

**WIND VELOCITY**

Radionuclide counting technique for measuring wind velocity and direction  
[NASA-CASE-LAR-12971-1] c 47 N84-28292

Aircraft lifter  
[NASA-CASE-LAR-12518-1] c 06 N86-27280

**WIND VELOCITY MEASUREMENT**

Wind velocity probing device and method Patent  
[NASA-CASE-XLA-02081] c 20 N71-16281

Aircraft lifter  
[NASA-CASE-LAR-12518-1] c 06 N86-27280

**WINDING**

Conically shaped cavity radiometer with a dual purpose cone winding Patent  
[NASA-CASE-XNP-09701] c 14 N71-26475

Pulse coupling circuit  
[NASA-CASE-LEW-10433-1] c 09 N72-22197

**WINDMILLS (WINDPOWERED MACHINES)**

Electrical power generating system --- for windpowered generation  
[NASA-CASE-MFS-24368-3] c 33 N81-22280

Vertical shaft windmill  
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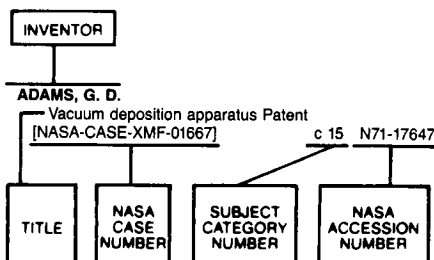
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**WILCOX, BRIAN**

- Real time pipelined system for forming the sum of products in the processing of video data  
[NASA-CASE-NPO-16462-1-CU] c 60 N88-24169  
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**WILCOX, FLOYD J., JR.**

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Passive venting technique for shallow cavities  
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**WILEM, R. T.**

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[NASA-CASE-LAR-11551-1] c 44 N80-29834

**WILEY, F. L.**

- Temperature regulation circuit Patent  
[NASA-CASE-XNP-02792] c 14 N71-28958

**WILEY, P. H.**

- Logarithmic circuit with wide dynamic range  
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**WILGUS, D. S.**

- Adaptive voting computer system  
[NASA-CASE-MSC-13932-1] c 62 N74-14920

**WILHELM, H. E.**

- Apparatus for extraction and separation of a preferentially photo-dissociated molecular isotope into positive and negative ions by means of an electric field  
[NASA-CASE-LEW-12465-1] c 25 N78-25148

**WILHITE, W. F.**

- Micropacked column for a chromatographic system  
[NASA-CASE-XNP-04816] c 06 N69-39936

**WILKEY, J. W., JR.**

- Velocity package Patent  
[NASA-CASE-XLA-01339] c 31 N71-15692

**WILKINS, J. R.**

- Apparatus for microbiological sampling  
[NASA-CASE-LAR-11069-1] c 35 N75-12272

**WILSON, A. H.**

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[NASA-CASE-LAR-11074-1] c 51 N75-13502

**WILSON, D. J.**

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[NASA-CASE-LAR-11354-1] c 35 N75-27330

- Measurement of gas production of microorganisms  
[NASA-CASE-LAR-11326-1] c 35 N75-33368

- Automated single-slide staining device  
[NASA-CASE-LAR-11649-1] c 51 N77-27677

- Electrochemical detection device  
[NASA-CASE-LAR-11922-1] c 25 N79-24073

- Indirect microbial detection  
[NASA-CASE-LAR-12520-1] c 51 N81-28698

- Apparatus and process for microbial detection and enumeration  
[NASA-CASE-LAR-12709-1] c 35 N82-28604

**WILL, H. A.**

- Process for fabricating SiC semiconductor devices  
[NASA-CASE-LEW-12094-1] c 76 N76-25049

**WILL, R. W.**

- Attitude control and damping system for spacecraft Patent  
[NASA-CASE-XLA-02551] c 21 N71-21708

**WILLIAMS, B. A.**

- Thermistor holder for skin temperature measurements  
[NASA-CASE-ARC-10855-1] c 52 N77-10780

- Liquid cooled brassiere and method of diagnosing malignant tumors therewith  
[NASA-CASE-ARC-11007-1] c 52 N77-14736

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[NASA-CASE-ARC-11059-1] c 54 N78-32721

**WILLIAMS, D. D.**

- Apparatus for changing the orientation and velocity of a spinning body traversing a path Patent  
[NASA-CASE-HQN-00936] c 31 N71-29050

**WILLIAMS, D. N.**

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[NASA-CASE-XMF-02786] c 17 N71-20743

**WILLIAMS, E. F.**

- Automatic liquid inventory collecting and dispensing unit  
[NASA-CASE-LAR-11071-1] c 35 N75-19611

**WILLIAMS, J. G.**

- Light regulator  
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- Light intensity strain analysis  
[NASA-CASE-LAR-10765-1] c 32 N73-20740

**WILLIAMS, J. J.**

- Flow modifying device  
[NASA-CASE-LEW-13562-2] c 07 N85-35195

**WILLIAMS, J. R.**

- Holographic thin film analyzer  
[NASA-CASE-MFS-20823-1] c 16 N73-30476

**WILLIAMS, L. A.**

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[NASA-CASE-XNP-08835-1] c 37 N80-14395

**WILLIAMS, L. A., JR.**

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[NASA-CASE-LAR-11729-1] c 34 N79-12359

**WILLIAMS, M. D.**

- Measurement of time differences between luminous events Patent  
[NASA-CASE-XLA-01987] c 23 N71-23976

- Volumetric direct nuclear pumped laser  
[NASA-CASE-LAR-12183-1] c 36 N79-18307

**WILLIAMS, M. L.**

- Non-destructive method for applying and removing instrumentation on helicopter rotor blades  
[NASA-CASE-LAR-11201-1] c 35 N78-24515

**WILLIAMS, R. M.**

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**WILLIAMS, S. R.**

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**WILLIAMS, T. E.**

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**WILLIAMS, W. F.**

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[NASA-CASE-NPO-13140-1] c 32 N75-24982

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**WILNER, B. M.**

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**WILSON, A. H.**

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**WILSON, E. M.**

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**WILSON, JOHN C.**

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**WILSON, L. R.**

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[NASA-CASE-LAR-11607-1] c 32 N77-14292

**WILSON, M. E.**

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**WILSON, M. L.**

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**WILSON, M. N., JR.**

- Space simulator Patent  
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**WILSON, MAYWOOD L.**

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**WILSON, R. E.**

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**WILSON, R. L.**

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**WILSON, T. G.**

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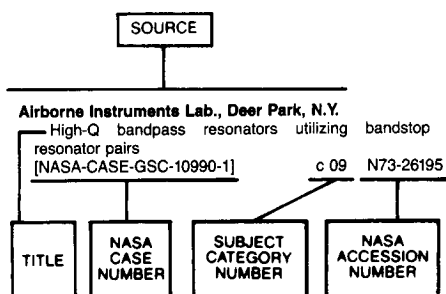
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## Section 2

## Typical Source Index Listing



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[NASA-CASE-NPO-14448-1] c 74 N81-29963  
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[NASA-CASE-NPO-15358-1] c 33 N83-27126  
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[NASA-CASE-GSC-12808-1] c 25 N85-21279
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[NASA-CASE-HQN-10792-1] c 33 N74-11049
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[NASA-CASE-XGS-01674] c 03 N71-29129
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[NASA-CASE-GSC-11074-1] c 14 N73-28489
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[NASA-CASE-MFS-20096] c 14 N71-30026
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[NASA-CASE-GSC-11018-1] c 31 N73-30829
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[NASA-CASE-MSC-18422-1] c 37 N82-16408
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[NASA-CASE-MFS-23405-1] c 26 N77-29260
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[NASA-CASE-ARC-10810-1] c 33 N76-19339
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- Portable environmental control system Patent  
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- Dual latching solenoid valve Patent  
[NASA-CASE-XMS-05890] c 09 N71-23191
- Water management system and an electrolytic cell therefor Patent  
[NASA-CASE-MSC-10960-1] c 03 N71-24718
- Low cycle fatigue testing machine  
[NASA-CASE-LAR-10270-1] c 32 N72-25877
- Process for separation of dissolved hydrogen from water by use of palladium and process for coating palladium with palladium black  
[NASA-CASE-MSC-13335-1] c 06 N72-31140
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[NASA-CASE-MSC-14757-1] c 35 N78-10428
- Wind tunnel  
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- Water separator  
[NASA-CASE-XMS-01295-1] c 37 N79-21345
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[NASA-CASE-XNP-04148] c 17 N71-24830
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- Separation nut Patent  
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Ion mass spectrometer  
[NASA-CASE-NPO-15423-1] c 35 N84-28016

Shaft transducer having dc output proportional to angular velocity  
[NASA-CASE-NPO-15706-1] c 35 N84-28017

Centrifugal-reciprocating compressor  
[NASA-CASE-NPO-14597-2] c 37 N84-28081

Solar energy modulator  
[NASA-CASE-NPO-15388-1] c 44 N84-28203

Integrating IR detector imaging systems  
[NASA-CASE-NPO-15805-1] c 74 N84-28590

Glass heating panels and method for preparing the same from architectural reflective glass  
[NASA-CASE-NPO-15753-1] c 27 N84-33589

Portable reflectance spectrometer  
[NASA-CASE-NPO-13556-1] c 35 N84-33766

Means and method for calibrating a photon detector utilizing electron-photon coincidence  
[NASA-CASE-NPO-15644-1] c 35 N84-33767

Phase sensitive guidance sensor for wire-following vehicles  
[NASA-CASE-NPO-15341-1] c 35 N84-33769

System for indicating fuel-efficient aircraft altitude  
[NASA-CASE-NPO-15351-2] c 06 N84-34443

Pipelined digital SAR azimuth correlator using hybrid FFT-transversal filter  
[NASA-CASE-NPO-15519-1] c 32 N84-34651

Correlation spectrometer having high resolution and multiplexing capability  
[NASA-CASE-NPO-15558-1] c 35 N84-34705

Saltless solar pond  
[NASA-CASE-NPO-15808-1] c 44 N84-34792

Epitaxial thinning process  
[NASA-CASE-NPO-15786-1] c 76 N84-35112

Process and apparatus for growing a crystal ribbon  
[NASA-CASE-NPO-15629-1] c 76 N84-35113

Multicomputer communication system  
[NASA-CASE-NPO-15433-1] c 32 N85-21428

Hollow cathode apparatus  
[NASA-CASE-NPO-15560-1] c 33 N85-21491

Method and apparatus for self-calibration and phasing of array antenna  
[NASA-CASE-NPO-15920-1] c 33 N85-21493

State-of-charge coulometer  
[NASA-CASE-NPO-15759-1] c 35 N85-21596

Carbon granule probe microphone for leak detection  
[NASA-CASE-NPO-16027-1] c 35 N85-21597

Portable remote laser sensor for methane leak detection  
[NASA-CASE-NPO-15790-1] c 36 N85-21631

Ingot slicing machine and method  
[NASA-CASE-NPO-15483-1] c 37 N85-21650

Apparatus and method to keep the walls of a free-space reactor free from deposits of solid materials  
[NASA-CASE-NPO-15851-1] c 37 N85-21652

Method of measuring sea surface water temperature with a satellite including wideband passive synthetic-aperture multichannel receiver  
[NASA-CASE-NPO-15651-1] c 43 N85-21723

Method and apparatus for calibrating the ionosphere and application to surveillance of geophysical events  
[NASA-CASE-NPO-15430-1] c 46 N85-21846

Automatic multi-banking of memory for microprocessors  
[NASA-CASE-NPO-15295-1] c 60 N85-21992

Acoustic agglomeration methods and apparatus  
[NASA-CASE-NPO-15466-1] c 71 N85-22104

High temperature acoustic levitator  
[NASA-CASE-NPO-16022-1] c 71 N85-22105

Focal plane array optical proximity sensor  
[NASA-CASE-NPO-15155-1] c 74 N85-22139

Optical system  
[NASA-CASE-NPO-15801-1] c 74 N85-23396

Corrosion resistant coating  
[NASA-CASE-NPO-15928-1] c 26 N85-29005

Stabilized unsaturated polyesters  
[NASA-CASE-NPO-16103-1] c 27 N85-29043

Reciprocating magnetic refrigerator employing tandem porous matrices within a reciprocating displacer  
[NASA-CASE-NPO-16257-1] c 31 N85-29082

Retinally stabilized differential resolution television display  
[NASA-CASE-NPO-15432-1] c 32 N85-29117

Beam forming network  
[NASA-CASE-NPO-15743-1] c 32 N85-29118

Closed loop electrostatic levitation system  
[NASA-CASE-NPO-15553-1] c 33 N85-29142

Maser cavity servo-tuning system  
[NASA-CASE-NPO-15890-1-CU] c 33 N85-29143

Jet pump-drive system for heat removal  
[NASA-CASE-NPO-16494-1-CU] c 34 N85-29182

Trace water sensor  
[NASA-CASE-NPO-15722-1] c 35 N85-29212

Digital control of diode laser for atmospheric spectroscopy  
[NASA-CASE-NPO-16000-1] c 36 N85-29264

Method for driving two-phase turbines with enhanced efficiency  
[NASA-CASE-NPO-15037-2] c 37 N85-29282

Gravity enhanced acoustic levitation method and apparatus  
[NASA-CASE-NPO-16147-1-CU] c 71 N85-29693

Optical fiber coupling method and apparatus  
[NASA-CASE-NPO-15464-1] c 74 N85-29749

Method for growth of crystals by pressure reduction of supercritical or subcritical solution  
[NASA-CASE-NPO-15772-1] c 76 N85-29800

Split-cross-bridge resistor for testing for proper fabrication of integrated circuits  
[NASA-CASE-NPO-16021-1] c 33 N85-30187

Arrangement for damping the resonance in a laser diode  
[NASA-CASE-NPO-15980-1] c 36 N85-30305

Stable density stratification solar pond  
[NASA-CASE-NPO-15419-2] c 44 N85-30474

Increased voltage photovoltaic cell  
[NASA-CASE-NPO-16155-1] c 44 N85-30475

Acoustic particle separation  
[NASA-CASE-NPO-15559-1] c 71 N85-30765

Low defect, high purity crystalline layers grown by selective deposition  
[NASA-CASE-NPO-15813-1] c 76 N85-30922

Ribbon growing method and apparatus  
[NASA-CASE-NPO-16306-1-CU] c 76 N85-30934

Method and apparatus for Delta Kappa synthetic aperture radar measurement of ocean current  
[NASA-CASE-NPO-15704-1] c 32 N85-34327

Method and apparatus for transfer function simulator for testing complex systems  
[NASA-CASE-NPO-15696-1] c 33 N85-34333

Instrumentation for sensing moisture content of material using a transient thermal pulse  
[NASA 1.71-NPO-15494-2] c 35 N85-34373

Ranging system which compares an object reflected component of a light beam to a reference component of the light beam  
[NASA-CASE-NPO-15865-1] c 74 N85-34629

Shuttle car loading system  
[NASA-CASE-NPO-15949-1] c 85 N85-34722

Production of butanol by fermentation in the presence of cocultures of clostridium  
[NASA-CASE-NPO-16203-1] c 23 N85-35227

Fluidized bed desulfurization  
[NASA-CASE-NPO-15924-1] c 25 N85-35253

Memory metal actuator  
[NASA-CASE-NPO-15960-1] c 37 N86-19604

Joint for deployable structures  
[NASA-CASE-NPO-16038-1] c 37 N86-19605

Method and apparatus for contour mapping using synthetic aperture radar  
[NASA-CASE-NPO-15939-1] c 43 N86-19711

Brushless DC motor control system responsive to control signals generated by a computer or the like  
[NASA-CASE-NPO-16420-1] c 33 N86-20681

Self-locking double retention redundant full pin release  
[NASA-CASE-NPO-16233-1] c 37 N86-20801

Neighborhood comparison operator  
[NASA-CASE-NPO-16464-1-CU] c 60 N86-24224

High dynamic global positioning system receiver  
[NASA-CASE-NPO-16171-1-CU] c 04 N86-27270

Protective telescoping shield for solar concentrator  
[NASA-CASE-NPO-16236-1] c 44 N86-27706

Oxygen chemisorption cryogenic refrigerator  
[NASA-CASE-NPO-16734-1-CU] c 31 N88-14223

Energy efficient continuous flow ash lockhopper  
[NASA-CASE-NPO-16985-1-CU] c 31 N88-24814

Acoustic convective system  
[NASA-CASE-NPO-17278-1-CU] c 31 N88-24818

Apparatus for using a time interval counter to measure frequency stability  
[NASA-CASE-NPO-17325-1-CU] c 32 N88-24846

Timing control system  
[NASA-CASE-NPO-16882-1-CU] c 33 N88-24863

A universal computer control system for motors  
[NASA-CASE-NPO-17134-1-CU] c 33 N88-24864

Noncontact temperature pattern measuring device  
[NASA-CASE-NPO-17024-1-CU] c 35 N88-24943

Atmospheric autorotating imaging device  
[NASA-CASE-NPO-17390-1-CU] c 35 N88-24944

Articulated suspension system  
[NASA-CASE-NPO-17354-1-CU] c 37 N88-24973

Real-time optical multiple object recognition and tracking system and method  
[NASA-CASE-NPO-17139-1-CU] c 74 N88-25301

Low-loss, high-isolation, fiber-optic isolator  
[NASA-CASE-NPO-17207-1-CU] c 74 N88-25304

Real-time image difference detection using a polarization rotation spatial light modulator  
[NASA-CASE-NPO-17144-1-CU] c 74 N88-25305

Improved properties of SiGe/GaP alloys  
[NASA-CASE-NPO-17259-1-CU] c 76 N88-25358

Television monitor field shifter and an opto-electronic method for obtaining a stereo image of optimal depth resolution and reduced depth distortion on a single screen  
[NASA-CASE-NPO-17249-1-CU] c 32 N89-28676

Systolic VLSI array for implementing the Kalman filter algorithm  
[NASA-CASE-NPO-17108-1-CU] c 33 N89-28713

Robust high-performance control for robotic manipulators  
[NASA-CASE-NPO-17785-1-CU] c 37 N89-28846

Trochoidal analysis of scattered electrons in a merged electron-ion beam geometry  
[NASA-CASE-NPO-16789-1-CU] c 72 N89-29169

Two stage sorption type cryogenic refrigerator including heat regeneration system  
[NASA-CASE-NPO-17630-1-CU] c 31 N89-29577

Integrated circuit reliability testing  
[NASA-CASE-NPO-17393-1-CU] c 33 N89-29679

Low power consumption current transducer  
[NASA-CASE-NPO-16888-1-CU] c 33 N89-29681

Distributed proximity sensor system  
[NASA-CASE-NPO-17275-1-CU] c 37 N89-29750

Computer access security code system  
[NASA-CASE-NPO-17525-1-CU] c 60 N89-29955

Dynamic resource allocation scheme for distributed heterogeneous computer systems  
[NASA-CASE-NPO-17197-1-CU] c 62 N89-29976

Long wavelength infrared detector  
[NASA-CASE-NPO-17543-1-CU] c 74 N89-30044

Oxidation of semiconductors and superconductors  
[NASA-CASE-NPO-17534-1-CU] c 76 N89-30076

**Johns Hopkins Univ., Laurel, MD.**

Telemetry synchronizer  
[NASA-CASE-GSC-11868-1] c 17 N76-22245

**Johns Hopkins Univ., Silver Spring, MD.**

Open loop digital frequency multiplier  
[NASA-CASE-MS-C-12709-1] c 33 N77-24375

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**Kelsey-Hayes Co., Romulus, MI.**

Variable thrust ion engine utilizing thermally decomposable solid fuel Patent  
[NASA-CASE-XMF-00923] c 28 N70-36802

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Unfurlable structure including coiled strips thrust launched upon tension release Patent  
[NASA-CASE-HCN-00937] c 07 N71-28979

**Kentucky Univ., Lexington.**

Apparatus for determining changes in limb volume  
[NASA-CASE-MS-C-18759-1] c 52 N83-27578

**Kinologic Corp., Pasadena, CA.**

Excitation and detection circuitry for a flux responsive magnetic head  
[NASA-CASE-XNP-04183] c 09 N69-24329

Tape guidance system and apparatus for the provision thereof Patent  
[NASA-CASE-XNP-09453] c 08 N71-19420

Incremental tape recorder and data rate converter Patent  
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**Kollsman Instrument Corp., Elmhurst, NY.**

Wide angle long eye relief eyepiece Patent  
[NASA-CASE-XMS-06056-1] c 23 N71-24857

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Digital modulator and demodulator Patent  
[NASA-CASE-ERC-10041] c 08 N71-29138

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[NASA-CASE-GSC-11487-1] c 14 N73-30393

**Konigsberg Instruments, Inc., Pasadena, CA.**

Accelerometer telemetry system  
[NASA-CASE-ARC-10849-1] c 17 N76-29347

**Korad Corp., New York, NY.**

Laser apparatus for removing material from rotating objects Patent  
[NASA-CASE-MFS-11279] c 16 N71-20400

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**Life Systems, Inc., Beachwood, OH.**

Iodine generator for reclaimed water purification  
[NASA-CASE-MS-C-14632-1] c 54 N78-14784

**Ling-Temco-Vought, Inc., Dallas, TX.**

Latch/ejector unit Patent  
[NASA-CASE-XLA-03538] c 15 N71-24897

**Little (Arthur D.), Inc., Cambridge, MA.**

- Apparatus for measuring thermal conductivity Patent  
[NASA-CASE-XGS-01052] c 14 N71-15992
- Non-flammable elastomeric fiber from a fluorinated elastomer and containing an halogenated flame retardant  
[NASA-CASE-MSC-14331-1] c 27 N76-24405
- Flame retardant spandex type polyurethanes  
[NASA-CASE-MSC-14331-2] c 27 N78-17213
- Process for spinning flame retardant elastomeric compositions  
[NASA-CASE-MSC-14331-3] c 27 N78-32262
- Heat sealable, flame and abrasion resistant coated fabric  
[NASA-CASE-MSC-18382-1] c 27 N82-16238
- Heat sealable, flame and abrasion resistant coated fabric  
[NASA-CASE-MSC-18382-2] c 27 N84-14324
- Heat resistant protective hand covering  
[NASA-CASE-MSC-20261-2] c 54 N84-23113
- Heat resistant protective hand covering  
[NASA-CASE-MSC-20261-1] c 54 N84-28484

**Litton Industries, Beverly Hills, CA.**

- Life support system  
[NASA-CASE-MSC-12411-1] c 05 N72-20096

**Litton Industries, College Park, MD.**

- Shrink-fit gas valve Patent  
[NASA-CASE-XGS-00587] c 15 N70-35087

**Litton Industries, San Carlos, CA.**

- Very high intensity light source using a cathode ray tube  
[NASA-CASE-XNP-01296] c 33 N75-27250

**Litton Systems, Inc., Minneapolis, MN.**

- Apparatus for sampling particulates in gases  
[NASA-CASE-HQN-10037-1] c 14 N73-27376

**Lockheed Aircraft Corp., Burbank, CA.**

- Aerodynamic protection for space flight vehicles Patent  
[NASA-CASE-XNP-02507] c 31 N71-17679

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- Absorptive splitter for closely spaced supersonic engine air inlets Patent  
[NASA-CASE-XLA-02865] c 28 N71-15563
- Multistage aerospace craft  
[NASA-CASE-XMF-02263] c 05 N74-10907

**Lockheed Electronics Co., Houston, TX.**

- Television signal scan rate conversion system Patent  
[NASA-CASE-XMS-07168] c 07 N71-11300
- Burst synchronization detection system Patent  
[NASA-CASE-XMS-05605-1] c 10 N71-19468
- Automatic signal range selector for metering devices Patent  
[NASA-CASE-XMS-06497] c 14 N71-26244
- Monostable multivibrator with complementary NOR gates Patent  
[NASA-CASE-MSC-13492-1] c 10 N71-28860
- Ultrastable calibrated light source  
[NASA-CASE-MSC-12293-1] c 14 N72-27411
- Data storage, image tube type  
[NASA-CASE-MSC-14053-1] c 60 N74-12888
- Differential phase shift keyed communication system  
[NASA-CASE-MSC-14065-1] c 32 N74-26654
- Differential phase shift keyed signal resolver  
[NASA-CASE-MSC-14066-1] c 33 N74-27705
- Method and apparatus for decoding compatible convolutional codes  
[NASA-CASE-MSC-14070-1] c 32 N74-32598
- Pulse stretcher for narrow pulses  
[NASA-CASE-MSC-14130-1] c 33 N74-32711
- Peak holding circuit for extremely narrow pulses  
[NASA-CASE-MSC-14129-1] c 33 N75-18479
- Random pulse generator  
[NASA-CASE-MSC-14131-1] c 33 N75-19515
- Digital transmitter for data bus communications system  
[NASA-CASE-MSC-14558-1] c 32 N75-21486
- Low distortion receiver for bi-level baseband PCM waveforms  
[NASA-CASE-MSC-14557-1] c 32 N76-16249
- System for producing chroma signals  
[NASA-CASE-MSC-14683-1] c 74 N77-18893
- Phased array antenna control  
[NASA-CASE-MSC-14939-1] c 32 N79-11264
- Apparatus and method for stabilized phase detection for binary signal tracking loops  
[NASA-CASE-MSC-16461-1] c 33 N79-11313
- Multiple band circularly polarized microstrip antenna  
[NASA-CASE-MSC-18334-1] c 32 N80-32604
- Multispectral scanner optical system  
[NASA-CASE-MSC-18255-1] c 74 N80-33210
- Random digital encryption secure communication system  
[NASA-CASE-MSC-16462-1] c 32 N82-31583

**Lockheed Engineering and Management Services Co., Inc., Las Cruces, NM.**

- Device and method for frictionally testing materials for ignitability  
[NASA-CASE-MSC-20622-1] c 25 N86-19413
- Lockheed Missiles and Space Co., Huntsville, AL.**  
Diffuser/ejector system for a very high vacuum environment  
[NASA-CASE-MFS-25791-1] c 09 N84-27749
- Lockheed Missiles and Space Co., Sunnyvale, CA.**  
Device for handling heavy loads  
[NASA-CASE-XNP-04969] c 11 N69-27466
- Transient heat transfer gauge Patent  
[NASA-CASE-XNP-09802] c 33 N71-15641
- Dual solid cryogenics for spacecraft refrigeration Patent  
[NASA-CASE-GSC-10188-1] c 23 N71-24725
- Apparatus for detecting the amount of material in a resonant cavity container Patent  
[NASA-CASE-XNP-02500] c 18 N71-27397
- Emergency earth orbital escape device  
[NASA-CASE-MSC-13281] c 31 N72-18859
- Solar energy powered heliotrope  
[NASA-CASE-GSC-10945-1] c 21 N72-31637
- Coaxial inverted geometry transistor having buried emitter  
[NASA-CASE-ARC-10330-1] c 09 N73-32112
- Whole body measurement systems  
[NASA-CASE-MSC-13972-1] c 52 N74-10975
- Four phase logic systems  
[NASA-CASE-MSC-14240-1] c 33 N75-14957
- Strain arrestor plate for fused silica tile  
[NASA-CASE-MSC-14182-1] c 27 N76-14264
- Medical subject monitoring systems  
[NASA-CASE-MSC-14180-1] c 52 N76-14757
- Two-component ceramic coating for silica insulation  
[NASA-CASE-MSC-14270-1] c 27 N76-22377
- Optical alignment device  
[NASA-CASE-ARC-10932-1] c 74 N76-22993
- Three-component ceramic coating for silica insulation  
[NASA-CASE-MSC-14270-2] c 27 N76-23426
- Process of forming catalytic surfaces for wet oxidation reactions  
[NASA-CASE-MSC-14831-1] c 25 N78-10225
- Partial polarizer filter  
[NASA-CASE-GSC-12225-1] c 74 N79-14891
- Method of fabricating a photovoltaic module of a substantially transparent construction  
[NASA-CASE-NPO-14303-1] c 44 N80-18550
- Lockheed Propulsion Co., Redlands, CA.**  
Propellant grain for rocket motors Patent  
[NASA-CASE-XGS-03556] c 27 N70-35534
- LTV Aerospace Corp., Dallas, TX.**  
Method of fluxless brazing and diffusion bonding of aluminum containing components  
[NASA-CASE-MSC-14435-1] c 37 N76-18455
- LTV Aerospace Corp., Hampton, VA.**  
Explosively activated egress area  
[NASA-CASE-LAR-12624-1] c 01 N83-35992

**M****Macon-Rust Co., Lexington, KY.**

- Stretcher Patent  
[NASA-CASE-XMF-06589] c 05 N71-23159

**Marlin-Rockwell Corp., Jamestown, NY.**

- Drilled ball bearing with a one piece anti-tipping cage assembly  
[NASA-CASE-LEW-11925-1] c 37 N75-31446

**Marquardt Corp., Van Nuys, CA.**

- Fuel injection pump for internal combustion engines Patent  
[NASA-CASE-MSC-12139-1] c 28 N71-14058
- Multislit film cooled pyrolytic graphite rocket nozzle Patent  
[NASA-CASE-XNP-04389] c 28 N71-20942
- Tube sealing device Patent  
[NASA-CASE-NPO-10431] c 15 N71-29132

**Martin Marietta Aerospace, Denver, CO.**

- Method and apparatus for tensile testing of metal foil  
[NASA-CASE-LAR-10208-1] c 35 N76-18400
- Pulse transducer with artifact signal attenuator  
[NASA-CASE-FRC-11012-1] c 52 N80-23969

**Martin Marietta Corp., Baltimore, MD.**

- Urine collection apparatus  
[NASA-CASE-MSC-18381-1] c 52 N81-28740
- Landing gear Patent  
[NASA-CASE-XMF-01174] c 02 N70-41589
- Emergency escape system Patent  
[NASA-CASE-XKS-02342] c 05 N71-11199

**Martin Marietta Corp., Denver, CO.**

- Flexible/rigidifiable cable assembly  
[NASA-CASE-MSC-13512-1] c 15 N72-22485
- Derivation of a tangent function using an integrated circuit four-quadrant multiplier  
[NASA-CASE-MSC-13907-1] c 10 N73-26230

- Low distortion automatic phase control circuit  
[NASA-CASE-MFS-21671-1] c 33 N74-22885
- Variable ratio mixed-mode bilateral master-slave control system for shuttle remote manipulator system  
[NASA-CASE-MSC-14245-1] c 18 N75-27041
- Filter regeneration systems  
[NASA-CASE-MSC-14273-1] c 34 N75-33342
- Turnstile and flared cone UHF antenna  
[NASA-CASE-LAR-10970-1] c 33 N76-14372
- Method and apparatus for fluffing, separating, and cleaning fibers  
[NASA-CASE-LAR-11224-1] c 37 N76-18456
- Hearing aid malfunction detection system  
[NASA-CASE-MSC-14916-1] c 33 N78-10375
- Positive isolation disconnect  
[NASA-CASE-MSC-16043-1] c 37 N79-11402
- Urine collection device  
[NASA-CASE-MSC-16433-1] c 52 N81-24711
- Amplifier for measuring low-level signals in the presence of high common mode voltage  
[NASA-CASE-MFS-25868-1] c 33 N86-20670

**Maryland Univ., College Park.**

- Method and apparatus for optical modulating a light signal Patent  
[NASA-CASE-GSC-10216-1] c 23 N71-26722

**Massachusetts Inst. of Tech., Cambridge.**

- Pretreatment method for anti-wettable materials  
[NASA-CASE-XMS-03537] c 15 N69-21471
- Hydraulic drive mechanism Patent  
[NASA-CASE-XMS-03252] c 15 N71-10658
- Electronic amplifier with power supply switching Patent  
[NASA-CASE-XMS-00945] c 09 N71-10798
- Method and apparatus for stabilizing a gaseous optical maser Patent  
[NASA-CASE-XGS-03644] c 16 N71-18614
- Power supply Patent  
[NASA-CASE-XMS-02159] c 10 N71-22961
- Optical frequency waveguide Patent  
[NASA-CASE-HQN-10541-1] c 07 N71-26291
- Laser machining apparatus Patent  
[NASA-CASE-HQN-10541-2] c 15 N71-27135
- Optical frequency waveguide and transmission system Patent  
[NASA-CASE-HQN-10541-4] c 16 N71-27183
- Compact spectroradiometer  
[NASA-CASE-HQN-10683] c 14 N71-34389
- Optical frequency waveguide and transmission system  
[NASA-CASE-HQN-10541-3] c 23 N72-23695
- Display research collision warning system  
[NASA-CASE-HQN-10703] c 21 N73-13643
- Transparent switchboard  
[NASA-CASE-MSC-13746-1] c 10 N73-32143
- Vapor deposition apparatus  
[NASA-CASE-HQN-10462] c 25 N75-29192
- Fault tolerant clock apparatus utilizing a controlled minority of clock elements  
[NASA-CASE-MSC-12531-1] c 35 N75-30504

**MB Associates, San Ramon, CA.**

- Hypervelocity gun  
[NASA-CASE-XLE-03186-1] c 09 N79-21084

**McDonnell Aircraft Co., Saint Louis, MO.**

- Method for making a heat insulating and ablative structure  
[NASA-CASE-XMS-01108] c 15 N69-24322
- Heat flux sensor assembly  
[NASA-CASE-XMS-05909-1] c 14 N69-27459
- Apparatus for purging systems handling toxic, corrosive, noxious and other fluids Patent  
[NASA-CASE-XMS-01905] c 12 N71-21089
- Power supply circuit Patent  
[NASA-CASE-XMS-00913] c 10 N71-23543
- Multiple circuit protector device  
[NASA-CASE-XMS-02744] c 33 N75-27249
- Apparatus for welding sheet material  
[NASA-CASE-XMS-01330] c 37 N75-27376
- Fused switch  
[NASA-CASE-XMS-01244-1] c 33 N79-33393
- Cooling system for high speed aircraft  
[NASA-CASE-LAR-12406-1] c 05 N81-26114

**McDonnell-Douglas Astronautics Co., Huntington Beach, CA.**

- Heat transfer device  
[NASA-CASE-MFS-22938-1] c 34 N76-18374

**McDonnell-Douglas Astronautics Co., Santa Monica, CA.**

- New polymers of perfluorobutadiene and method of manufacture Patent application  
[NASA-CASE-NPO-10863] c 06 N70-11251
- Method of polymerizing perfluorobutadiene Patent application  
[NASA-CASE-NPO-10447] c 06 N70-11252

**McDonnell-Douglas Astronautics Co., Saint Louis, MO.**

- Passive propellant system  
[NASA-CASE-MFS-23642-2] c 20 N78-27176

**McDonnell-Douglas Corp., Huntington Beach, CA.**

- Variable direction force coupler  
[NASA-CASE-MFS-20317] c 15 N73-13463
- Potable water dispenser  
[NASA-CASE-MFS-21115-1] c 54 N74-12779
- Metering gun for dispensing precisely measured charges of fluid  
[NASA-CASE-MFS-21163-1] c 54 N74-17853
- Airlock  
[NASA-CASE-MFS-20922-1] c 18 N74-22136
- Device for monitoring a change in mass in varying gravimetric environments  
[NASA-CASE-MFS-21556-1] c 35 N74-26945
- Thrust-isolating mounting  
[NASA-CASE-MFS-21680-1] c 18 N74-27397
- Device for measuring tensile forces  
[NASA-CASE-MFS-21728-1] c 35 N74-27865
- Flame detector operable in presence of proton radiation  
[NASA-CASE-MFS-21577-1] c 19 N74-29410
- Phase-locked servo system  
[NASA-CASE-MFS-22073-1] c 33 N75-13139
- Vacuum leak detector  
[NASA-CASE-LAR-11237-1] c 35 N75-19612
- Meter for use in detecting tension in straps having predetermined elastic characteristics  
[NASA-CASE-MFS-22189-1] c 35 N75-19615
- Latching device  
[NASA-CASE-MFS-21606-1] c 37 N75-19685
- Device for use in loading tension members  
[NASA-CASE-MFS-21488-1] c 14 N75-24794

**McDonnell-Douglas Corp., Long Beach, CA.**

- Optimized bolted joint  
[NASA-CASE-LAR-13250-1] c 37 N86-27630

**McDonnell-Douglas Corp., Newport Beach, CA.**

- Method of making membranes  
[NASA-CASE-XNP-04264] c 03 N69-21337

**McDonnell-Douglas Corp., Santa Monica, CA.**

- Rocket nozzle test method Patent  
[NASA-CASE-NPO-10311] c 31 N71-15643
- Reaction of fluorine with polyperfluoropolyenes  
[NASA-CASE-NPO-10862] c 06 N72-22107
- Polymers of perfluorobutadiene and method of manufacture  
[NASA-CASE-NPO-10863-2] c 06 N72-25152
- Electrolytic cell structure  
[NASA-CASE-LAR-11042-1] c 33 N75-27252
- Prevention of hydrogen embrittlement of high strength steel by hydrazine compositions  
[NASA-CASE-NPO-12122-1] c 24 N76-14203
- Utilization of oxygen difluoride for syntheses of fluoropolymers  
[NASA-CASE-NPO-12061-1] c 27 N76-16228

**McDonnell-Douglas Corp., Saint Louis, MO.**

- Thermally conductive polymers  
[NASA-CASE-GSC-11304-1] c 06 N72-21105
- Passive propellant system  
[NASA-CASE-MFS-23642-1] c 20 N80-10278

**Medical Sciences Research Foundation, San Francisco, CA.**

- Reduction of blood serum cholesterol  
[NASA-CASE-NPO-12119-1] c 52 N75-15270

**Mellon Inst., Pittsburgh, PA.**

- Instrument for measuring torsional creep and recovery Patent  
[NASA-CASE-XLE-01481] c 14 N71-10781

**Melpar, Inc., Falls Church, VA.**

- Television simulation for aircraft and space flight Patent  
[NASA-CASE-XFR-03107] c 09 N71-19449
- Compact solar still Patent  
[NASA-CASE-XMS-04533] c 15 N71-23086

**Metcom, Inc., Salem, MA.**

- Tuning arrangement for an electron discharge device or the like Patent  
[NASA-CASE-XNP-09771] c 09 N71-24841

**Methodist Hospital, Houston, TX.**

- Snap-in compressible biomedical electrode  
[NASA-CASE-MSC-14623-1] c 52 N77-28717

**Microwave Electronics Corp., Palo Alto, CA.**

- Folded traveling wave maser structure Patent  
[NASA-CASE-XNP-05219] c 16 N71-15550
- Superconducting magnet Patent  
[NASA-CASE-XNP-06503] c 23 N71-29049

**Microwave Research Corp., North Andover, MA.**

- Highly efficient antenna system using a corrugated horn and scanning hyperbolic reflector  
[NASA-CASE-NPO-13568-1] c 32 N76-21365
- Multifrequency broadband polarized horn antenna  
[NASA-CASE-NPO-14588-1] c 32 N81-25278

**Midwest Research Inst., Kansas City, MO.**

- Preparation of ordered poly /arylenesiloxane/ polymers  
[NASA-CASE-XMF-10753] c 06 N71-11237
- Inorganic solid film lubricants Patent  
[NASA-CASE-XMF-03988] c 15 N71-21403

- Fluorinated esters of polycarboxylic acids  
[NASA-CASE-MFS-21040-1] c 06 N73-30098

**Milliken (D. B.) Co., Arcadia, CA.**

- Film feed camera having a detent means Patent  
[NASA-CASE-LAR-10686] c 14 N71-28935

**Minneapolis-Honeywell Regulator Co., MN.**

- Microelectronic module package Patent  
[NASA-CASE-XMS-02182] c 10 N71-28783

**Modern Machine and Tool Co., Newport News, VA.**

- Means for accommodating large overstrain in lead wires  
[NASA-CASE-LAR-10168-1] c 33 N74-22865

**Monsanto Co., Saint Louis, MO.**

- Method for the preparation of inorganic single crystal and polycrystalline electronic materials  
[NASA-CASE-XLE-02545-1] c 76 N79-21910

**Monsanto Research Corp., Dayton, OH.**

- Perfluoro alkylene dioxy-bis-(4-phthalic anhydrides and oxy-bis-(perfluoroalkyleneoxyphthalic anhydrides  
[NASA-CASE-MFS-22356-1] c 23 N75-30256
- Polyimides of ether-linked aryl tetracarboxylic dianhydrides  
[NASA-CASE-MFS-22355-1] c 23 N76-15268

**Motorola, Inc., Phoenix, AZ.**

- Automatic frequency discriminators and control for a phase-lock loop providing frequency preset capabilities Patent  
[NASA-CASE-XMF-08665] c 10 N71-19467
- Method of purifying metallurgical grade silicon employing reduced pressure atmospheric control  
[NASA-CASE-NPO-14474-1] c 26 N80-14229
- Quartz ball valve  
[NASA-CASE-NPO-14473-1] c 37 N80-23654
- Method and apparatus for quadriphase-shift-key and linear phase modulation  
[NASA-CASE-NPO-14444-1] c 33 N81-15192
- PN lock indicator for dithered PN code tracking loop  
[NASA-CASE-NPO-14435-1] c 33 N81-33405

**Motorola, Inc., Scottsdale, AZ.**

- Sealed cabinetry Patent  
[NASA-CASE-MSC-12168-1] c 09 N71-18600
- Digital frequency discriminator Patent  
[NASA-CASE-MFS-14322] c 08 N71-18692
- Phase modulator Patent  
[NASA-CASE-MSC-13201-1] c 07 N71-28429
- Capacitance multiplier and filter synthesizing network  
[NASA-CASE-NPO-11948-1] c 33 N74-32712
- Quadraphase demodulation  
[NASA-CASE-GSC-12137-1] c 33 N78-32338
- Discriminator aided phase lock acquisition for suppressed carrier signals  
[NASA-CASE-NPO-14311-1] c 33 N82-29539

**N****National Academy of Sciences - National Research Council, Washington, DC.**

- Gyrator employing field effect transistors  
[NASA-CASE-MFS-21433] c 09 N73-20232
- Suppression of flutter  
[NASA-CASE-LAR-10682-1] c 02 N73-26004
- Optical data processing using paraboloidal mirror segments  
[NASA-CASE-GSC-11296-1] c 23 N73-30666
- Power supply for carbon dioxide lasers  
[NASA-CASE-GSC-11222-1] c 16 N73-32391
- High field CdS detector for infrared radiation  
[NASA-CASE-LAR-11027-1] c 35 N74-18088
- Holography utilizing surface plasmon resonances  
[NASA-CASE-MFS-22040-1] c 35 N74-26946
- Stagnation pressure probe  
[NASA-CASE-LAR-11139-1] c 35 N74-32878
- Integrated P-channel MOS gyrator  
[NASA-CASE-MFS-22343-1] c 33 N74-34638
- Automated analysis of oxidative metabolites  
[NASA-CASE-ARC-10469-1] c 25 N75-12086
- Method of preparing water purification membranes  
[NASA-CASE-ARC-10643-1] c 25 N75-12087
- Method of forming aperture plate for electron microscope  
[NASA-CASE-ARC-10448-2] c 74 N75-12732
- Dually mode locked Nd:YAG laser  
[NASA-CASE-GSC-11746-1] c 36 N75-19654
- Anti-gravity device  
[NASA-CASE-MFS-22758-1] c 70 N75-26789
- Impact position detector for outer space particles  
[NASA-CASE-GSC-11829-1] c 35 N75-27331
- Integrable power gyrator  
[NASA-CASE-MFS-22342-1] c 33 N75-30428
- Two stage light gas-plasma projectile accelerator  
[NASA-CASE-MFS-22287-1] c 75 N76-14931
- Micrometeoroid velocity and trajectory analyzer  
[NASA-CASE-GSC-11892-1] c 35 N76-15433
- Moving particle composition analyzer  
[NASA-CASE-GSC-11889-1] c 35 N76-16393

- Self-energized plasma compressor  
[NASA-CASE-MFS-22145-2] c 75 N76-17951
- Readout electrode assembly for measuring biological impedance  
[NASA-CASE-ARC-10816-1] c 35 N76-24525
- Electron microscope aperture system  
[NASA-CASE-ARC-10448-3] c 35 N77-14408
- Method for making a hot wire anemometer and product thereof  
[NASA-CASE-ARC-10900-1] c 35 N77-24454
- Length controlled stabilized mode-lock Nd:YAG laser  
[NASA-CASE-GSC-11571-1] c 36 N77-25499
- Method of growing composites of the type exhibiting the Soret effect  
[NASA-CASE-MFS-22926-1] c 24 N77-27187
- Method and apparatus for splitting a beam of energy  
[NASA-CASE-GSC-12083-1] c 73 N78-32848
- Cantilever mounted resilient pad gas bearing  
[NASA-CASE-LEW-12569-1] c 37 N79-10418
- Shock isolator for operating a diode laser on a closed-cycle refrigerator  
[NASA-CASE-GSC-12297-1] c 37 N79-28549
- Pocket ECG electrode  
[NASA-CASE-ARC-11258-1] c 52 N80-33081
- Subcutaneous electrode structure  
[NASA-CASE-ARC-11117-1] c 52 N81-14612
- Microwave integrated circuit for Josephson voltage standards  
[NASA-CASE-MFS-23845-1] c 33 N81-17348
- Autonomous navigation system  
[NASA-CASE-ARC-11257-1] c 04 N81-21047
- Phosphorus-containing bisimide resins  
[NASA-CASE-ARC-11321-1] c 27 N81-27272
- Synthesis of polyformals  
[NASA-CASE-ARC-11244-1] c 23 N82-16174
- Nicral ternary alloy having improved cyclic oxidation resistance  
[NASA-CASE-LEW-13339-1] c 26 N82-31505
- Massively parallel processor computer  
[NASA-CASE-GSC-12223-1] c 60 N83-25378
- Non-invasive method and apparatus for measuring pressure within a pliable vessel  
[NASA-CASE-ARC-11264-2] c 52 N83-29991
- Elastomer-modified phosphorus-containing imide resins  
[NASA-CASE-ARC-11400-1] c 27 N84-14322
- Phosphorus-containing imide resins  
[NASA-CASE-ARC-11368-3] c 27 N84-22745
- Method for the preparation of thin-skinned asymmetric reverse osmosis membranes and products thereof  
[NASA-CASE-ARC-11359-1] c 51 N84-28361
- Synthesis of 2,4,8,10-tetroxaspiro[5.5]undecane  
[NASA-CASE-ARC-11243-2] c 23 N85-33187
- Fire-resistant phosphorus containing polyimides and copolyimides  
[NASA-CASE-ARC-11522-2] c 27 N85-34280
- Metal (2,4,4',4')-phthalocyanine tetraamines as curing agents for epoxy resins  
[NASA-CASE-ARC-11424-1] c 27 N85-34281
- Toughening reinforced epoxy composites with brominated polymeric additives  
[NASA-CASE-ARC-11427-1] c 24 N86-19380
- Metal phthalocyanine intermediates for the preparation of polymers  
[NASA-CASE-ARC-11405-2] c 27 N86-19455

**National Aeronautics and Space Administration, Washington, DC.**

- Optical spin compensator  
[NASA-CASE-XGS-02401] c 14 N69-27485
- Waveguide mixer  
[NASA-CASE-ERC-10179] c 07 N72-20141
- Semiconductor-ferroelectric memory device  
[NASA-CASE-ERC-10307] c 08 N72-21198
- Shielded cathode mode bulk effect devices  
[NASA-CASE-ERC-10119] c 26 N72-21701
- Fabrication of single crystal film semiconductor devices  
[NASA-CASE-ERC-10222] c 09 N72-22199
- Two color horizon sensor  
[NASA-CASE-ERC-10174] c 14 N72-25409
- Ultraviolet atomic emission detector  
[NASA-CASE-HQN-10756-1] c 14 N72-25428
- Optical pump and driver system for lasers  
[NASA-CASE-ERC-10283] c 16 N72-25485
- Clear air turbulence detector  
[NASA-CASE-ERC-10081] c 14 N72-28437
- Head-up attitude display  
[NASA-CASE-ERC-10392] c 21 N73-14692
- System for indicating direction of intruder aircraft  
[NASA-CASE-ERC-10226-1] c 14 N73-16483
- Aircraft control system  
[NASA-CASE-ERC-10439] c 02 N73-19004
- Display system  
[NASA-CASE-ERC-10350] c 14 N73-20474

Method and apparatus for measuring solar activity and atmospheric radiation effects  
[NASA-CASE-ERC-10276] c 14 N73-26432

Doppler shift system  
[NASA-CASE-HQN-10740-1] c 72 N74-19310

Auditory display for the blind  
[NASA-CASE-HQN-10832-1] c 71 N74-21014

Laser system with an antiresonant optical ring  
[NASA-CASE-HQN-10844-1] c 36 N75-19653

Physical correction filter for improving the optical quality of an image  
[NASA-CASE-HQN-10542-1] c 74 N75-25706

Folding structure fabricated of rigid panels  
[NASA-CASE-XHQ-02146] c 18 N75-27040

Traveling wave solid state amplifier utilizing a semiconductor with negative differential mobility  
[NASA-CASE-HQN-10069] c 33 N75-27251

Vapor deposition apparatus  
[NASA-CASE-HQN-10462] c 25 N75-29192

Resistive anode image converter  
[NASA-CASE-HQN-10876-1] c 33 N76-27473

Rechargeable battery which combats shape change of the zinc anode  
[NASA-CASE-HQN-10862-1] c 44 N76-29699

System and method for tracking a signal source  
[NASA-CASE-HQN-10880-1] c 17 N78-17140

Non-equilibrium radiation nuclear reactor  
[NASA-CASE-HQN-10841-1] c 73 N78-19920

Cooling system for removing metabolic heat from an hermetically sealed spacesuit  
[NASA-CASE-ARC-11059-1] c 54 N78-32721

Safety flywheel  
[NASA-CASE-HQN-10888-1] c 44 N79-14527

Flow diverter valve and flow diversion method  
[NASA-CASE-HQN-00573-1] c 37 N79-33468

Glass compositions with a high modulus of elasticity  
[NASA-CASE-HQN-10274-1] c 27 N82-29451

High modulus invert analog glass compositions containing beryllia  
[NASA-CASE-HQN-10931-2] c 27 N82-29452

Non-toxic invert analog glass compositions of high modulus  
[NASA-CASE-HQN-10328-2] c 27 N82-29454

High modulus rare earth and beryllium containing silicate glass compositions  
[NASA-CASE-HQN-10595-1] c 27 N82-29455

High resistance and raised modulus carbon fibers  
[NASA-TM-76884] c 24 N85-25436

**National Aeronautics and Space Administration. Ames Research Center, Moffett Field, CA.**

Nonmagnetic thermal motor for a magnetometer  
[NASA-CASE-XAR-03786] c 09 N69-21313

Balanced bellows spirometer  
[NASA-CASE-XAR-01547] c 05 N69-21473

Cryogenic apparatus for measuring the intensity of magnetic fields  
[NASA-CASE-XAC-02407] c 14 N69-27423

Variable stiffness polymeric damper  
[NASA-CASE-XAC-11225] c 14 N69-27486

Shock-layer radiation measurement  
[NASA-CASE-XAC-02970] c 14 N69-39896

Protective circuit of the spark gap type  
[NASA-CASE-XAC-08981] c 09 N69-39897

Apparatus for coupling a plurality of ungrounded circuits to a grounded circuit Patent  
[NASA-CASE-XAC-00086] c 09 N70-33182

Two-plane balance Patent  
[NASA-CASE-XAC-00073] c 14 N70-34813

Centrifuge mounted motion simulator Patent  
[NASA-CASE-XAC-00399] c 11 N70-34815

Differential pressure cell Patent  
[NASA-CASE-XAC-00042] c 14 N70-34816

High-temperature, high-pressure spherical segment valve Patent  
[NASA-CASE-XAC-00074] c 15 N70-34817

Magnetically centered liquid column float Patent  
[NASA-CASE-XAC-00030] c 14 N70-34820

Propeller blade loading control Patent  
[NASA-CASE-XAC-00139] c 02 N70-34856

Temperature compensated solid state differential amplifier Patent  
[NASA-CASE-XAC-00435] c 09 N70-35440

High speed low level electrical stepping switch Patent  
[NASA-CASE-XAC-00060] c 09 N70-39915

Analog-to-digital conversion system Patent  
[NASA-CASE-XAC-00404] c 08 N70-40125

Null-type vacuum microbalance Patent  
[NASA-CASE-XAC-00472] c 15 N70-40180

Thermo-protective device for balances Patent  
[NASA-CASE-XAC-00648] c 14 N70-40400

Three-axis controller Patent  
[NASA-CASE-XAC-01404] c 05 N70-41581

Electric arc device for heating gases Patent  
[NASA-CASE-XAC-00319] c 25 N70-41628

Dynamic sensor Patent  
[NASA-CASE-XAC-02877] c 14 N70-41681

Universal pilot restraint suit and body support therefor Patent  
[NASA-CASE-XAC-00405] c 05 N70-41819

Proportional controller Patent  
[NASA-CASE-XAC-03392] c 03 N70-41954

Force transducer Patent  
[NASA-CASE-XAC-01101] c 14 N70-41957

Electrode construction Patent  
[NASA-CASE-ARC-10043-1] c 05 N71-11193

Telemeter adaptable for implanting in an animal Patent  
[NASA-CASE-XAC-05706] c 05 N71-12342

Gyrator type circuit Patent  
[NASA-CASE-XAC-10608-1] c 09 N71-12517

Ultraviolet resonance lamp Patent  
[NASA-CASE-ARC-10030] c 09 N71-12521

Differential temperature transducer Patent  
[NASA-CASE-XAC-00812] c 14 N71-15598

Multiple circuit switch apparatus with improved pivot actuator structure Patent  
[NASA-CASE-XAC-03777] c 10 N71-15909

Method of planetary atmospheric investigation using a split-trajectory dual flyby mode Patent  
[NASA-CASE-XAC-08494] c 30 N71-15990

High efficiency multivibrator Patent  
[NASA-CASE-XAC-00942] c 10 N71-16042

Apparatus for measuring conductivity and velocity of plasma utilizing a plurality of sensing coils positioned in the plasma Patent  
[NASA-CASE-XAC-05695] c 25 N71-16073

Flight craft Patent  
[NASA-CASE-XAC-02058] c 02 N71-16087

Three-axis finger tip controller for switches Patent  
[NASA-CASE-XAC-02405] c 09 N71-16089

Electrostatic charged particle analyzer having deflection members shaped according to the periodic voltage applied thereto Patent  
[NASA-CASE-XAC-05506-1] c 24 N71-16095

Inertial reference apparatus Patent  
[NASA-CASE-XAC-03107] c 23 N71-16098

Fastener apparatus Patent  
[NASA-CASE-ARC-10140-1] c 15 N71-17653

Stabilization of gravity oriented satellites Patent  
[NASA-CASE-XAC-01591] c 31 N71-17729

Microwave flaw detector Patent  
[NASA-CASE-ARC-10009-1] c 15 N71-17822

Hypervelocity gun Patent  
[NASA-CASE-XAC-05902] c 11 N71-18578

Nonlinear analog-to-digital converter Patent  
[NASA-CASE-XAC-04031] c 08 N71-18594

Demodulation system Patent  
[NASA-CASE-XAC-04030] c 10 N71-19472

Phase quadrature-plural channel data transmission system Patent  
[NASA-CASE-XAC-06302] c 08 N71-19763

Two force component measuring device Patent  
[NASA-CASE-XAC-04886-1] c 14 N71-20439

Attitude controls for VTOL aircraft Patent  
[NASA-CASE-XAC-08972] c 02 N71-20570

Electric arc apparatus Patent  
[NASA-CASE-XAC-01677] c 09 N71-20816

Inertia diaphragm pressure transducer Patent  
[NASA-CASE-XAC-02981] c 14 N71-21072

Stirring apparatus for plural test tubes Patent  
[NASA-CASE-XAC-06956] c 15 N71-21177

Exposure system for animals Patent  
[NASA-CASE-XAC-05333] c 11 N71-22875

Vibrating element electrometer with output signal magnified over input signal by a function of the mechanical Q of the vibrating element Patent  
[NASA-CASE-XAC-02807] c 09 N71-23021

Hall current measuring apparatus having a series resistor for temperature compensation Patent  
[NASA-CASE-XAC-01662] c 14 N71-23037

Transfer valve Patent  
[NASA-CASE-XAC-01158] c 15 N71-23051

Hard space suit Patent  
[NASA-CASE-XAC-07043] c 05 N71-23161

Method and apparatus for continuously monitoring blood oxygenation, blood pressure, pulse rate and the pressure pulse curve utilizing an ear oximeter as transducer Patent  
[NASA-CASE-XAC-05422] c 04 N71-23185

Feedback integrator with grounded capacitor Patent  
[NASA-CASE-XAC-10607] c 10 N71-23669

Floating two force component measuring device Patent  
[NASA-CASE-XAC-04885] c 14 N71-23790

Control device Patent  
[NASA-CASE-XAC-10019] c 15 N71-23809

Means for suppressing or attenuating bending motion of elastic bodies Patent  
[NASA-CASE-XAC-05632] c 32 N71-23971

Device for measuring pressure Patent  
[NASA-CASE-XAC-04458] c 14 N71-24232

Transducer circuit and catheter transducer Patent  
[NASA-CASE-ARC-10132-1] c 09 N71-24597

Skeletal stressing method and apparatus Patent  
[NASA-CASE-ARC-10100-1] c 05 N71-24738

Modified polyurethane foams for fuel-fire Patent  
[NASA-CASE-ARC-10098-1] c 06 N71-24739

Deep space monitor communication satellite system Patent  
[NASA-CASE-XAC-06029-1] c 31 N71-24813

Laser fluid velocity detector Patent  
[NASA-CASE-XAC-10770-1] c 16 N71-24828

Transient video signal recording with expanded playback Patent  
[NASA-CASE-ARC-10003-1] c 09 N71-25866

Thermally cycled magnetometer Patent  
[NASA-CASE-XAC-03740] c 14 N71-26135

Optical machine tool alignment indicator Patent  
[NASA-CASE-XAC-09489-1] c 15 N71-26673

Energy limiter for hydraulic actuators Patent  
[NASA-CASE-ARC-10131-1] c 15 N71-27754

Multivibrator circuit with means to prevent false triggering from supply voltage fluctuations Patent  
[NASA-CASE-ARC-10137-1] c 09 N71-28468

Locomotion and restraint aid Patent  
[NASA-CASE-ARC-10153] c 05 N71-28619

Line following servosystem Patent  
[NASA-CASE-XAC-00001] c 15 N71-28952

Mechanically limited, electrically operated hydraulic valve system for aircraft controls Patent  
[NASA-CASE-XAC-00048] c 02 N71-29128

Precision rectifier with FET switching means Patent  
[NASA-CASE-ARC-10101-1] c 09 N71-33109

Solar cell Patent  
[NASA-CASE-ARC-10050] c 03 N71-33409

Phase shift circuit apparatus  
[NASA-CASE-ARC-10269-1] c 10 N72-16172

High intensity radiant energy pulse source having means for opening shutter when light flux has reached a desired level  
[NASA-CASE-ARC-10178-1] c 09 N72-17152

Telemetry actuated switch  
[NASA-CASE-ARC-10105] c 09 N72-17153

Active RC networks  
[NASA-CASE-ARC-10020] c 10 N72-17172

Apparatus for automatically stabilizing the attitude of a nonguided vehicle  
[NASA-CASE-ARC-10134] c 30 N72-17873

Method and apparatus for swept-frequency impedance measurements of welds  
[NASA-CASE-ARC-10176-1] c 15 N72-21464

Space suit having improved waist and torso movement  
[NASA-CASE-ARC-10275-1] c 05 N72-22092

RF controlled solid state switch  
[NASA-CASE-ARC-10136-1] c 09 N72-22202

Wide range dynamic pressure sensor  
[NASA-CASE-ARC-10263-1] c 14 N72-22438

Method and apparatus for measuring the damping characteristics of a structure  
[NASA-CASE-ARC-10154-1] c 14 N72-22440

Magnetic position detection method and apparatus  
[NASA-CASE-ARC-10179-1] c 21 N72-22619

Fluidic proportional thruster system  
[NASA-CASE-ARC-10106-1] c 28 N72-22769

Thermoelectric radiometer utilizing polymer film  
[NASA-CASE-ARC-10138-1] c 14 N72-24477

Polymeric vehicles as carriers for sulfonic acid salt of nitrosubstituted aromatic amines  
[NASA-CASE-ARC-10325] c 06 N72-25147

Stereoscopic television system and apparatus  
[NASA-CASE-ARC-10160-1] c 23 N72-27728

Metallic intrusion detector system  
[NASA-CASE-ARC-10265-1] c 10 N72-28240

Apparatus for ionization analysis  
[NASA-CASE-ARC-10017-1] c 14 N72-29464

Nondispersive gas analyzing method and apparatus wherein radiation is serially passed through a reference and unknown gas  
[NASA-CASE-ARC-10308-1] c 06 N72-31141

Two degree inverted flexure  
[NASA-CASE-ARC-10345-1] c 15 N73-12488

Intumescent paint containing nitrile rubber  
[NASA-CASE-ARC-10196-1] c 18 N73-13562

Temperature compensated light source using a light emitting diode  
[NASA-CASE-ARC-10467-1] c 09 N73-14214

Self-tuning bandpass filter  
[NASA-CASE-ARC-10264-1] c 09 N73-20231

Micrometeoroid analyzer  
[NASA-CASE-ARC-10443-1] c 14 N73-20477

Multiple pass reimaging optical system  
[NASA-CASE-ARC-10194-1] c 23 N73-20741

Intruder detection system  
[NASA-CASE-ARC-10097-2] c 07 N73-25160

Interferometric rotation sensor  
[NASA-CASE-ARC-10278-1] c 14 N73-25463



Dual-fuselage aircraft having yawable wing and horizontal stabilizer  
[NASA-CASE-ARC-10470-1] c 02 N73-26005  
Temperature controller for a fluid cooled garment  
[NASA-CASE-ARC-10599-1] c 05 N73-26071  
Visual examination apparatus  
[NASA-CASE-ARC-10329-1] c 05 N73-26072  
Intumescent composition, foamed product prepared therewith, and process for making same  
[NASA-CASE-ARC-10304-1] c 18 N73-26572  
Infrared tunable laser  
[NASA-CASE-ARC-10463-1] c 09 N73-32111  
Low power electromagnetic flowmeter providing accurate zero set  
[NASA-CASE-ARC-10362-1] c 14 N73-32326  
Hand-held photomicroscope  
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[NASA-CASE-ARC-11620-1] c 37 N87-25573
- Liquid encapsulated crystal growth  
[NASA-CASE-NPO-16808-1-CU] c 76 N87-25868
- Method and apparatus for making an optical element having a dielectric film  
[NASA-CASE-ARC-11611-1] c 74 N87-28416
- The 1-(diorganooxy phosphonyl) methyl-2,4- and -2,6-diamino benzenes and their derivatives  
[NASA-CASE-ARC-11425-2] c 23 N87-28605
- Electro-expulsive separation system  
[NASA-CASE-ARC-11613-1] c 33 N87-28833

Dual mode laser velocimeter  
[NASA-CASE-ARC-11634-1] c 36 N88-14350

Airborne tracking sunphotometer apparatus and system  
[NASA-CASE-ARC-11622-1] c 44 N88-14492

Ceramic-ceramic shell tile thermal protection system and method thereof  
[NASA-CASE-ARC-11641-1] c 24 N88-18628

Aromatic cyclotriphosphazenes  
[NASA-CASE-ARC-11428-3] c 23 N88-24692

High performance forward swept wing aircraft  
[NASA-CASE-ARC-11636-1] c 05 N88-28914

Boron-containing organosilane polymers and ceramic materials thereof  
[NASA-CASE-ARC-11649-1-SB] c 27 N88-29040

Laser Doppler velocimeter multiplexer interface for simultaneous measured events  
[NASA-CASE-ARC-11536-1] c 33 N89-14384

Fire and heat resistant laminating resin based on maleimido and citraconimido substituted 1-(diorganooxyphosphonyl-methyl)-2,4- and 2,6-diaminobenzenes  
[NASA-CASE-ARC-11533-2] c 27 N89-16042

Visual accommodation trainer-tester  
[NASA-CASE-ARC-11426-2] c 52 N89-16256

Space station architecture, module, berthing hub, shell assembly, berthing mechanism and utility connection channel  
[NASA-CASE-ARC-11505-2] c 18 N89-25266

**National Aeronautics and Space Administration, Electronics Research Center, Cambridge, MA.**

Method and apparatus for wavelength tuning of liquid lasers  
[NASA-CASE-ERC-10187] c 16 N69-31343

A method for the deposition of beta-silicon carbide by isopitaxy  
[NASA-CASE-ERC-10120] c 26 N69-33482

Full flow with shut off and selective drainage control valve Patent application  
[NASA-CASE-ERC-10208] c 15 N70-10867

A method for selective gold diffusion of monolithic silicon devices and/or circuits Patent application  
[NASA-CASE-ERC-10072] c 09 N70-11148

Method and means for an improved electron beam scanning system Patent  
[NASA-CASE-ERC-10552] c 09 N71-12539

Apparatus and method for separating a semiconductor wafer Patent  
[NASA-CASE-ERC-10138] c 26 N71-14354

Focused image holography with extended sources Patent  
[NASA-CASE-ERC-10019] c 16 N71-15551

Recording and reconstructing focused image holograms Patent  
[NASA-CASE-ERC-10017] c 16 N71-15567

Sorption vacuum trap Patent  
[NASA-CASE-XER-09519] c 14 N71-18483

Voltage tunable Gunn-type microwave generator Patent  
[NASA-CASE-XER-07894] c 09 N71-18721

Array phasing device Patent  
[NASA-CASE-ERC-10046] c 10 N71-18722

Parametric microwave noise generator Patent  
[NASA-CASE-XER-11019] c 09 N71-23598

Saturation current protection apparatus for saturable core transformers Patent  
[NASA-CASE-ERC-10075] c 09 N71-24800

Repetitively pulsed, wavelength selective laser Patent  
[NASA-CASE-ERC-10178] c 16 N71-24832

Optical mirror apparatus Patent  
[NASA-CASE-ERC-10001] c 23 N71-24868

Unsaturating saturable core transformer Patent  
[NASA-CASE-ERC-10125] c 09 N71-24893

Leak detector wherein a probe is monitored with ultraviolet radiation Patent  
[NASA-CASE-ERC-10034] c 15 N71-24896

Method for detecting leaks in hermetically sealed containers Patent  
[NASA-CASE-ERC-10045] c 15 N71-24910

Satellite aided vehicle avoidance system Patent  
[NASA-CASE-ERC-10090] c 21 N71-24948

Transverse piezoresistance and pinch effect electromechanical transducers Patent  
[NASA-CASE-ERC-10088] c 26 N71-25490

A solid state acoustic variable time delay line Patent  
[NASA-CASE-ERC-10032] c 10 N71-25900

Method and means for recording and reconstructing holograms without use of a reference beam Patent  
[NASA-CASE-ERC-10020] c 16 N71-26154

Electromechanical control actuator system Patent  
[NASA-CASE-ERC-10022] c 15 N71-26635

Method and apparatus for detecting gross leaks Patent  
[NASA-CASE-ERC-10033] c 14 N71-26672

Field ionization electrodes Patent  
[NASA-CASE-ERC-10013] c 09 N71-26678

Voltage regulator Patent  
[NASA-CASE-ERC-10113] c 09 N71-27053

A multichannel photoionization chamber for absorption analysis Patent  
[NASA-CASE-ERC-10044-1] c 14 N71-27090

Pressure sensitive transducers Patent  
[NASA-CASE-ERC-10087] c 14 N71-27334

Constant frequency output two stage induction machine systems Patent  
[NASA-CASE-ERC-10065] c 09 N71-27364

Fluid power transmitting gas bearing Patent  
[NASA-CASE-ERC-10097] c 15 N71-28465

Color television systems using a single gun color cathode ray tube Patent  
[NASA-CASE-ERC-10098] c 09 N71-28618

Ion microprobe mass spectrometer for analyzing fluid materials Patent  
[NASA-CASE-ERC-10014] c 14 N71-28863

Orifice gross leak tester Patent  
[NASA-CASE-ERC-10150] c 14 N71-28992

Device for measuring light scattering wherein the measuring beam is successively reflected between a pair of parallel reflectors Patent  
[NASA-CASE-XER-11203] c 14 N71-28994

Quasi-optical microwave component Patent  
[NASA-CASE-ERC-10011] c 07 N71-29065

Multiple hologram recording and readout system Patent  
[NASA-CASE-ERC-10151] c 16 N71-29131

Plasma fluidic hybrid display Patent  
[NASA-CASE-ERC-10100] c 09 N71-33519

Optical systems having spatially invariant outputs  
[NASA-CASE-ERC-10248] c 14 N72-17323

Method of detecting impending saturation of magnetic cores  
[NASA-CASE-ERC-10089] c 23 N72-17747

Logarithmic function generator utilizing an exponentially varying signal in an inverse manner  
[NASA-CASE-ERC-10267] c 09 N72-23173

Method and apparatus for limiting field emission current  
[NASA-CASE-ERC-10015-2] c 10 N72-27246

**National Aeronautics and Space Administration, Flight Research Center, Edwards, CA.**

Rocket chamber leak test fixture  
[NASA-CASE-XFR-09479] c 14 N69-27503

Three axis controller Patent  
[NASA-CASE-XFR-00181] c 21 N70-33279

Catalyst bed removing tool Patent  
[NASA-CASE-XFR-00811] c 15 N70-36901

Two-axis controller Patent  
[NASA-CASE-XFR-04104] c 03 N70-42073

Controlled visibility device for an aircraft Patent  
[NASA-CASE-XFR-04147] c 11 N71-10748

Biomedical electrode arrangement Patent  
[NASA-CASE-XFR-10856] c 05 N71-11189

Lifting body Patent Application  
[NASA-CASE-FRC-10063] c 01 N71-12217

Energy management system for glider type vehicle Patent  
[NASA-CASE-XFR-00756] c 02 N71-13421

Quick attach mechanism Patent  
[NASA-CASE-XFR-05421] c 15 N71-22994

Heat flux measuring system Patent  
[NASA-CASE-XFR-03802] c 33 N71-23085

Threadless fastener apparatus Patent  
[NASA-CASE-XFR-05302] c 15 N71-23254

Traversing probe Patent  
[NASA-CASE-XFR-02007] c 12 N71-24692

Layout tool Patent  
[NASA-CASE-FRC-10005] c 15 N71-26145

Pulsed excitation voltage circuit for transducers  
[NASA-CASE-FRC-10036] c 09 N72-22200

Acoustical transducer calibrating system and apparatus  
[NASA-CASE-FRC-10060-1] c 14 N73-27379

Three-axis adjustable loading structure  
[NASA-CASE-FRC-10051-1] c 35 N74-13129

Terminal guidance system  
[NASA-CASE-FRC-10049-1] c 04 N74-13420

Full wave modulator-demodulator amplifier apparatus  
[NASA-CASE-FRC-10072-1] c 33 N74-14939

Rotating raster generator  
[NASA-CASE-FRC-10071-1] c 32 N74-20813

Inflatable device for installing strain gage bridges  
[NASA-CASE-FRC-11068-1] c 35 N84-12443

**National Aeronautics and Space Administration, Goddard Inst. for Space Studies, New York, NY.**

Application of luciferase assay for ATP to antimicrobial drug susceptibility  
[NASA-CASE-GSC-12039-1] c 51 N77-22794

Method for fabricating a mass spectrometer inlet leak  
[NASA-CASE-GSC-12077-1] c 35 N77-24455

Length controlled stabilized mode-lock ND:YAG laser  
[NASA-CASE-GSC-11571-1] c 36 N77-25499

Three phase full wave dc motor decoder  
[NASA-CASE-GSC-11824-1] c 33 N77-26386

Gregorian all-reflective optical system  
[NASA-CASE-GSC-12058-1] c 74 N77-26942

Opto-mechanical subsystem with temperature compensation through isothermal design  
[NASA-CASE-GSC-12059-1] c 35 N77-27366

Controlled caging and uncaging mechanism  
[NASA-CASE-GSC-11063-1] c 37 N77-27400

Wideband heterodyne receiver for laser communication system  
[NASA-CASE-GSC-12053-1] c 32 N77-28346

Method and apparatus for producing an image from a transparent object  
[NASA-CASE-GSC-11989-1] c 74 N77-28932

Pseudo noise code and data transmission method and apparatus  
[NASA-CASE-GSC-12017-1] c 32 N77-30308

Speech analyzer  
[NASA-CASE-GSC-11898-1] c 32 N77-30309

Automatic transponder  
[NASA-CASE-GSC-12075-1] c 32 N77-31350

Method of treating the surface of a glass member  
[NASA-CASE-GSC-12110-1] c 27 N77-32306

Flat-plate heat pipe  
[NASA-CASE-GSC-11998-1] c 34 N77-32413

Fluid sampling device  
[NASA-CASE-GSC-12143-1] c 35 N77-32456

Analog to digital converter for two-dimensional radiant energy array computers  
[NASA-CASE-GSC-11839-3] c 60 N77-32731

Remote sensing of vegetation and soil using microwave ellipsometry  
[NASA-CASE-GSC-11976-1] c 43 N78-10529

Memory device for two-dimensional radiant energy array computers  
[NASA-CASE-GSC-11839-2] c 60 N78-10709

**National Aeronautics and Space Administration, Goddard Space Flight Center, Greenbelt, MD.**

Regulated dc to dc converter  
[NASA-CASE-XGS-03429] c 03 N69-21330

Apparatus for measuring swelling characteristics of membranes  
[NASA-CASE-XGS-03865] c 14 N69-21363

Tumbler system to provide random motion  
[NASA-CASE-XGS-02437] c 15 N69-21472

Automatic acquisition system for phase-lock loop  
[NASA-CASE-XGS-04994] c 09 N69-21543

Low power drain semi-conductor circuit  
[NASA-CASE-XGS-04999] c 09 N69-24317

Spacecraft battery seals  
[NASA-CASE-XGS-03864] c 15 N69-24320

Scanning aspect sensor employing an apertured disc and a commutator  
[NASA-CASE-XGS-08266] c 14 N69-27432

Monopulse system with an electronic scanner  
[NASA-CASE-XGS-05582] c 07 N69-27460

Ring counter  
[NASA-CASE-XGS-03095] c 09 N69-27463

Retrodirective optical system  
[NASA-CASE-XGS-04480] c 16 N69-27491

Time division multiplex system  
[NASA-CASE-XGS-05918] c 07 N69-39974

Doppler frequency spread correction device for multiplex transmissions  
[NASA-CASE-XGS-02749] c 07 N69-39978

Alkali-metal silicate protective coating  
[NASA-CASE-XGS-04119] c 18 N69-39979

Device for measuring electron-beam intensities and for subjecting materials to electron irradiation in an electron microscope  
[NASA-CASE-XGS-01725] c 14 N69-39982

Light sensitive digital aspect sensor Patent  
[NASA-CASE-XGS-00359] c 14 N70-34158

Method and apparatus for determining satellite orientation utilizing spatial energy sources Patent  
[NASA-CASE-XGS-00466] c 21 N70-34297

Binary magnetic memory device Patent  
[NASA-CASE-XGS-00174] c 08 N70-34743

Full binary adder Patent  
[NASA-CASE-XGS-00689] c 08 N70-34787

Ultra-long monostable multivibrator employing bistable semiconductor switch to allow charging of timing circuit Patent  
[NASA-CASE-XGS-00381] c 09 N70-34818

Space and atmospheric reentry vehicle Patent  
[NASA-CASE-XGS-00260] c 31 N70-37924

Variable frequency magnetic multivibrator Patent  
[NASA-CASE-XGS-00458] c 09 N70-38604

Switching mechanism with energy storage means Patent  
[NASA-CASE-XGS-00473] c 03 N70-38718

Variable frequency magnetic multivibrator Patent  
[NASA-CASE-XGS-00131] c 09 N70-38998

Stretch de-spin mechanism Patent  
[NASA-CASE-XGS-00619] c 30 N70-40016

Folding boom assembly Patent [NASA-CASE-XGS-00938]	c 32	N70-41367	Method of making tubes Patent [NASA-CASE-XGS-04175]	c 15	N71-18579	Passive synchronized spike generator with high input impedance and low output impedance and capacitor power supply Patent [NASA-CASE-XGS-03632]	c 09	N71-23311
Cryogenic connector for vacuum use Patent [NASA-CASE-XGS-02441]	c 15	N70-41629	Pulse-type magnetic core memory element circuit with blocking oscillator feedback Patent [NASA-CASE-XGS-03303]	c 08	N71-18595	Sealed electrochemical cell provided with a flexible casing Patent [NASA-CASE-XGS-01513]	c 03	N71-23336
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Apparatus for producing three-dimensional recordings of fluorescence spectra Patent [NASA-CASE-XGS-01231]	c 14	N70-41676	Computing apparatus Patent [NASA-CASE-XGS-04765]	c 08	N71-18693	Radio frequency coaxial high pass filter Patent [NASA-CASE-XGS-01418]	c 09	N71-23573
Method and apparatus for determining electromagnetic characteristics of large surface area passive reflectors Patent [NASA-CASE-XGS-02608]	c 07	N70-41678	Stepping motor control circuit Patent [NASA-CASE-GSC-10366-1]	c 10	N71-18772	Apparatus for phase stability determination Patent [NASA-CASE-XGS-01118]	c 10	N71-23662
Prevention of pressure build-up in electrochemical cells Patent [NASA-CASE-XGS-01419]	c 03	N70-41864	Traffic control system and method Patent [NASA-CASE-GSC-10087-1]	c 02	N71-19287	Tape recorder Patent [NASA-CASE-XGS-08259]	c 14	N71-23698
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Endless tape transport mechanism Patent [NASA-CASE-XGS-01223]	c 07	N71-10609	Synchronous counter Patent [NASA-CASE-XGS-02440]	c 08	N71-19432	Mechanical actuator Patent [NASA-CASE-XGS-04548]	c 15	N71-24045
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Electronic beam switching commutator Patent [NASA-CASE-XGS-01451]	c 09	N71-10677	Apparatus for computing square roots Patent [NASA-CASE-XGS-04768]	c 08	N71-19437	Alkali metal silicate protective coating Patent [NASA-CASE-XGS-04799]	c 18	N71-24183
Sun tracker with rotatable plane-parallel plate and two photocells Patent [NASA-CASE-XGS-01159]	c 21	N71-10678	Method and apparatus for battery charge control Patent [NASA-CASE-XGS-05432]	c 03	N71-19438	Strain gauge measuring techniques Patent [NASA-CASE-XGS-04478]	c 14	N71-24233
Non-magnetic battery case Patent [NASA-CASE-XGS-00886]	c 03	N71-11053	Stable amplifier having a stable quiescent point Patent [NASA-CASE-XGS-02812]	c 09	N71-19466	Electromagnetic polarization systems and methods Patent [NASA-CASE-GSC-10021-1]	c 09	N71-24595
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Data processor having multiple sections activated at different times by selective power coupling to the sections Patent [NASA-CASE-XGS-04767]	c 08	N71-12494	Amplifier clamping circuit for horizon scanner Patent [NASA-CASE-XGS-01784]	c 10	N71-20782	Coulometer and third electrode battery charging circuit Patent [NASA-CASE-GSC-10487-1]	c 03	N71-24719
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Retrodirective modulator Patent [NASA-CASE-GSC-10062]	c 14	N71-15605	Satellite appendage tie down cord Patent [NASA-CASE-XGS-02554]	c 31	N71-21064	Buck boost voltage regulation circuit Patent [NASA-CASE-GSC-10735-1]	c 10	N71-26085
Spacecraft attitude detection system by stellar reference Patent [NASA-CASE-XGS-03431]	c 21	N71-15642	Reaction wheel scanner Patent [NASA-CASE-XGS-02629]	c 14	N71-21082	Adaptive system and method for signal generation Patent [NASA-CASE-GSC-11367]	c 10	N71-26374
Cartwheel satellite synchronization system Patent [NASA-CASE-XGS-05579]	c 31	N71-15676	Nonmagnetic, explosive actuated indexing device Patent [NASA-CASE-XGS-02422]	c 15	N71-21529	Control apparatus for applying pulses of selectively predetermined duration to a sequence of loads Patent [NASA-CASE-XGS-04224]	c 10	N71-26418
Wide range linear fluxgate magnetometer Patent [NASA-CASE-XGS-01587]	c 14	N71-15962	Bidirectional step torque filter with zero backlash characteristic Patent [NASA-CASE-XGS-04227]	c 15	N71-21744	Turn on transient limit Patent [NASA-CASE-GSC-10413]	c 10	N71-26531
Low friction magnetic recording tape Patent [NASA-CASE-XGS-00373]	c 23	N71-15978	Conforming polisher for aspheric surface of revolution Patent [NASA-CASE-XGS-02884]	c 15	N71-22705	Voltage regulator with plural parallel power source sections Patent [NASA-CASE-GSC-10891-1]	c 10	N71-26626
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Position location and data collection system and method Patent [NASA-CASE-GSC-10083-1]	c 30	N71-16090	Moment of inertia test fixture Patent [NASA-CASE-XGS-01023]	c 14	N71-22992	Synchronous dc direct drive system Patent [NASA-CASE-GSC-10065-1]	c 10	N71-27136
Position sensing device employing misaligned magnetic field generating and detecting apparatus Patent [NASA-CASE-XGS-07514]	c 23	N71-16099	Fluid flow meter with comparator reference means Patent [NASA-CASE-XGS-01331]	c 14	N71-22996	Antenna array at focal plane of reflector with coupling network for beam switching Patent [NASA-CASE-GSC-10220-1]	c 07	N71-27233
Optical tracker having overlapping reticles on parallel axes Patent [NASA-CASE-XGS-05715]	c 23	N71-16100	Foamed in place ceramic refractory insulating material Patent [NASA-CASE-XGS-02435]	c 18	N71-22998	Gravity gradient attitude control system Patent [NASA-CASE-GSC-10555-1]	c 21	N71-27324
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Dust particle injector for hypervelocity accelerators Patent [NASA-CASE-XGS-06628]	c 24	N71-16213	Bonded elastomeric seal for electrochemical cells Patent [NASA-CASE-XGS-02631]	c 03	N71-23006	Millimeter wave antenna system Patent Application [NASA-CASE-GSC-10949-1]	c 07	N71-28965
Ellipsoidal mirror reflectometer including means for averaging the radiation reflected from the sample Patent [NASA-CASE-XGS-05291]	c 23	N71-16341	Apparatus providing a directive field pattern and attitude sensing of a spin stabilized satellite Patent [NASA-CASE-XGS-02607]	c 31	N71-23009	Sampled data controller Patent [NASA-CASE-GSC-10554-1]	c 08	N71-29033
Angular position and velocity sensing apparatus Patent [NASA-CASE-XGS-05680]	c 14	N71-17585	Complementary regenerative switch Patent [NASA-CASE-XGS-02751]	c 09	N71-23015	Variable digital processor including a register for shifting and rotating bits in either direction Patent [NASA-CASE-GSC-10186]	c 08	N71-33110
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Integrated photo-responsive metal oxide semiconductor circuit  
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Three axis attitude control system  
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Wire stripper  
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Free wing assembly for an aircraft  
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Voltage regulator for battery power source  
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Portable device for use in starting air-start-units for aircraft and having cable lead testing capability  
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System for use in conducting wake investigation for a wing in flight  
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Active notch filter network with variable notch depth, width and frequency  
[NASA-CASE-FRC-11055-1] c 33 N80-29583

Skin friction measuring device for aircraft  
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Method for observing the features characterizing the surface of a land mass  
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Thermocouple, multiple junction reference oven  
[NASA-CASE-FRC-10112-1] c 35 N81-26431

Electrical servo actuator bracket  
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System for providing an integrated display of instantaneous information relative to aircraft attitude, heading, altitude, and horizontal situation  
[NASA-CASE-FRC-11005-1] c 06 N82-16075

Multiple pure tone elimination strut assembly  
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Apparatus for damping operator induced oscillations of a controlled system  
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Sun sensing guidance system for high altitude aircraft  
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Superplastically formed diffusion bonded metallic structure  
[NASA-CASE-FRC-11026-1] c 24 N82-24296

Smoothing filter for digital to analog conversion  
[NASA-CASE-FRC-11025-1] c 33 N82-24417

Computer circuit card puller  
[NASA-CASE-FRC-11042-1] c 60 N82-24839

Annular wing  
[NASA-CASE-FRC-11007-2] c 05 N82-26277

Low-drag ground vehicle particularly suited for use in safely transporting livestock  
[NASA-CASE-FRC-11058-1] c 85 N82-33288

Aircraft canopy lock  
[NASA-CASE-FRC-11065-1] c 05 N83-19737

Adapter for mounting a microphone flush with the external surface of the skin of a pressurized aircraft  
[NASA-CASE-FRC-11072-1] c 05 N83-27975

Aircraft body-axis rotation measurement system  
[NASA-CASE-FRC-11043-1] c 06 N83-33882

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A combined air and water pollution control system  
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**National Aeronautics and Space Administration. John F. Kennedy Space Center, Cocoa Beach, FL.**

Device for determining the accuracy of the flare on a flared tube  
[NASA-CASE-XKS-03495] c 14 N69-39785

Quick attach and release fluid coupling assembly Patent  
[NASA-CASE-XKS-01985] c 15 N71-10782

Parasitic probe antenna Patent  
[NASA-CASE-XKS-09348] c 09 N71-13521

Electronic checkout system for space vehicles Patent  
[NASA-CASE-XKS-08012-2] c 31 N71-15566

Apparatus for tensile testing Patent  
[NASA-CASE-XKS-06250] c 14 N71-15600

Weatherproof helix antenna Patent  
[NASA-CASE-XKS-08485] c 07 N71-19493

Valve seat with resilient support member Patent  
[NASA-CASE-XKS-02582] c 15 N71-21234

Diode and protection fuse unit Patent  
[NASA-CASE-XKS-03381] c 09 N71-22796

Optical monitor panel Patent  
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Separation simulator Patent  
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Phonocardiogram simulator Patent  
[NASA-CASE-XKS-10804] c 05 N71-24606

VHF/UHF parasitic probe antenna Patent  
[NASA-CASE-XKS-09340] c 07 N71-24614

BCD to decimal decoder Patent  
[NASA-CASE-XKS-06167] c 08 N71-24890

Flammability test chamber Patent  
[NASA-CASE-KSC-10126] c 11 N71-24985

Video sync processor Patent  
[NASA-CASE-KSC-10002] c 10 N71-25865

Weld preparation machine Patent  
[NASA-CASE-XKS-07953] c 15 N71-26134

Validation device for spacecraft checkout equipment Patent  
[NASA-CASE-XKS-10543] c 07 N71-26292

Internal work light Patent  
[NASA-CASE-XKS-05932] c 09 N71-26787

Emergency escape system Patent  
[NASA-CASE-KSC-07814] c 15 N71-27067

Voltage dropout sensor Patent  
[NASA-CASE-KSC-10020] c 10 N71-27338

Autoignition test cell Patent  
[NASA-CASE-KSC-10198] c 11 N71-28629

Protective suit having an audio transceiver Patent  
[NASA-CASE-KSC-10164] c 07 N71-33108

Ripple indicator  
[NASA-CASE-KSC-10162] c 09 N72-11225

High speed photo-optical time recording  
[NASA-CASE-KSC-10294] c 14 N72-18411

High speed direct binary-to-binary coded decimal converter  
[NASA-CASE-KSC-10326] c 08 N72-21197

Automatic frequency control loop including synchronous switching circuits  
[NASA-CASE-KSC-10393] c 09 N72-21247

Zero gravity shadow shield aligner  
[NASA-CASE-KSC-10622-1] c 31 N72-21893

Universal environment package with sectional component housing  
[NASA-CASE-KSC-10031] c 15 N72-22486

Buffered analog converter  
[NASA-CASE-KSC-10397] c 08 N72-25206

Lamp modulator  
[NASA-CASE-KSC-10565] c 09 N72-25250

Cable stabilizer for open shaft cable operated elevators  
[NASA-CASE-KSC-10513] c 15 N72-25453

Pressurized lighting system  
[NASA-CASE-KSC-10644] c 09 N72-27227

High speed direct binary to binary coded decimal converter and scaler  
[NASA-CASE-KSC-10595] c 08 N73-12176

Geysering inhibitor for vertical cryogenic transfer pipe  
[NASA-CASE-KSC-10615] c 15 N73-12486

Electronic video editor  
[NASA-CASE-KSC-10003] c 10 N73-13235

Collapsible high gain antenna  
[NASA-CASE-KSC-10392] c 07 N73-26117

Floating baffle to improve efficiency of liquid transfer from tanks  
[NASA-CASE-KSC-10639] c 15 N73-26472

Zero gravity liquid transfer screen  
[NASA-CASE-KSC-10626] c 14 N73-27378

Television multiplexing system  
[NASA-CASE-KSC-10654-1] c 07 N73-30115

Lightning tracking system  
[NASA-CASE-KSC-10729-1] c 09 N73-32110

Rocket borne instrument to measure electric fields inside electrified clouds  
[NASA-CASE-KSC-10730-1] c 14 N73-32318

Electric field measuring and display system  
[NASA-CASE-KSC-10731-1] c 33 N74-27862

Digital servo controller  
[NASA-CASE-KSC-10769-1] c 33 N74-29556

Signal conditioner test set  
[NASA-CASE-KSC-10750-1] c 35 N75-12270

Variable resistance constant tension and lubrication device  
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Voltage monitoring system  
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Lightning current measuring systems  
[NASA-CASE-KSC-10807-1] c 33 N75-26246

Dual digital video switcher  
[NASA-CASE-KSC-10782-1] c 33 N75-30431

Compact-bi-phase pulse coded modulation decoder  
[NASA-CASE-KSC-10834-1] c 33 N76-14371

Percutaneous connector device  
[NASA-CASE-KSC-10849-1] c 52 N77-14738

Magnetic electrical connectors for biomedical percutaneous implants  
[NASA-CASE-KSC-11030-1] c 52 N77-25772

Rotational joint assembly for the prosthetic leg  
[NASA-CASE-KSC-11004-1] c 54 N77-30749

Fiber optic multiplex optical transmission system  
[NASA-CASE-KSC-11047-1] c 74 N78-14889

Microcomputerized electric field meter diagnostic and calibration system  
[NASA-CASE-KSC-11035-1] c 35 N78-28411

Ocean thermal plant  
[NASA-CASE-KSC-11034-1] c 44 N78-32542

Lightning current waveform measuring system  
[NASA-CASE-KSC-11018-1] c 33 N79-10337

Remote lightning monitor system  
[NASA-CASE-KSC-11031-1] c 33 N79-11315

Illumination control apparatus for compensating solar light  
[NASA-CASE-KSC-11010-1] c 74 N79-12890

Lightning current detector  
[NASA-CASE-KSC-11057-1] c 33 N79-14305

Apparatus including a plurality of spaced transformers for locating short circuits in cables  
[NASA-CASE-KSC-10899-1] c 33 N79-18193

Digital automatic gain amplifier  
[NASA-CASE-KSC-11008-1] c 33 N79-22373

Telephone multiline signaling using common signal pair  
[NASA-CASE-KSC-11023-1] c 32 N79-23310

Prosthesis coupling  
[NASA-CASE-KSC-11069-1] c 52 N79-26772

Fire extinguishing apparatus having a slidable mass for a penetrator nozzle  
[NASA-CASE-KSC-11064-1] c 31 N81-14137

System for sterilizing objects  
[NASA-CASE-KSC-11085-1] c 54 N81-24724

Common data buffer system  
[NASA-CASE-KSC-11048-1] c 62 N81-24779

System and method for refurbishing and processing parachutes  
[NASA-CASE-KSC-11042-2] c 02 N81-26073

Decommutator patchboard verifier  
[NASA-CASE-KSC-11065-1] c 33 N81-26359

Automatic flowmeter calibration system  
[NASA-CASE-KSC-11076-1] c 34 N81-26402

Lightning discharge identification system  
[NASA-CASE-KSC-11099-1] c 47 N82-24779

Method for refurbishing and processing parachutes  
[NASA-CASE-KSC-11042-1] c 09 N82-29330

Method for repair of thin glass coatings  
[NASA-CASE-KSC-11097-1] c 27 N82-33520

Serial data correlator/code translator  
[NASA-CASE-KSC-11025-1] c 32 N83-13323

Fiber optic crossbar switch for automatically patching optical signals  
[NASA-CASE-KSC-11104-1] c 74 N83-29032

Automatic level control circuit  
[NASA-CASE-KSC-11170-1] c 33 N83-36356

Inflight IFR procedures simulator  
[NASA-CASE-KSC-11218-1] c 09 N85-19990

Video processor for air traffic control beacon system  
[NASA-CASE-KSC-11155-1] c 04 N86-19304

Liquid hydrogen polygeneration system and process  
[NASA-CASE-KSC-11304-2] c 28 N86-23744

Method and apparatus for operating on compacted PCM voice data  
[NASA-CASE-KSC-11285-1] c 32 N86-27513

Personnel emergency carrier vehicle  
[NASA-CASE-KSC-11282-1] c 85 N87-21755

Quick-disconnect inflatable seal assembly  
[NASA-CASE-KSC-11368-1] c 37 N89-13786



Multi-adjustable headband [NASA-CASE-KSC-11322-1]	c 54	N89-29953	Heated element fluid flow sensor Patent [NASA-CASE-MSC-12084-1]	c 12	N71-17569	Method and apparatus for detecting surface ions on silicon diodes and transistors [NASA-CASE-ERC-10325]	c 15	N72-25457
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[NASA-CASE-XLA-00166] c 02 N70-34178  
Dynamic precession damper for spin stabilized vehicles Patent  
[NASA-CASE-XLA-01989] c 21 N70-34295  
Erectable modular space station Patent  
[NASA-CASE-XLA-00678] c 31 N70-34296  
Electric-arc heater Patent  
[NASA-CASE-XLA-00330] c 33 N70-34540  
Ac power amplifier Patent Application  
[NASA-CASE-LAR-10218-1] c 09 N70-34559  
Method and apparatus for producing a plasma Patent  
[NASA-CASE-XLA-00147] c 25 N70-34661  
Gas actuated bolt disconnect Patent  
[NASA-CASE-XLA-00326] c 03 N70-34667  
Logarithmic converter Patent  
[NASA-CASE-XLA-00471] c 08 N70-34778  
Mandrel for shaping solid propellant rocket fuel into a motor casing Patent  
[NASA-CASE-XLA-00304] c 27 N70-34783  
Impact simulator Patent  
[NASA-CASE-XLA-00493] c 11 N70-34786  
Accelerometer with FM output Patent  
[NASA-CASE-XLA-00492] c 14 N70-34799  
Frangible tube energy dissipation Patent  
[NASA-CASE-XLA-00754] c 15 N70-34850  
Landing arrangement for aerial vehicle Patent  
[NASA-CASE-XLA-00806] c 02 N70-34858  
Method and apparatus for shock protection Patent  
[NASA-CASE-XLA-00482] c 15 N70-36409  
Inflatable honeycomb Patent  
[NASA-CASE-XLA-00204] c 32 N70-36536  
Thermal control of space vehicles Patent  
[NASA-CASE-XLA-01291] c 33 N70-36617  
Foam generator Patent  
[NASA-CASE-XLA-00838] c 03 N70-36778  
Parachute glider Patent  
[NASA-CASE-XLA-00898] c 02 N70-36804  
Production of high purity silicon carbide Patent  
[NASA-CASE-XLA-00158] c 26 N70-36805  
Airplane take-off performance indicator Patent  
[NASA-CASE-XLA-00100] c 14 N70-36807  
Aerodynamic measuring device Patent  
[NASA-CASE-XLA-00481] c 14 N70-36824  
Aircraft wheel spray drag alleviator Patent  
[NASA-CASE-XLA-01583] c 02 N70-36825  
Attitude orientation of spin-stabilized space vehicles Patent  
[NASA-CASE-XLA-00281] c 21 N70-36943  
Continuously operating induction plasma accelerator Patent  
[NASA-CASE-XLA-01354] c 25 N70-36946  
Check valve assembly for a probe Patent  
[NASA-CASE-XLA-00128] c 15 N70-37925  
Space capsule Patent  
[NASA-CASE-XLA-00149] c 31 N70-37938  
Sandwich panel construction Patent  
[NASA-CASE-XLA-00349] c 33 N70-37979  
Reflector space satellite Patent  
[NASA-CASE-XLA-00138] c 31 N70-37981  
Variable-geometry winged reentry vehicle Patent  
[NASA-CASE-XLA-00241] c 31 N70-37986  
Vehicle parachute and equipment jettison system Patent  
[NASA-CASE-XLA-00195] c 02 N70-38009  
Landing arrangement for aerospace vehicle Patent  
[NASA-CASE-XLA-00805] c 31 N70-38010

Antenna system using parasitic elements and two driven elements at 90 deg angle fed 180 deg out of phase Patent  
[NASA-CASE-XLA-00414] c 07 N70-38200  
Despin weight release Patent  
[NASA-CASE-XLA-00679] c 15 N70-38601  
Manned space station Patent  
[NASA-CASE-XLA-00258] c 31 N70-38676  
Missile stage separation indicator and stage initiator Patent  
[NASA-CASE-XLA-00791] c 03 N70-39930  
Apparatus for producing high purity silicon carbide crystals Patent  
[NASA-CASE-XLA-02057] c 26 N70-40015  
Miniature vibration isolator Patent  
[NASA-CASE-XLA-01019] c 15 N70-40156  
Aircraft instrument Patent  
[NASA-CASE-XLA-00487] c 14 N70-40157  
Radiation direction detector including means for compensating for photocell aging Patent  
[NASA-CASE-XLA-00183] c 14 N70-40239  
Passive communication satellite Patent  
[NASA-CASE-XLA-00210] c 30 N70-40309  
Electrostatic plasma modulator for space vehicle re-entry communication Patent  
[NASA-CASE-XLA-01400] c 07 N70-41331  
Micrometeoroid velocity measuring device Patent  
[NASA-CASE-XLA-00495] c 14 N70-41332  
Method of obtaining permanent record of surface flow phenomena Patent  
[NASA-CASE-XLA-01353] c 14 N70-41366  
Means for communicating through a layer of ionized gases Patent  
[NASA-CASE-XLA-01127] c 07 N70-41372  
Quick release separation mechanism Patent  
[NASA-CASE-XLA-01441] c 15 N70-41679  
Flexible wing deployment device Patent  
[NASA-CASE-XLA-01220] c 02 N70-41863  
Self-sealing, unbonded, rocket motor nozzle closure Patent  
[NASA-CASE-XLA-02651] c 28 N70-41967  
Fatigue testing device Patent  
[NASA-CASE-XLA-02131] c 32 N70-42003  
Techniques for insulating cryogenic fuel containers Patent  
[NASA-CASE-XLA-01967] c 31 N70-42015  
Double hinged flap Patent  
[NASA-CASE-XLA-01290] c 02 N70-42016  
Spacecraft separation system for spinning vehicles and/or payloads Patent  
[NASA-CASE-XLA-02132] c 31 N71-10582  
Method for molding compounds Patent  
[NASA-CASE-XLA-01091] c 15 N71-10672  
Automatic force measuring system Patent  
[NASA-CASE-XLA-02605] c 14 N71-10773  
Gas analyzer for bi-gaseous mixtures Patent  
[NASA-CASE-XLA-01131] c 14 N71-10774  
Multiple input radio receiver Patent  
[NASA-CASE-XLA-00901] c 07 N71-10775  
Rotating space station simulator Patent  
[NASA-CASE-XLA-03127] c 11 N71-10776  
Composite powerplant and shroud therefor Patent  
[NASA-CASE-XLA-01043] c 28 N71-10780  
All-directional fastener Patent  
[NASA-CASE-XLA-01807] c 15 N71-10799  
Hot air balloon deceleration and recovery system Patent  
[NASA-CASE-XLA-06824-2] c 02 N71-11037  
Control for flexible parawing Patent  
[NASA-CASE-XLA-06958] c 02 N71-11038  
Variable sweep aircraft Patent  
[NASA-CASE-XLA-03659] c 02 N71-11041  
Translating horizontal tail Patent  
[NASA-CASE-XLA-08801-1] c 02 N71-11043  
Space suit pressure stabilizer Patent  
[NASA-CASE-XLA-05332] c 05 N71-11194  
Equipotential space suit Patent  
[NASA-CASE-LAR-10007-1] c 05 N71-11195  
Recovery of potable water from human wastes in below-G conditions Patent  
[NASA-CASE-XLA-03213] c 05 N71-11207  
Process for interfacial polymerization of pyromellitic dianhydride and 1,2,4,5-tetraamino-benzene Patent  
[NASA-CASE-XLA-03104] c 06 N71-11235  
Imidazopyrrolone/imide copolymers Patent  
[NASA-CASE-XLA-08802] c 06 N71-11238  
Adaptive compression of communication signals Patent  
[NASA-CASE-XLA-03076] c 07 N71-11266  
Reentry communication by material addition Patent  
[NASA-CASE-XLA-01552] c 07 N71-11284  
Cooperative Doppler radar system Patent  
[NASA-CASE-LAR-10403] c 21 N71-11766  
Supersonic aircraft Patent  
[NASA-CASE-XLA-04451] c 02 N71-12243

Umbilical disconnect Patent  
[NASA-CASE-XLA-00711] c 03 N71-12258  
Remote controlled tubular disconnect Patent  
[NASA-CASE-XLA-01396] c 03 N71-12259  
Backpack carrier Patent  
[NASA-CASE-LAR-10056] c 05 N71-12351  
Optical communications system Patent  
[NASA-CASE-XLA-01090] c 07 N71-12389  
Analog to digital converter Patent  
[NASA-CASE-XLA-00670] c 08 N71-12501  
Integrated time shared instrumentation display Patent  
[NASA-CASE-XLA-01952] c 08 N71-12507  
SCR blocking pulse gate amplifier Patent  
[NASA-CASE-XLA-07497] c 09 N71-12514  
Minimum induced drag airfoil body Patent  
[NASA-CASE-XLA-00755] c 01 N71-13410  
Minimum induced drag airfoil body Patent  
[NASA-CASE-XLA-05828] c 01 N71-13411  
Mechanical stability augmentation system Patent  
[NASA-CASE-XLA-06339] c 02 N71-13422  
Automatic balancing device Patent  
[NASA-CASE-LAR-10774] c 10 N71-13545  
Quick release connector Patent  
[NASA-CASE-XLA-01141] c 15 N71-13739  
Spacecraft experiment pointing and attitude control system Patent  
[NASA-CASE-XLA-05464] c 21 N71-14132  
Pressurized cell micrometeoroid detector Patent  
[NASA-CASE-XLA-00936] c 14 N71-14996  
Crossed-field MHD plasma generator/accelerator Patent  
[NASA-CASE-XLA-03374] c 25 N71-15562  
Adjustable attitude guide device Patent  
[NASA-CASE-XLA-07911] c 15 N71-15571  
Control system for rocket vehicles Patent  
[NASA-CASE-XLA-01163] c 21 N71-15582  
Excessive temperature warning system Patent  
[NASA-CASE-XLA-01926] c 14 N71-15620  
Alleviation of divergence during rocket launch Patent  
[NASA-CASE-XLA-00256] c 31 N71-15663  
Space capsule Patent  
[NASA-CASE-XLA-01332] c 31 N71-15664  
Variable geometry manned orbital vehicle Patent  
[NASA-CASE-XLA-03691] c 31 N71-15674  
Payload/burned-out motor case separation system Patent  
[NASA-CASE-XLA-05369] c 31 N71-15687  
Velocity package Patent  
[NASA-CASE-XLA-01339] c 31 N71-15692  
File card marker Patent  
[NASA-CASE-XLA-02705] c 08 N71-15908  
Hypersonic test facility Patent  
[NASA-CASE-XLA-00378] c 11 N71-15925  
Test unit free-flight suspension system Patent  
[NASA-CASE-XLA-00939] c 11 N71-15926  
Reduced gravity simulator Patent  
[NASA-CASE-XLA-01787] c 11 N71-16028  
Method of coating carbonaceous base to prevent oxidation destruction and coated base Patent  
[NASA-CASE-XLA-00284] c 15 N71-16075  
Method of coating carbonaceous base to prevent oxidation destruction and coated base Patent  
[NASA-CASE-XLA-00302] c 15 N71-16077  
Separator Patent  
[NASA-CASE-XLA-00415] c 15 N71-16079  
Omnidirectional multiple impact landing system Patent  
[NASA-CASE-XLA-09881] c 31 N71-16085  
Flexible ring slosh damping baffle Patent  
[NASA-CASE-LAR-10317-1] c 32 N71-16103  
Buoyant anti-slosh system Patent  
[NASA-CASE-XLA-04605] c 32 N71-16106  
Detector panels-micrometeoroid impact Patent  
[NASA-CASE-XLA-05906] c 31 N71-16221  
Wind velocity probing device and method Patent  
[NASA-CASE-XLA-02081] c 20 N71-16281  
Vibrating structure displacement measuring instrument Patent  
[NASA-CASE-XLA-03135] c 32 N71-16428  
Viscous-pendulum-damper Patent  
[NASA-CASE-XLA-02079] c 12 N71-16894  
Leak detector Patent  
[NASA-CASE-LAR-10323-1] c 12 N71-17573  
Logic AND gate for fluid circuits Patent  
[NASA-CASE-XLA-07391] c 12 N71-17579  
Contour surveying system Patent  
[NASA-CASE-XLA-08646] c 14 N71-17586  
Cable arrangement for rigid tethering Patent  
[NASA-CASE-XLA-02332] c 32 N71-17605  
Thermal pump-compressor for space use Patent  
[NASA-CASE-XLA-00377] c 33 N71-17610  
Viscous pendulum damper Patent  
[NASA-CASE-LAR-10274-1] c 14 N71-17626  
Self supporting space vehicle Patent  
[NASA-CASE-XLA-00117] c 31 N71-17680

Technique for control of free-flight rocket vehicles Patent			Variable duration pulse integrator Patent			Antenna design for surface wave suppression Patent		
[NASA-CASE-XLA-00937]	c 31	N71-17691	[NASA-CASE-XLA-01219]	c 10	N71-23084	[NASA-CASE-XLA-10772]	c 07	N71-28980
Hydraulic grip Patent			Impact energy absorber Patent			Analog to digital converter tester Patent		
[NASA-CASE-XLA-05100]	c 15	N71-17696	[NASA-CASE-XLA-01530]	c 14	N71-23092	[NASA-CASE-XLA-06713]	c 14	N71-28991
Heat protection apparatus Patent			Micrometeoroid penetration measuring device Patent			Method of making pressurized panel Patent		
[NASA-CASE-XLA-00892]	c 33	N71-17897	[NASA-CASE-XLA-00941]	c 14	N71-23240	[NASA-CASE-XLA-08916]	c 15	N71-29018
Thermopile vacuum gage tube simulator Patent			Combined optical attitude and attitude indicating instrument Patent			Maksutov spectrograph Patent		
[NASA-CASE-XLA-02758]	c 14	N71-18481	[NASA-CASE-XLA-01907]	c 14	N71-23268	[NASA-CASE-XLA-10402]	c 14	N71-29041
Ionization vacuum gauge with all but the end of the ion collector shielded Patent			Solar sensor having coarse and fine sensing with matched preirradiated cells and method of selecting cells Patent			Two component bearing Patent		
[NASA-CASE-XLA-07424]	c 14	N71-18482	[NASA-CASE-XLA-01584]	c 14	N71-23269	[NASA-CASE-XLA-00013]	c 15	N71-29136
Safe-arm initiator Patent			Variable width pulse integrator Patent			Digital pulse width selection circuit Patent		
[NASA-CASE-LAR-10372]	c 09	N71-18599	[NASA-CASE-XLA-03356]	c 10	N71-23315	[NASA-CASE-XLA-07788]	c 09	N71-29139
Controlled glass bead peening Patent			Leading edge curvature based on convective heating Patent			Magnetically controlled plasma accelerator Patent		
[NASA-CASE-XLA-07390]	c 15	N71-18616	[NASA-CASE-XLA-01486]	c 01	N71-23497	[NASA-CASE-XLA-00327]	c 25	N71-29184
Exclusive-Or digital logic module Patent			Measurement of time differences between luminous events Patent			Boring bar drive mechanism Patent		
[NASA-CASE-XLA-07732]	c 08	N71-18751	[NASA-CASE-XLA-01987]	c 23	N71-23976	[NASA-CASE-XLA-03661]	c 15	N71-33518
Slosh alleviator Patent			Method for measuring the characteristics of a gas Patent			Wind tunnel model damper Patent		
[NASA-CASE-XLA-05749]	c 15	N71-19569	[NASA-CASE-XLA-03375]	c 16	N71-24074	[NASA-CASE-XLA-09480]	c 11	N71-33612
G conditioning suit Patent			Laser grating interferometer Patent			Variable geometry rotor system		
[NASA-CASE-XLA-02898]	c 05	N71-20268	[NASA-CASE-XLA-04295]	c 16	N71-24170	[NASA-CASE-LAR-10557]	c 02	N72-11018
Dosimeter for high levels of absorbed radiation Patent			Automatic fatigue test temperature programmer Patent			Flared tube strainer		
[NASA-CASE-XLA-03645]	c 14	N71-20430	[NASA-CASE-XLA-02059]	c 33	N71-24276	[NASA-CASE-XLA-05056]	c 15	N72-11389
Flow field simulation Patent			Ring wing tension vehicle Patent			Impact measuring technique		
[NASA-CASE-LAR-11138]	c 12	N71-20436	[NASA-CASE-XLA-04901]	c 31	N71-24315	[NASA-CASE-LAR-10913]	c 14	N72-16282
Variable pulse width multiplier Patent			Process for applying black coating to metals Patent			Technique of duplicating fragile core		
[NASA-CASE-XLA-02850]	c 09	N71-20447	[NASA-CASE-XLA-06199]	c 15	N71-24875	[NASA-CASE-XLA-07829]	c 15	N72-16329
Means for measuring the electron density gradients of the plasma sheath formed around a space vehicle Patent			Velocity limiting safety system Patent			Tube fabricating process		
[NASA-CASE-XLA-06232]	c 25	N71-20563	[NASA-CASE-XLA-07473]	c 15	N71-24895	[NASA-CASE-LAR-10203-1]	c 15	N72-16330
Null device for hand controller Patent			Strain coupled servo control system Patent			Air bearing		
[NASA-CASE-XLA-01808]	c 15	N71-20740	[NASA-CASE-XLA-08530]	c 32	N71-25360	[NASA-CASE-WLP-10002]	c 15	N72-17451
Event recorder Patent			Method of temperature compensating semiconductor strain gages Patent			Extensometer frame		
[NASA-CASE-XLA-01832]	c 14	N71-21006	[NASA-CASE-XLA-04555-1]	c 14	N71-25892	[NASA-CASE-XLA-10322]	c 15	N72-17452
Inflatable support structure Patent			Method for improving the signal-to-noise ratio of the Wheatstone bridge type bolometer Patent			Split range transducer		
[NASA-CASE-XLA-01731]	c 32	N71-21045	[NASA-CASE-XLA-02810]	c 14	N71-25901	[NASA-CASE-XLA-11189]	c 10	N72-20222
Fast opening diaphragm Patent			Method of plating copper on aluminum Patent			Stereo photomicrography system		
[NASA-CASE-XLA-03660]	c 15	N71-21060	[NASA-CASE-XLA-08966-1]	c 17	N71-25903	[NASA-CASE-LAR-10176-1]	c 14	N72-20380
Ellipsograph for pantograph Patent			Laser calibrator Patent			Radar calibration sphere		
[NASA-CASE-XLA-03102]	c 14	N71-21079	[NASA-CASE-XLA-03410]	c 16	N71-25914	[NASA-CASE-XLA-11154]	c 07	N72-21117
Random function tracer Patent			Thermal protection ablation spray system Patent			Recorder using selective noise filter		
[NASA-CASE-XLA-01401]	c 15	N71-21179	[NASA-CASE-XLA-04251]	c 18	N71-26100	[NASA-CASE-ERC-10112]	c 07	N72-21119
Method and apparatus for bonding a plastics sleeve onto a metallic body Patent			Direct lift control system Patent			Stacked array of omnidirectional antennas		
[NASA-CASE-XLA-01262]	c 15	N71-21404	[NASA-CASE-LAR-10249-1]	c 02	N71-26110	[NASA-CASE-LAR-10545-1]	c 09	N72-21244
Hypersonic test facility Patent			Light shield and infrared reflector for fatigue testing Patent			Electro-mechanical sine/cosine generator		
[NASA-CASE-XLA-05378]	c 11	N71-21475	[NASA-CASE-XLA-01782]	c 14	N71-26136	[NASA-CASE-LAR-10503-1]	c 09	N72-21248
Multilegged support system Patent			Dual resonant cavity absorption cell Patent			Lathe tool bit and holder for machining fiberglass materials		
[NASA-CASE-XLA-01326]	c 11	N71-21481	[NASA-CASE-LAR-10305]	c 14	N71-26137	[NASA-CASE-XLA-10470]	c 15	N72-21489
Nacelle afterbody for jet engines Patent			Resilience testing device Patent			Pressure operated electrical switch responsive to a pressure decrease after a pressure increase		
[NASA-CASE-XLA-10450]	c 28	N71-21493	[NASA-CASE-XLA-08254]	c 14	N71-26161	[NASA-CASE-LAR-10137-1]	c 09	N72-22204
Canister closing device Patent			Precipitation detector Patent			Variable geometry wind tunnels		
[NASA-CASE-XLA-01446]	c 15	N71-21528	[NASA-CASE-XLA-02619]	c 10	N71-26334	[NASA-CASE-XLA-07430]	c 11	N72-22246
Ablation sensor Patent			Instrument for measuring the dynamic behavior of liquids Patent			Magnifying scratch gage force transducer		
[NASA-CASE-XLA-01794]	c 33	N71-21586	[NASA-CASE-XLA-05541]	c 12	N71-26387	[NASA-CASE-LAR-10496-1]	c 14	N72-22437
Self-repeating plasma generator having communicating annular and linear arc discharge passages Patent			Arbitrarily shaped model survey system Patent			Star image motion compensator		
[NASA-CASE-XLA-03103]	c 25	N71-21693	[NASA-CASE-LAR-10098]	c 32	N71-26681	[NASA-CASE-LAR-10523-1]	c 14	N72-22444
Attitude control and damping system for spacecraft Patent			Dielectric molding apparatus Patent			Absolute focus lock for microscopes		
[NASA-CASE-XLA-02551]	c 21	N71-21708	[NASA-CASE-LAR-10121-1]	c 15	N71-26721	[NASA-CASE-LAR-10184]	c 14	N72-22445
Method of making inflatable honeycomb Patent			Method of making a solid propellant rocket motor Patent			Cryogenic feedthrough		
[NASA-CASE-XLA-03492]	c 15	N71-22713	[NASA-CASE-XLA-04126]	c 28	N71-26779	[NASA-CASE-LAR-10031]	c 15	N72-22484
Lunar penetrometer Patent			Dynamic vibration absorber Patent			A technique for breaking ice in the path of a ship		
[NASA-CASE-XLA-00934]	c 14	N71-22765	[NASA-CASE-LAR-10083-1]	c 15	N71-27006	[NASA-CASE-LAR-10815-1]	c 16	N72-22520
Thermal control wall panel Patent			Rate augmented digital to analog converter Patent			One hand backpack harness		
[NASA-CASE-XLA-01243]	c 33	N71-22792	[NASA-CASE-XLA-07828]	c 08	N71-27057	[NASA-CASE-LAR-10102-1]	c 05	N72-23085
Attitude sensor for space vehicles Patent			High speed flight vehicle control Patent			Method and apparatus for mapping the sensitivity of the face of a photodetector specifically a PMT		
[NASA-CASE-XLA-00793]	c 21	N71-22880	[NASA-CASE-XLA-08967]	c 02	N71-27088	[NASA-CASE-LAR-10320-1]	c 09	N72-23172
Omnidirectional microwave spacecraft antenna Patent			Suspended mass impact damper Patent			Omnidirectional slot antenna for mounting on cylindrical space vehicle		
[NASA-CASE-XLA-03114]	c 09	N71-22888	[NASA-CASE-LAR-10193-1]	c 15	N71-27146	[NASA-CASE-LAR-10163-1]	c 09	N72-25247
Thermal control panel Patent			Active vibration isolator for flexible bodies Patent			Hall effect transducer		
[NASA-CASE-XLA-07728]	c 33	N71-22890	[NASA-CASE-LAR-10106-1]	c 15	N71-27169	[NASA-CASE-LAR-10620-1]	c 09	N72-25255
Spacecraft airlock Patent			Soldering device Patent			Radio frequency filter device		
[NASA-CASE-XLA-02050]	c 31	N71-22968	[NASA-CASE-XLA-08911]	c 15	N71-27214	[NASA-CASE-XLA-02609]	c 09	N72-25256
Station keeping of a gravity gradient stabilized satellite Patent			Fringe counter for interferometers Patent			Parametric amplifiers with idler circuit feedback		
[NASA-CASE-XLA-03132]	c 31	N71-22969	[NASA-CASE-LAR-10204]	c 14	N71-27215	[NASA-CASE-LAR-10253-1]	c 09	N72-25258
Semi-linear ball bearing Patent			Wideband VCO with high phase stability Patent			Variable angle tube holder		
[NASA-CASE-XLA-02809]	c 15	N71-22982	[NASA-CASE-XLA-03893]	c 10	N71-27271	[NASA-CASE-LAR-10507-1]	c 11	N72-25284
Heat sensing instrument Patent			Plural position switch status and operativeness checker Patent			Low mass truss structure		
[NASA-CASE-XLA-01551]	c 14	N71-22989	[NASA-CASE-XLA-08799]	c 10	N71-27272	[NASA-CASE-LAR-10546-1]	c 11	N72-25287
Ablation sensor Patent			Angular displacement indicating gas bearing support system Patent			Liquid waste feed system		
[NASA-CASE-XLA-01791]	c 14	N71-22991	[NASA-CASE-XLA-09346]	c 15	N71-28740	[NASA-CASE-LAR-10365-1]	c 05	N72-27102
Self-calibrating displacement transducer Patent			Solid state thermal control polymer coating Patent			Microcircuit negative cutter		
[NASA-CASE-XLA-00781]	c 09	N71-22999	[NASA-CASE-XLA-01745]	c 33	N71-28903	[NASA-CASE-XLA-09843]	c 15	N72-27485
Lateral displacement system for separated rocket stages Patent			Specialized halogen generator for purification of water Patent			Light regulator		
[NASA-CASE-XLA-04804]	c 31	N71-23008	[NASA-CASE-XLA-08913]	c 14	N71-28933	[NASA-CASE-LAR-10836-1]	c 26	N72-27784
Thermal control coating Patent						Linear explosive comparison		
[NASA-CASE-XLA-01995]	c 18	N71-23047				[NASA-CASE-LAR-10800-1]	c 33	N72-27959
Method of making an inflatable panel Patent						Spherical measurement device		
[NASA-CASE-XLA-03497]	c 15	N71-23052				[NASA-CASE-XLA-06683]	c 14	N72-28436
						Method of making semiconductor p-n junction stress and strain sensor		
						[NASA-CASE-XLA-04980-2]	c 14	N72-28438
						Screened circuit capacitors		
						[NASA-CASE-LAR-10294-1]	c 26	N72-28762

Deposition apparatus [NASA-CASE-LAR-10541-1]	c 15	N72-32487	Wind tunnel model and method [NASA-CASE-LAR-10812-1]	c 09	N74-17955	Kinesthetic control simulator [NASA-CASE-LAR-10276-1]	c 09	N75-15662
Lift balancing device [NASA-CASE-LAR-10348-1]	c 11	N73-12264	High field CdS detector for infrared radiation [NASA-CASE-LAR-11027-1]	c 35	N74-18088	Electrostatic measurement system [NASA-CASE-MFS-22129-1]	c 33	N75-18477
Air removal device [NASA-CASE-XLA-08914]	c 15	N73-12492	Method of fabricating an article with cavities [NASA-CASE-LAR-10318-1]	c 31	N74-18089	Automatic liquid inventory collecting and dispensing unit [NASA-CASE-LAR-11071-1]	c 35	N75-19611
Nondestructive spot test method for titanium and titanium alloys [NASA-CASE-LAR-10539-1]	c 17	N73-12547	Apparatus for remote handling of materials [NASA-CASE-LAR-10634-1]	c 37	N74-18123	Vacuum leak detector [NASA-CASE-LAR-11237-1]	c 35	N75-19612
Logical function generator [NASA-CASE-XLA-05099]	c 09	N73-13209	Method for compression molding of thermosetting plastics utilizing a temperature gradient across the plastic to cure the article [NASA-CASE-LAR-10489-1]	c 31	N74-18124	Spectrometer integrated with a facsimile camera [NASA-CASE-LAR-11207-1]	c 35	N75-19613
Ferry system [NASA-CASE-LAR-10574-1]	c 11	N73-13257	Method for determining thermo-physical properties of specimens [NASA-CASE-LAR-11053-1]	c 25	N74-18551	Instrumentation for measurement of aircraft noise and sonic boom [NASA-CASE-LAR-11173-1]	c 35	N75-19614
Flow velocity and directional instrument [NASA-CASE-LAR-10855-1]	c 14	N73-13415	Anti-buckling fatigue test assembly [NASA-CASE-LAR-10426-1]	c 09	N74-19528	Laser head for simultaneous optical pumping of several dye lasers [NASA-CASE-LAR-11341-1]	c 36	N75-19655
Vortex breech high pressure gas generator [NASA-CASE-LAR-10549-1]	c 31	N73-13898	Reefing system [NASA-CASE-LAR-10129-2]	c 37	N74-20063	High lift aircraft [NASA-CASE-LAR-11252-1]	c 05	N75-25914
Butt welder for fine gauge tungsten/rhenium thermocouple wire [NASA-CASE-LAR-10103-1]	c 15	N73-14468	A synchronous binary array divider [NASA-CASE-ERC-10180-1]	c 60	N74-20836	Vapor phase growth of groups 3-5 compounds by hydrogen chloride transport of the elements [NASA-CASE-LAR-11144-1]	c 25	N75-26043
Method of detecting oxygen in a gas [NASA-CASE-LAR-10668-1]	c 06	N73-16106	Orbital and entry tracking accessory for globes [NASA-CASE-LAR-10626-1]	c 19	N74-21015	Resonant waveguide stark cell [NASA-CASE-LAR-11352-1]	c 33	N75-26245
Combustion detector [NASA-CASE-LAR-10739-1]	c 14	N73-16484	Digital controller for a Baum folding machine [NASA-CASE-LAR-10688-1]	c 37	N74-21056	Fluid control apparatus and method [NASA-CASE-LAR-11110-1]	c 34	N75-26282
Laser communication system for controlling several functions at a location remote to the laser [NASA-CASE-LAR-10311-1]	c 16	N73-16536	Totally confined explosive welding [NASA-CASE-LAR-10941-1]	c 37	N74-21057	Electrolytic cell structure [NASA-CASE-LAR-11042-1]	c 33	N75-27252
Apparatus for photographing meteors [NASA-CASE-LAR-10226-1]	c 14	N73-19419	Method of fabricating an object with a thin wall having a precisely shaped slit [NASA-CASE-LAR-10409-1]	c 31	N74-21059	Automatic microbial transfer device [NASA-CASE-LAR-11354-1]	c 35	N75-2733C
Zero gravity liquid mixer [NASA-CASE-LAR-10195-1]	c 15	N73-19458	Deployable pressurized cell structure for a micrometeoroid detector [NASA-CASE-LAR-10295-1]	c 35	N74-21062	Polyimide adhesives [NASA-CASE-LAR-11397-1]	c 27	N75-29263
Rate data encoder [NASA-CASE-LAR-10128-1]	c 08	N73-20217	Means for accommodating large overstrain in lead wires [NASA-CASE-LAR-10168-1]	c 33	N74-22865	Bonding method in the manufacture of continuous regression rate sensor devices [NASA-CASE-LAR-10337-1]	c 24	N75-3026C
Function generator for synthesizing complex vibration mode patterns [NASA-CASE-LAR-10310-1]	c 10	N73-20253	Bonded joint and method [NASA-CASE-LAR-10900-1]	c 37	N74-23064	Meteoroid impact position locator aid for manned space station [NASA-CASE-LAR-10629-1]	c 35	N75-33367
Infrared horizon locator [NASA-CASE-LAR-10726-1]	c 14	N73-20475	Light shield and cooling apparatus [NASA-CASE-LAR-10689-1]	c 34	N74-23066	Measurement of gas production of microorganisms [NASA-CASE-LAR-11326-1]	c 35	N75-33368
Light intensity strain analysis [NASA-CASE-LAR-10765-1]	c 32	N73-20740	Method of laminating structural members [NASA-CASE-XLA-11028-1]	c 24	N74-27035	Self-supporting strain transducer [NASA-CASE-LAR-11263-1]	c 35	N75-33369
Apparatus and method for generating large mass flow of high temperature air at hypersonic speeds [NASA-CASE-LAR-10578-1]	c 12	N73-25262	Rocket having barium release system to create ion clouds in the upper atmosphere [NASA-CASE-LAR-10670-2]	c 15	N74-27360	Annular momentum control device used for stabilization of space vehicles and the like [NASA-CASE-LAR-11051-1]	c 15	N76-14158
Cable restraint [NASA-CASE-LAR-10129-1]	c 15	N73-25512	Apparatus for inserting and removing specimens from high temperature vacuum furnaces [NASA-CASE-LAR-10841-1]	c 31	N74-27900	Multichannel logarithmic RF level detector [NASA-CASE-LAR-11021-1]	c 32	N76-14321
Electronic strain-level counter [NASA-CASE-LAR-10756-1]	c 32	N73-26910	Grinding arrangement for ball nose milling cutters [NASA-CASE-LAR-10450-1]	c 37	N74-27905	Turnstile and flared cone UHF antenna [NASA-CASE-LAR-10970-1]	c 33	N76-14372
Nondestructive spot test method for magnesium and magnesium alloys [NASA-CASE-LAR-10953-1]	c 17	N73-27446	Method of repairing discontinuity in fiberglass structures [NASA-CASE-LAR-10416-1]	c 24	N74-30001	Static pressure probe [NASA-CASE-LAR-11552-1]	c 35	N76-14429
Ablation article and method [NASA-CASE-LAR-10439-1]	c 33	N73-27796	Deployable flexible ventral fins for use as an emergency spin recovery device in aircraft [NASA-CASE-LAR-10753-1]	c 08	N74-30421	Horn antenna having V-shaped corrugated slots [NASA-CASE-LAR-11112-1]	c 32	N76-15330
Apparatus and method for generating large mass flow of high temperature air at hypersonic speeds [NASA-CASE-LAR-10612-1]	c 12	N73-28144	Apparatus for applying simulator g-forces to an arm of an aircraft simulator pilot [NASA-CASE-LAR-10550-1]	c 09	N74-30597	Ultrasonic calibration device [NASA-CASE-LAR-11435-1]	c 35	N76-15432
Pressurized panel [NASA-CASE-XLA-08916-2]	c 14	N73-28487	Centrifugal lyophobic separator [NASA-CASE-LAR-10194-1]	c 34	N74-30608	Deploy/release system [NASA-CASE-LAR-11575-1]	c 02	N76-16014
Apparatus for aiding a pilot in avoiding a midair collision between aircraft [NASA-CASE-LAR-10717-1]	c 21	N73-30641	Variably positioned guide vanes for aerodynamic choking [NASA-CASE-LAR-10642-1]	c 07	N74-31270	Clock setter [NASA-CASE-LAR-11458-1]	c 35	N76-16392
Exposure interlock for oscilloscope cameras [NASA-CASE-LAR-10319-1]	c 14	N73-32322	Noise suppressor [NASA-CASE-LAR-11141-1]	c 07	N74-32418	Heat exchanger system and method [NASA-CASE-LAR-10799-2]	c 34	N76-17317
Meteoroid detector [NASA-CASE-LAR-10483-1]	c 14	N73-32327	Measuring probe position recorder [NASA-CASE-LAR-10806-1]	c 35	N74-32877	Stack plume visualization system [NASA-CASE-LAR-11675-1]	c 45	N76-17656
Lightweight, variable solidity knitted parachute fabric [NASA-CASE-LAR-10776-1]	c 02	N74-10034	Stagnation pressure probe [NASA-CASE-LAR-11139-1]	c 35	N74-32878	Cascade plug nozzle [NASA-CASE-LAR-11674-1]	c 07	N76-18117
Technique for extending the frequency range of digital dividers [NASA-CASE-LAR-10730-1]	c 33	N74-10223	Molding apparatus [NASA-CASE-LAR-10489-2]	c 31	N74-32920	Exhaust flow deflector [NASA-CASE-LAR-11570-1]	c 34	N76-18364
Fluid pressure amplifier and system [NASA-CASE-LAR-10868-1]	c 33	N74-11050	Remote fire stack igniter [NASA-CASE-MFS-21675-1]	c 25	N74-33378	Method and apparatus for tensile testing of metal foil [NASA-CASE-LAR-10208-1]	c 35	N76-18400
Method of making pressure tight seal for super alloy [NASA-CASE-LAR-10170-1]	c 37	N74-11301	Open tube guideway for high speed air cushioned vehicles [NASA-CASE-LAR-10256-1]	c 85	N74-34672	Method and apparatus for fluffing, separating, and cleaning fibers [NASA-CASE-LAR-11224-1]	c 37	N76-18456
System for calibrating pressure transducer [NASA-CASE-LAR-10910-1]	c 35	N74-13132	Fast scan control for deflection type mass spectrometers [NASA-CASE-LAR-11428-1]	c 35	N74-34857	Therapeutic hand exerciser [NASA-CASE-LAR-11667-1]	c 52	N76-19785
Molding process for imidazopyrrolone polymers [NASA-CASE-LAR-10547-1]	c 31	N74-13177	Apparatus for microbiological sampling [NASA-CASE-LAR-11069-1]	c 35	N75-12272	Magnetic heading reference [NASA-CASE-LAR-11387-1]	c 04	N76-20114
Lyophilized spore dispenser [NASA-CASE-LAR-10544-1]	c 37	N74-13178	Method of making an explosively welded scarf joint [NASA-CASE-LAR-11211-1]	c 37	N75-12326	Apparatus for positioning modular components on a vertical or overhead surface [NASA-CASE-LAR-11465-1]	c 37	N76-21554
Transmitting and reflecting diffuser [NASA-CASE-LAR-10385-2]	c 70	N74-13436	Determining particle density using known material Hugoniot curves [NASA-CASE-LAR-11059-1]	c 76	N75-12810	Airfoil shape for flight at subsonic speeds [NASA-CASE-LAR-10585-1]	c 02	N76-22154
Evacuated displacement compression molding [NASA-CASE-LAR-10782-1]	c 31	N74-14133	Method for making conductors for ferrite memory arrays [NASA-CASE-LAR-10994-1]	c 24	N75-13032	Particulate and aerosol detector [NASA-CASE-LAR-11434-1]	c 35	N76-22509
Modification of one man life raft [NASA-CASE-LAR-10241-1]	c 54	N74-14845	Evacuated, displacement compression mold [NASA-CASE-LAR-10782-2]	c 31	N75-13111	High temperature strain gage calibration fixture [NASA-CASE-LAR-11500-1]	c 35	N76-24523
Attitude sensor [NASA-CASE-LAR-10586-1]	c 19	N74-15089	Automatic inoculating apparatus [NASA-CASE-LAR-11074-1]	c 51	N75-13502	Vacuum pressure molding technique [NASA-CASE-LAR-10073-1]	c 37	N76-24575
Mossbauer spectrometer radiation detector [NASA-CASE-LAR-11155-1]	c 35	N74-15091	Automatic focus control for facsimile cameras [NASA-CASE-LAR-11213-1]	c 35	N75-15014	Instrumentation for measuring aircraft noise and sonic boom [NASA-CASE-LAR-11476-1]	c 07	N76-27232
In situ transfer standard for ultrahigh vacuum gage calibration [NASA-CASE-LAR-10862-1]	c 35	N74-15092				Connector [NASA-CASE-LAR-11709-1]	c 37	N76-27567
Dual measurement ablation sensor [NASA-CASE-LAR-10105-1]	c 34	N74-15652				Capillary flow weld-bonding [NASA-CASE-LAR-11726-1]	c 37	N76-27568
Ejectable underwater sound source recovery assembly [NASA-CASE-LAR-10595-1]	c 35	N74-16135						

Detector absorptivity measuring method and apparatus			Process for preparing thermoplastic aromatic polyimides		Aerodynamic side-force alleviator means			
[NASA-CASE-LAR-10907-1]	c 35	N76-29551	[NASA-CASE-LAR-11828-1]	c 27	N78-32261	[NASA-CASE-LAR-12326-1]	c 02	N81-14968
Method for detecting pollutants			Magnetometer with a miniature transducer and automatic scanning			Compensating linkage for main rotor control		
[NASA-CASE-LAR-11405-1]	c 45	N76-31714	[NASA-CASE-LAR-11617-2]	c 35	N78-32397	[NASA-CASE-LAR-11797-1]	c 05	N81-19087
Wingtip vortex dissipator for aircraft			Independent power generator			Thrust augmented spin recovery device		
[NASA-CASE-LAR-11645-1]	c 02	N77-10001	[NASA-CASE-LAR-11208-1]	c 44	N78-32539	[NASA-CASE-LAR-11970-2]	c 08	N81-19130
Casting propellant in rocket engine			Pseudo continuous wave instrument			Velocity vector control system augmented with direct lift control		
[NASA-CASE-LAR-11995-1]	c 28	N77-10213	[NASA-CASE-LAR-12260-1]	c 35	N79-10390	[NASA-CASE-LAR-12268-1]	c 08	N81-24106
Anti-multipath digital signal detector			Nozzle extraction process and handmeter for measuring handle			Direction sensitive laser velocimeter		
[NASA-CASE-LAR-11827-1]	c 32	N77-10392	[NASA-CASE-LAR-12147-1]	c 31	N79-11246	[NASA-CASE-LAR-12177-1]	c 36	N81-24422
Weld-bonded titanium structures			Fluid velocity measuring device			Tire/wheel concept		
[NASA-CASE-LAR-11549-1]	c 37	N77-11397	[NASA-CASE-LAR-11729-1]	c 34	N79-12359	[NASA-CASE-LAR-11695-2]	c 37	N81-24443
Phase modulating with odd and even finite power series of a modulating signal			Totally confined explosive welding			Lightweight structural columns		
[NASA-CASE-LAR-11607-1]	c 32	N77-14292	[NASA-CASE-LAR-10941-2]	c 37	N79-13364	[NASA-CASE-LAR-12095-1]	c 31	N81-25258
Miniature biaxial strain transducer			Vortex-lift roll-control device			Foldable beam		
[NASA-CASE-LAR-11648-1]	c 35	N77-14407	[NASA-CASE-LAR-11868-2]	c 08	N79-14108	[NASA-CASE-LAR-12077-1]	c 31	N81-25259
Precision alignment apparatus for cutting a workpiece			Electronically scanned pressure sensor module with in SITU calibration capability			Cooling system for high speed aircraft		
[NASA-CASE-LAR-11658-1]	c 37	N77-14478	[NASA-CASE-LAR-12230-1]	c 35	N79-14347	[NASA-CASE-LAR-12406-1]	c 05	N81-26114
Solid propellant rocket motor and method of making same			Versatile LDV burst simulator			Pitch attitude stabilization system utilizing engine pressure ratio feedback signals		
[NASA-CASE-XLA-01349]	c 20	N77-17143	[NASA-CASE-LAR-11859-1]	c 35	N79-14349	[NASA-CASE-LAR-12562-1]	c 08	N81-26152
Particulate and solar radiation stable coating for spacecraft			Locking redundant link			Oribter/launch system		
[NASA-CASE-LAR-10805-2]	c 34	N77-18382	[NASA-CASE-LAR-11900-1]	c 37	N79-14382	[NASA-CASE-LAR-12250-1]	c 14	N81-26161
Magnetic heading reference			Apparatus for measuring an aircraft's speed and height			Adaptive polarization separation		
[NASA-CASE-LAR-11387-2]	c 04	N77-19056	[NASA-CASE-LAR-12275-1]	c 35	N79-18296	[NASA-CASE-LAR-12196-1]	c 33	N81-26358
Binocular device for displaying numerical information in field of view			Volumetric direct nuclear pumped laser			Telescoping columns		
[NASA-CASE-LAR-11782-1]	c 74	N77-20882	[NASA-CASE-LAR-12183-1]	c 36	N79-18307	[NASA-CASE-LAR-12195-1]	c 31	N81-27324
Method of locating persons in distress			Wind tunnel			Helmet weight simulator		
[NASA-CASE-LAR-11390-1]	c 32	N77-21267	[NASA-CASE-LAR-10135-1]	c 09	N79-21083	[NASA-CASE-LAR-12320-1]	c 54	N81-27806
Amplifying ribbon extensometer			Fatigue failure load indicator			Indirect microbial detection		
[NASA-CASE-LAR-11825-1]	c 35	N77-22449	[NASA-CASE-LAR-12027-1]	c 39	N79-22537	[NASA-CASE-LAR-12520-1]	c 51	N81-28698
Method of forming shrink-fit compression seal			Filtering technique based on high-frequency plant modeling for high-gain control			Rim inertial measuring system		
[NASA-CASE-LAR-11563-1]	c 37	N77-23482	[NASA-CASE-LAR-12215-1]	c 08	N79-23097	[NASA-CASE-LAR-12052-1]	c 18	N81-29152
Vortex generator for controlling the dispersion of effluents in a flowing liquid			Electrochemical detection device			Tackifier for addition polyimides containing monoethylphthalate		
[NASA-CASE-LAR-12045-1]	c 34	N77-24423	[NASA-CASE-LAR-11922-1]	c 25	N79-24073	[NASA-CASE-LAR-12642-1]	c 27	N81-29229
Process for control of cell division			High-temperature microphone system			Automated syringe sampler		
[NASA-CASE-LAR-10773-3]	c 51	N77-25769	[NASA-CASE-LAR-12375-1]	c 32	N79-24203	[NASA-CASE-LAR-12308-1]	c 35	N81-29407
Electro-mechanical sine/cosine generator			Magnetic suspension and pointing system			Method of making a partial interlaminar separation composite system		
[NASA-CASE-LAR-11389-1]	c 33	N77-26387	[NASA-CASE-LAR-11889-1]	c 35	N79-26372	[NASA-CASE-LAR-12065-2]	c 24	N81-33235
Apparatus for determining thermophysical properties of test specimens			Seat cushion to provide realistic acceleration cues to aircraft simulator pilot			Wind tunnel supplementary Mach number minimum section insert		
[NASA-CASE-LAR-11883-1]	c 09	N77-27131	[NASA-CASE-LAR-12149-2]	c 09	N79-31228	[NASA-CASE-LAR-12532-1]	c 09	N82-11088
Automated single-slide staining device			Mixed diamines for lower melting addition polyimide preparation and utilization			Aluminum ion-containing polyimide adhesives		
[NASA-CASE-LAR-11649-1]	c 51	N77-27677	[NASA-CASE-LAR-12054-1]	c 27	N79-33316	[NASA-CASE-LAR-12640-1]	c 27	N82-11206
Dual cycle aircraft turbine engine			Displacement probes with self-contained exciting medium			Small conductive particle sensor		
[NASA-CASE-LAR-11310-1]	c 07	N77-28118	[NASA-CASE-LAR-11690-1]	c 35	N80-14371	[NASA-CASE-LAR-12552-1]	c 35	N82-11431
Composite sandwich lattice structure			Crystalline polyimides			Large volume multiple-path nuclear pumped laser		
[NASA-CASE-LAR-11898-1]	c 24	N78-10214	[NASA-CASE-LAR-12099-1]	c 27	N80-16158	[NASA-CASE-LAR-12592-1]	c 36	N82-13415
Differential sound level meter			Laser Doppler velocity simulator			Moving body velocity arresting line		
[NASA-CASE-LAR-12106-1]	c 71	N78-14867	[NASA-CASE-LAR-12176-1]	c 36	N80-16321	[NASA-CASE-LAR-12372-1]	c 37	N82-18601
Thermoluminescent aerosol analysis			Static pressure orifice system testing method and apparatus			Air removal device		
[NASA-CASE-LAR-12046-1]	c 25	N78-15210	[NASA-CASE-LAR-12269-1]	c 35	N80-18358	[NASA-CASE-XLA-08914-2]	c 25	N82-21269
CW ultrasonic bolt tensioning monitor			Radar target for remotely sensing hydrological phenomena			Metric half-span model support system		
[NASA-CASE-LAR-12016-1]	c 39	N78-15512	[NASA-CASE-LAR-12344-1]	c 43	N80-18498	[NASA-CASE-LAR-12441-1]	c 09	N82-23254
Solar heating system			Solar cell angular position transducer			Hydraulic actuator mechanism to control aircraft spoiler movements through dual input commands		
[NASA-CASE-LAR-12009-1]	c 44	N78-15560	[NASA-CASE-LAR-11999-1]	c 44	N80-18552	[NASA-CASE-LAR-12412-1]	c 08	N82-24205
Transmitting and reflecting diffuser			Detection of the transitional layer between laminar and turbulent flow areas on a wing surface			Image readout device with electronically variable spatial resolution		
[NASA-CASE-LAR-10385-3]	c 74	N78-15879	[NASA-CASE-LAR-12261-1]	c 02	N80-20224	[NASA-CASE-LAR-12633-1]	c 33	N82-24416
TV fatigue crack monitoring system			CDS solid state phase insensitive ultrasonic transducer			Hot foil transducer skin friction sensor		
[NASA-CASE-LAR-11490-1]	c 39	N78-16387	[NASA-CASE-LAR-12304-1]	c 35	N80-20559	[NASA-CASE-LAR-12321-1]	c 35	N82-24470
Method of making a composite sandwich lattice structure			Combined solar collector and energy storage system			Continuous self-locking spiral wound seal		
[NASA-CASE-LAR-11898-2]	c 24	N78-17149	[NASA-CASE-LAR-12205-1]	c 44	N80-20810	[NASA-CASE-LAR-12315-1]	c 37	N82-24490
Composite lamination method			Noncontacting method for measuring angular deflection			Solar engine		
[NASA-CASE-LAR-12019-1]	c 24	N78-17150	[NASA-CASE-LAR-12178-1]	c 74	N80-21138	[NASA-CASE-LAR-12148-1]	c 44	N82-24640
Polyimide adhesives			Chromatically corrected virtual image visual display			Fuselage structure using advanced technology fiber reinforced composites		
[NASA-CASE-LAR-12181-1]	c 27	N78-17205	[NASA-CASE-LAR-12251-1]	c 74	N80-27185	[NASA-CASE-LAR-11688-1]	c 24	N82-26384
Thermal shock and erosion resistant tantalum carbide ceramic material			Heat treat fixture and method of heat treating			Electrically conductive palladium containing polyimide films		
[NASA-CASE-LAR-11902-1]	c 27	N78-17206	[NASA-CASE-LAR-11821-1]	c 26	N80-28492	[NASA-CASE-LAR-12705-1]	c 25	N82-26396
Optical scanner			Dual acting slit control mechanism			Digital demodulator		
[NASA-CASE-LAR-11711-1]	c 74	N78-17866	[NASA-CASE-LAR-11370-1]	c 35	N80-28686	[NASA-CASE-LAR-12659-1]	c 33	N82-26570
Molded composite pyrogen igniter for rocket motors			Visible and infrared polarization ratio spectrophotometer			One-step dual purpose joining technique		
[NASA-CASE-LAR-12018-1]	c 20	N78-24275	[NASA-CASE-LAR-12285-1]	c 35	N80-28687	[NASA-CASE-LAR-12595-1]	c 33	N82-26571
Non-destructive method for applying and removing instrumentation on helicopter rotor blades			Collapsible corrugated horn antenna			Liquid-immersible electrostatic ultrasonic transducer		
[NASA-CASE-LAR-11201-1]	c 35	N78-24515	[NASA-CASE-LAR-11745-1]	c 32	N80-29539	[NASA-CASE-LAR-12465-1]	c 33	N82-26572
Two dimensional wedge/translating shroud nozzle			Natural turbulence electrical power generator			Film advance indicator		
[NASA-CASE-LAR-11919-1]	c 07	N78-27121	[NASA-CASE-LAR-11551-1]	c 44	N80-29834	[NASA-CASE-LAR-12474-1]	c 35	N82-26628
Remote water monitoring system			Partial interlaminar separation system for composites			Means for controlling aerodynamically induced twist		
[NASA-CASE-LAR-11973-1]	c 35	N78-27384	[NASA-CASE-LAR-12065-1]	c 24	N81-14000	[NASA-CASE-LAR-12175-1]	c 05	N82-28279
Magnetic suspension and pointing system			Method for preparing addition type polyimide prepreps			Apparatus and process for microbial detection and enumeration		
[NASA-CASE-LAR-11889-2]	c 37	N78-27424	[NASA-CASE-LAR-12054-2]	c 27	N81-14078	[NASA-CASE-LAR-12709-1]	c 35	N82-28604
Device for measuring the contour of a surface			Method and tool for machining a transverse slot about a bore			Method for forming pyrrone molding powders and products of said method		
[NASA-CASE-LAR-11869-1]	c 74	N78-27904	[NASA-CASE-LAR-11855-1]	c 37	N81-14319	[NASA-CASE-LAR-10423-1]	c 23	N82-29358
Supersonic transport						Acoustic tooth cleaner		
[NASA-CASE-LAR-11932-1]	c 05	N78-32086				[NASA-CASE-LAR-12471-1]	c 52	N82-29862
Hypersonic airbreathing missile						Pyroelectric detector arrays		
[NASA-CASE-LAR-12264-1]	c 15	N78-32168				[NASA-CASE-LAR-12363-1]	c 35	N82-31659



Decoupler pylon: wing/store flutter suppressor		Ethynyl and substituted ethynyl-terminated polysulfones		Dual towline spin-recovery device	
[NASA-CASE-LAR-12468-1]	c 08 N82-32373	[NASA-CASE-LAR-12931-1]	c 27 N84-22747	[NASA-CASE-LAR-13076-1]	c 08 N85-35200
Multitall thermal protection system		Polyphenylene ethers with imide linking groups		Technique for measuring gas conversion factors	
[NASA-CASE-LAR-12620-1]	c 24 N82-32417	[NASA-CASE-LAR-12980-1]	c 27 N84-22749	[NASA-CASE-LAR-13220-1]	c 34 N86-12547
Scanning afocal laser velocimeter projection lens system		Ultrasonic transducer with Gaussian radial pressure distribution		Aerospace vehicle	
[NASA-CASE-LAR-12328-1]	c 36 N82-32712	[NASA-CASE-LAR-12967-1]	c 35 N84-22932	[NASA-CASE-LAR-13155-1]	c 05 N86-19310
Mechanical end joint system for structural column elements		Acoustic ground impedance meter		Process of end-capping a polyimide system	
[NASA-CASE-LAR-12482-1]	c 37 N82-32732	[NASA-CASE-LAR-12995-1]	c 35 N84-22933	[NASA-CASE-LAR-13135-1]	c 27 N86-19456
Photocapacitive image converter		Photoelectrochemical cells including chalcogenophosphate photoelectrodes		Sequentially deployable maneuverable tetrahedral beam	
[NASA-CASE-LAR-12513-1]	c 44 N82-32841	[NASA-CASE-LAR-12958-1]	c 44 N84-23019	[NASA-CASE-LAR-13098-1]	c 31 N86-19479
Pulsed phase locked loop strain monitor		Heads up display		High temperature polyimide film laminates and process for preparation thereof	
[NASA-CASE-LAR-12772-1]	c 33 N83-16626	[NASA-CASE-LAR-12630-1]	c 06 N84-27733	[NASA-CASE-LAR-13384-1]	c 27 N86-20561
Ampoule sealing apparatus and process		Shell tile thermal protection system		Auto covariance computer	
[NASA-CASE-LAR-12847-1]	c 33 N83-16633	[NASA-CASE-LAR-12862-1]	c 27 N84-27886	[NASA-CASE-LAR-12968-1]	c 60 N86-21154
Sound shield		Strain gage calibration		Ultrasonic angle beam standard reflector	
[NASA-CASE-LAR-12883-1]	c 71 N83-17235	[NASA-CASE-LAR-12743-1]	c 35 N84-28019	[NASA-CASE-LAR-13153-1]	c 71 N86-21276
Modified spiral wound retaining ring		Directional gear ratio transmissions		Ethynyl and substituted ethynyl-terminated polysulfones	
[NASA-CASE-LAR-12361-1]	c 37 N83-19091	[NASA-CASE-LAR-12644-1]	c 37 N84-28084	[NASA-CASE-LAR-12931-2]	c 27 N86-21675
Miniature spectrally selective dosimeter		Tubing and cable cutting tool		Drop foot corrective device	
[NASA-CASE-LAR-12469-1]	c 35 N83-21311	[NASA-CASE-LAR-12786-1]	c 37 N84-28085	[NASA-CASE-LAR-12259-2]	c 54 N86-22112
Aeroelastic instability stoppers for wind tunnel models		Radionuclide counting technique for measuring wind velocity and direction		Process for crosslinking methylene-containing aromatic polymers with ionizing radiation	
[NASA-CASE-LAR-12458-1]	c 44 N83-21503	[NASA-CASE-LAR-12971-1]	c 47 N84-28292	[NASA-CASE-LAR-13448-1]	c 27 N86-24840
Aeroelastic instability stoppers for wind tunnel models		Medical clip		Poly(carbonate-mide) polymer	
[NASA-CASE-LAR-12720-1]	c 44 N83-21504	[NASA-CASE-LAR-12650-1]	c 52 N84-28388	[NASA-CASE-LAR-13292-1]	c 27 N86-24841
Pyroelectric detector arrays		Process of making medical clip		Synchronously deployable truss structure	
[NASA-CASE-LAR-12363-2]	c 33 N83-24763	[NASA-CASE-LAR-12650-2]	c 52 N84-28389	[NASA-CASE-LAR-13117-1]	c 37 N86-25789
Elastomer toughened polyimide adhesives		Shapes for rotating airfoils		Latching mechanism for deployable/re-stowable columns useful in satellite construction	
[NASA-CASE-LAR-12775-1]	c 27 N82-28240	[NASA-CASE-LAR-12396-1]	c 02 N84-28732	[NASA-CASE-LAR-13169-1]	c 37 N86-25791
Solar driven liquid metal MHD power generator		A system for controlling the oxygen content of a gas produced by combustion		Active control of boundary layer transition and turbulence	
[NASA-CASE-LAR-12495-1]	c 44 N83-28573	[NASA-CASE-LAR-13257-1]	c 25 N84-32447	[NASA-CASE-LAR-13532-1]	c 34 N86-26575
Stirling cycle cryogenic cooler		Helicopter anti-torque system using strakes		Aircraft liftmeter	
[US-PATENT-4,389,849]	c 44 N83-28574	[NASA-CASE-LAR-13233-1]	c 05 N84-33400	[NASA-CASE-LAR-12518-1]	c 06 N86-27280
Instrument for determining coincidence and elapse time between independent sources of random sequential events		Curved cap corrugated sheet		Sulfone-ester polymers containing pendent ethynyl groups	
[NASA-CASE-LAR-12531-1]	c 35 N83-29651	[NASA-CASE-LAR-12884-1]	c 18 N84-33450	[NASA-CASE-LAR-13316-1]	c 27 N86-27450
Flow resistivity instrument		Model mount system for testing flutter		Optimized bolted joint	
[NASA-CASE-LAR-13053-1]	c 43 N83-29783	[NASA-CASE-LAR-12950-1]	c 09 N84-34448	[NASA-CASE-LAR-13250-1]	c 37 N86-27630
Vibration isolation and pressure compensation apparatus for sensitive instrumentation		Process for improving mechanical properties of epoxy resins by addition of cobalt ions		Process for preparing essentially colorless polyimide film containing phenoxy-linked diamines	
[NASA-CASE-LAR-12728-1]	c 35 N83-32026	[NASA-CASE-LAR-13230-1]	c 24 N84-34571	[NASA-CASE-LAR-13353-1]	c 27 N86-29039
Fixture for environmental exposure of structural materials under compression load		Leading edge flap system for aircraft control augmentation		Nebulization reflux concentrator	
[NASA-CASE-LAR-12602-1]	c 39 N83-32081	[NASA-CASE-LAR-12787-2]	c 08 N85-19985	[NASA-CASE-LAR-13254-1CU]	c 35 N86-29174
Polyphenylquinoxalines containing pendant phenylethynyl and ethynyl groups		Thermoset-thermoplastic aromatic polyamide containing N-propargyl groups		Long gain length solar pumped box laser	
[NASA-CASE-LAR-12838-1]	c 27 N83-34040	[NASA-CASE-LAR-12723-1]	c 27 N85-20123	[NASA-CASE-LAR-13256-1]	c 36 N86-29204
Solvent resistant thermoplastic aromatic poly(imidesulfone) and process for preparing same		Process for preparing solvent resistant, thermoplastic aromatic poly(imidesulfone)		Process for preparing highly optically transparent/colorless aromatic polyimide film	
[NASA-CASE-LAR-12858-1]	c 27 N83-34041	[NASA-CASE-LAR-12858-2]	c 27 N85-20124	[NASA-CASE-LAR-13351-1]	c 27 N86-31727
Heating and cooling system		Hot melt adhesive attachment pad		Polyarylene ethers with improved properties	
[NASA-CASE-LAR-12393-1]	c 34 N83-34221	[NASA-CASE-LAR-12894-1]	c 27 N85-20125	[NASA-CASE-LAR-13555-1]	c 23 N86-32526
Variable anodic thermal control coating		Miniature electrooptical air flow sensor		Remotely controllable mixing system	
[NASA-CASE-LAR-12719-1]	c 44 N83-34449	[NASA-CASE-LAR-13065-1]	c 35 N85-20295	[NASA-CASE-MFS-28153-1]	c 31 N86-32589
Explosively activated egress area		Extended moment arm anti-spin device		Two-axis, self-nulling skin friction balance	
[NASA-CASE-LAR-12624-1]	c 01 N83-35992	[NASA-CASE-LAR-12979-1]	c 05 N85-21147	[NASA-CASE-LAR-13294-1]	c 35 N86-32696
Error correction method and apparatus for electronic timepieces		Continuous laminar smoke generator		Deployable M-braced truss structure	
[NASA-CASE-LAR-12654-1]	c 33 N83-36357	[NASA-CASE-LAR-13014-1]	c 09 N85-21178	[NASA-CASE-LAR-13081-1]	c 37 N86-32737
Family of airfoil shapes for rotating blades		Elastomer toughened polyimide adhesives		Remote pivot decoupler pylon: Wing/store flutter suppressor	
[NASA-CASE-LAR-12843-1]	c 02 N84-11136	[NASA-CASE-LAR-12775-2]	c 27 N85-21349	[NASA-CASE-LAR-13173-1]	c 05 N87-14314
Metal matrix composite structural panel construction		Heat pipe cooled probe		Synchronously deployable double fold beam and planar truss structure	
[NASA-CASE-LAR-12807-1]	c 24 N84-11214	[NASA-CASE-LAR-12588-1]	c 34 N85-21568	[NASA-CASE-LAR-13490-1]	c 18 N87-14413
Solar powered aircraft		Reusable thermal cycling clamp		The 5-(4-Ethynylphenoxy) isophthalic chloride	
[NASA-CASE-LAR-12615-1]	c 05 N84-12154	[NASA-CASE-LAR-12868-1]	c 37 N85-21651	[NASA-CASE-LAR-13316-2]	c 27 N87-14515
Low energy electron magnetometer using a monoenergetic electron beam		Phenoxy resins containing pendent ethynyl groups and cured resins obtained therefrom		Acetylene (ethynyl) terminated polyimide siloxane and process for preparation thereof	
[NASA-CASE-LAR-12706-1]	c 35 N84-12444	[NASA-CASE-LAR-13262-1]	c 23 N85-28973	[NASA-CASE-LAR-13318-1]	c 27 N87-14516
Ride quality meter		Induction heating gun		Double reference pulsed phase locked loop	
[NASA-CASE-LAR-12882-1]	c 35 N84-12445	[NASA-CASE-LAR-13181-1]	c 31 N85-29083	[NASA-CASE-LAR-13310-1]	c 32 N87-14559
Vertical shaft windmill		Daze fasteners		Vibration-free Raman Doppler velocimeter	
[NASA-CASE-LAR-12923-1]	c 37 N84-12493	[NASA-CASE-LAR-13009-1]	c 37 N85-29285	[NASA-CASE-LAR-13268-1]	c 35 N87-14569
Magnetic heading reference		Precision manipulator heating and cooling apparatus for use in UHV systems with sample transfer capability		Geometries for roughness shapes in laminar flow	
[NASA-CASE-LAR-12638-1]	c 04 N84-14132	[NASA-CASE-LAR-13040-1]	c 37 N85-29286	[NASA-CASE-LAR-13255-1]	c 02 N87-16793
Hot melt recharge system		Dual differential interferometer		Over-the-wing propeller	
[NASA-CASE-LAR-12881-1]	c 27 N84-14323	[NASA-CASE-LAR-12966-1]	c 35 N85-30282	[NASA-CASE-LAR-13134-2]	c 07 N87-16328
Self-correcting electronically scanned pressure sensor		Mechanical fastener		Single frequency multitransmitter telemetry	
[NASA-CASE-LAR-12686-1]	c 35 N84-14491	[NASA-CASE-LAR-12738-2]	c 37 N85-30335	[NASA-CASE-LAR-13006-1]	c 17 N87-16363
Apparatus and method for jet noise suppression		Self-locking mechanical center joint		Ethynyl terminated ester oligomers and polymers therefrom	
[NASA-CASE-LAR-11903-2]	c 71 N84-14873	[NASA-CASE-LAR-12864-1]	c 37 N85-30336	[NASA-CASE-LAR-13118-2]	c 27 N87-16907
Missile rolling tail brake torque system		Method for thermal monitoring subcutaneous tissue		Seamless metal-clad fiber-reinforced organic matrix composite structures and process for their manufacture	
[NASA-CASE-LAR-12751-1]	c 15 N84-16231	[NASA-CASE-LAR-13028-1]	c 52 N85-30618	[NASA-CASE-LAR-13562-1]	c 24 N87-18813
Rotary target V-block		Method for determining the point of zero zeta potential of semiconductor		Airplane automatic control force trimming device for asymmetric engine failures	
[NASA-CASE-LAR-12007-3]	c 35 N84-16523	[NASA-CASE-LAR-12893-1]	c 76 N85-30923	[NASA-CASE-LAR-13280-1]	c 08 N87-20999
Solar pumped laser		Process for improving moisture resistance of epoxy resins by addition of chromium ions		Measurement apparatus and procedure for the determination of surface emissivities	
[NASA-CASE-LAR-12870-1]	c 36 N84-16542	[NASA-CASE-LAR-13226-1]	c 27 N85-34282	[NASA-CASE-LAR-13455-1]	c 32 N87-21206
Powder fed sheared dispersal particle generator		Tensile testing apparatus		Comparator with noise suppression	
[NASA-CASE-LAR-12785-1]	c 37 N84-16561	[NASA-CASE-LAR-13243-1]	c 35 N85-34375	[NASA-CASE-LAR-13151-1]	c 33 N87-21235
Slotted variable camber flap		Wingtip vortex propeller			
[NASA-CASE-LAR-12541-1]	c 05 N84-22551	[NASA-CASE-LAR-13019-1]	c 07 N85-35194		
Thermoset-thermoplastic aromatic polyamide containing N-propargyl groups					
[NASA-CASE-LAR-12723-2]	c 27 N84-22746				



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[NASA-CASE-LAR-13111-1-CU] c 71 N87-21652
- Acoustic radiation stress measurement  
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[NASA-CASE-LAR-12994-1] c 06 N87-22678
- Polynamines from aromatic diacetylenic diketones and diamines  
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- Process for crosslinking and extending conjugated diene-containing polymers  
[NASA-CASE-LAR-13452-1] c 27 N87-22848
- Daze fasteners  
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- Apparatus and procedure to detect a liquid-solid interface during crystal growth in a bridgman furnace  
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- Rapid quantification of an internal property  
[NASA-CASE-LAR-13689-1-NP] c 35 N87-23941
- Adjustable mount for electro-optic transducers in an evacuated cryogenic system  
[NASA-CASE-LAR-13100-1] c 37 N87-23982
- Fully redundant mechanical release actuator  
[NASA-CASE-LAR-13198-1] c 37 N87-23983
- Polyimides containing carbonyl and ether connecting groups  
[NASA-CASE-LAR-13633-1] c 27 N87-24575
- Airfoil flutter model suspension system  
[NASA-CASE-LAR-13522-1-SB] c 09 N87-25334
- Oxygen diffusion barrier coating  
[NASA-CASE-LAR-13474-1-SB] c 26 N87-25455
- Process for developing crystallinity in linear aromatic polyimides  
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- Miniature remote dead weight calibrator  
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- Vapor fragrances  
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- Space vehicle thermal rejection system  
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- Combined riblet and lebu drag reduction system  
[NASA-CASE-LAR-13286-1] c 02 N88-14071
- Lightning discharge protection rod  
[NASA-CASE-LAR-13470-1] c 03 N88-14083
- Tool and process for miniature explosive joining of tubes  
[NASA-CASE-LAR-13662-1] c 37 N88-14359
- Device for measuring hole elongation in a bolted joint  
[NASA-CASE-LAR-13453-1] c 37 N88-14361
- Polyether-polyester graft copolymer  
[NASA-CASE-LAR-13447-1] c 27 N88-18725
- Crossflow vorticity sensor  
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- Multi-body aircraft with an all-movable center fuselage actively controlling fuselage pressure drag  
[NASA-CASE-LAR-13511-1] c 05 N88-23765
- Helicopter anti-torque system using fuselage strakes  
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[NASA-CASE-LAR-13411-1-SB] c 18 N88-23828
- Arc lamp power supply using a voltage multiplier  
[NASA-CASE-LAR-13202-1] c 33 N88-23942
- Thermal remote anemometer system  
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- Actuated forebody strakes  
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[NASA-CASE-LAR-13776-1] c 35 N88-29149
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- Quantitative surface temperature measurement using two-color thermographic phosphors and video equipment  
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- Ultrasonic method and apparatus for determining crack opening load  
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- Low dielectric fluorinated poly(phenylene ether ketone) film and coating  
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- High lift, low pitching moment airfoils  
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- Passive venting technique for shallow cavities  
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- Method of inseting predesigned disbond areas into composite laminates  
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[NASA-CASE-LAR-13300-1-CU] c 35 N89-14407
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[NASA-CASE-LAR-13775-1] c 35 N89-14408
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[NASA-CASE-LAR-13771-1] c 36 N89-14428
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- Foil seal  
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- Electrode and insulator with shielded dielectric junction  
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- Superconducting alternator  
[NASA-CASE-XLE-02824] c 03 N69-39890
- Triode thermionic energy converter  
[NASA-CASE-XLE-01015] c 03 N69-39898
- Slug flow magnetohydrodynamic generator  
[NASA-CASE-XLE-02083] c 03 N69-39983
- Reduced gravity liquid configuration simulator  
[NASA-CASE-XLE-02624] c 12 N69-39988
- Transpiration cooled turbine blade manufactured from wires Patent  
[NASA-CASE-XLE-00020] c 15 N70-33226
- Rocket propellant injector Patent  
[NASA-CASE-XLE-00103] c 28 N70-33241
- Modification and improvements to cooled blades Patent  
[NASA-CASE-XLE-00092] c 15 N70-33264
- Colloid propulsion method and apparatus Patent  
[NASA-CASE-XLE-00817] c 28 N70-33265
- High-vacuum condenser tank for ion rocket tests Patent  
[NASA-CASE-XLE-00168] c 11 N70-33278
- High temperature nickel-base alloy Patent  
[NASA-CASE-XLE-00151] c 17 N70-33283
- Annular rocket motor and nozzle configuration Patent  
[NASA-CASE-XLE-00078] c 28 N70-33284
- Reinforced metallic composites Patent  
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- Process for applying a protective coating for salt bath brazing Patent  
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- Wire grid forming apparatus Patent  
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- Electro-thermal rocket Patent  
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- External liquid-spray cooling of turbine blades Patent  
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- Apparatus for igniting solid propellants Patent  
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- Apparatus for making a metal slurry product Patent  
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- Energy conversion apparatus Patent  
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- Enthalpy and stagnation temperature determination of a high temperature laminar flow gas stream Patent  
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[NASA-CASE-XLE-00252] c 11 N70-34844

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[NASA-CASE-XLE-00164] c 15 N70-36411

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[NASA-CASE-XLE-00170] c 15 N70-36412

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[NASA-CASE-XLE-00303] c 15 N70-36535

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[NASA-CASE-XLE-00283] c 17 N70-36616

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[NASA-CASE-XLE-00143] c 14 N70-36618

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[NASA-CASE-XLE-00145] c 28 N70-36806

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[NASA-CASE-XLE-00222] c 02 N70-37939

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[NASA-CASE-XLE-00345] c 15 N70-38020

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[NASA-CASE-XLE-00455] c 28 N70-38197

Method of making fiber reinforced metallic composites Patent  
[NASA-CASE-XLE-00231] c 17 N70-38198

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[NASA-CASE-XLE-00111] c 28 N70-38199

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[NASA-CASE-XLE-00228] c 17 N70-38490

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[NASA-CASE-XLE-00057] c 28 N70-38711

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[NASA-CASE-XLE-00005] c 28 N70-39899

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[NASA-CASE-XLE-01716] c 09 N70-40234

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[NASA-CASE-XLE-00519] c 28 N70-41576

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[NASA-CASE-XLE-00620] c 32 N70-41579

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[NASA-CASE-XLE-00150] c 28 N70-41818

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[NASA-CASE-XLE-01300] c 15 N70-41993

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[NASA-CASE-XLE-02998] c 14 N70-42074

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[NASA-CASE-XLE-01609] c 14 N71-10500

Method of forming thin window drifted silicon charged particle detector Patent  
[NASA-CASE-XLE-00808] c 24 N71-10560

Electrostatic thruster with improved insulators Patent  
[NASA-CASE-XLE-01902] c 28 N71-10574

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[NASA-CASE-XLE-04677] c 15 N71-10577

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[NASA-CASE-XLE-02792] c 26 N71-10607

Metallic film diffusion for boundary lubrication Patent  
[NASA-CASE-XLE-01765] c 18 N71-10772

Molecular beam velocity selector Patent  
[NASA-CASE-XLE-01533] c 11 N71-10777

Meteoroid sensing apparatus having a coincidence network connected to a pair of capacitors Patent  
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[NASA-CASE-XLE-08917] c 15 N71-15597

Method of making a diffusion bonded refractory coating Patent  
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[NASA-CASE-XLE-01399] c 33 N71-15625

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[NASA-CASE-XLE-01988] c 27 N71-15634

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[NASA-CASE-XLE-01182] c 27 N71-15635

Automatically deploying nozzle exit cone extension Patent  
[NASA-CASE-XLE-01640] c 31 N71-15637

High temperature cobalt-base alloy Patent  
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[NASA-CASE-XLE-02991] c 17 N71-16025

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[NASA-CASE-XLE-00106] c 15 N71-16076

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[NASA-CASE-XLE-00785] c 33 N71-16104

Method of making self lubricating fluoride-metal composite materials Patent  
[NASA-CASE-XLE-08511-2] c 18 N71-16105

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[NASA-CASE-XLE-03583] c 31 N71-17629

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[NASA-CASE-XLE-05079] c 15 N71-17652

Method of lubricating rolling element bearings Patent  
[NASA-CASE-XLE-09527] c 15 N71-17688

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[NASA-CASE-XLE-00454] c 23 N71-17802

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[NASA-CASE-XLE-03804] c 10 N71-19471

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[NASA-CASE-XLE-04250] c 09 N71-20446

Method of making electrical contact on silicon solar cell and resultant product Patent  
[NASA-CASE-XLE-04787] c 03 N71-20492

Small plasma probe Patent  
[NASA-CASE-XLE-02578] c 25 N71-20747

Combined electrolysis device and fuel cell and method of operation Patent  
[NASA-CASE-XLE-01645] c 03 N71-20904

Pressure monitoring with a plurality of ionization gauges controlled at a central location Patent  
[NASA-CASE-XLE-00787] c 14 N71-21090

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[NASA-CASE-XLE-04603] c 33 N71-21507

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[NASA-CASE-XLE-02008] c 09 N71-21583

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[NASA-CASE-XLE-02902] c 25 N71-21694

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[NASA-CASE-XLE-03494] c 27 N71-21819

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[NASA-CASE-XLE-01092] c 15 N71-22797

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[NASA-CASE-XLE-04222] c 23 N71-22881

Method for producing fiber reinforced metallic composites Patent  
[NASA-CASE-XLE-03925] c 18 N71-22894

Thermal shock apparatus Patent  
[NASA-CASE-XLE-02024] c 14 N71-22964

Arc electrode of graphite with ball tip Patent  
[NASA-CASE-XLE-04788] c 09 N71-22987

Gas purged dry box glove Patent  
[NASA-CASE-XLE-02531] c 05 N71-23080

Automatic recording McLeod gauge Patent  
[NASA-CASE-XLE-03280] c 14 N71-23093

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[NASA-CASE-XLE-04501] c 09 N71-23190

High temperature ferromagnetic cobalt-base alloy Patent  
[NASA-CASE-XLE-03629] c 17 N71-23248

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[NASA-CASE-XLE-04026] c 14 N71-23267

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[NASA-CASE-XLE-10715] c 26 N71-23292

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[NASA-CASE-XLE-04535] c 03 N71-23354

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[NASA-CASE-XLE-02823] c 09 N71-23443

Silicon solar cell with cover glass bonded to cell by metal pattern Patent  
[NASA-CASE-XLE-08569] c 03 N71-23449

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[NASA-CASE-XLE-01997] c 06 N71-23527

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[NASA-CASE-XLE-01903] c 22 N71-23599

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[NASA-CASE-XLE-02798] c 26 N71-23654

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[NASA-CASE-XLE-02647] c 18 N71-23658

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[NASA-CASE-XLE-08511] c 18 N71-23710

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[NASA-CASE-XLE-05033] c 15 N71-23810

Extrusion die for refractory metals Patent  
[NASA-CASE-XLE-06773] c 15 N71-23817

Combustion chamber Patent  
[NASA-CASE-XLE-04857] c 28 N71-23968

Metallic film diffusion for boundary lubrication Patent  
[NASA-CASE-XLE-10337] c 15 N71-24046

Process for producing dispersion strengthened nickel with aluminum Patent  
[NASA-CASE-XLE-06969] c 17 N71-24142

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[NASA-CASE-XLE-03432] c 33 N71-24145

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[NASA-CASE-LEW-13770-4]	c 27	N85-21351			
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**Manned Spacecraft Center, Cape Canaveral, FL.**  
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Self-lubricating gears and other mechanical parts Patent [NASA-CASE-MFS-14971]	c 15	N71-24984	Device for measuring bearing preload [NASA-CASE-MFS-20434]	c 11	N72-25288	Nonflammable coating compositions [NASA-CASE-MFS-20486-2]	c 27	N74-17283
Pulse width inverter Patent [NASA-CASE-MFS-10068]	c 10	N71-25139	Altitude simulation chamber for rocket engine testing [NASA-CASE-MFS-20620]	c 11	N72-27262	Metering gun for dispensing precisely measured charges of fluid [NASA-CASE-MFS-21163-1]	c 54	N74-17853
Isothermal cover with thermal reservoirs Patent [NASA-CASE-MFS-20355]	c 33	N71-25353	Fixture for supporting articles during vibration tests [NASA-CASE-MFS-20523]	c 14	N72-27412	Omnidirectional wheel [NASA-CASE-MFS-21309-1]	c 37	N74-18125
Storage container for electronic devices Patent [NASA-CASE-MFS-20075]	c 09	N71-26133	Electrical connector [NASA-CASE-MFS-20757]	c 09	N72-28225	Reinforced polyquinoxaline gasket and method of preparing the same [NASA-CASE-MFS-21364-1]	c 37	N74-18126
Method and apparatus for precision sizing and joining of large diameter tubes Patent [NASA-CASE-XMF-05114-2]	c 15	N71-26148	Remote control manipulator for zero gravity environment [NASA-CASE-MFS-14405]	c 15	N72-28495	Manual actuator [NASA-CASE-MFS-21481-1]	c 37	N74-18127
Filter system for control of outgas contamination in vacuum Patent [NASA-CASE-MFS-14711]	c 15	N71-26185	Thermal compensating structural member [NASA-CASE-MFS-20433]	c 15	N72-28496	Cryogenic gyroscope housing [NASA-CASE-MFS-21136-1]	c 35	N74-18323
Image magnification adapter for cameras Patent [NASA-CASE-XMF-03844-1]	c 14	N71-26474	Semiconductor transducer device [NASA-CASE-ERC-10087-2]	c 14	N72-31446	Automatic frequency control for FM transmitter [NASA-CASE-MFS-21540-1]	c 32	N74-19790
Thickness measuring and injection device Patent [NASA-CASE-MFS-20261]	c 14	N71-27005	Coaxial high density, hypervelocity plasma generator and accelerator with ionizable metal disc [NASA-CASE-MFS-20589]	c 25	N72-32688	Microwave power transmission system wherein level of transmitted power is controlled by reflections from receiver [NASA-CASE-MFS-21470-1]	c 44	N74-19870
Personal propulsion unit Patent [NASA-CASE-MFS-20130]	c 28	N71-27585	Process for the preparation of brushite crystals [NASA-CASE-ERC-10338]	c 04	N72-33072	Reduced gravity fecal collector seat and urinal [NASA-CASE-MFS-22102-1]	c 54	N74-20725
Power system with heat pipe liquid coolant lines Patent [NASA-CASE-MFS-14114]	c 33	N71-27862	Adjustable force probe [NASA-CASE-MFS-20760]	c 14	N72-33377	Metabolic analyzer [NASA-CASE-MFS-21415-1]	c 52	N74-20728
Method of making shielded flat cable Patent [NASA-CASE-MFS-13687]	c 09	N71-28691	Polyimide resin-fiberglass cloth laminates for printed circuit boards [NASA-CASE-MFS-20408]	c 18	N73-12604	Automatic quadrature control and measuring system [NASA-CASE-MFS-21660-1]	c 35	N74-21017
A dc motor speed control system Patent [NASA-CASE-MFS-14610]	c 09	N71-28886	Differential pressure control [NASA-CASE-MFS-14216]	c 14	N73-13418	Thiophenyl ether disiloxanes and trisiloxanes useful as lubricant fluids [NASA-CASE-MFS-22411-1]	c 37	N74-21058
Cryogenic thermal insulation Patent [NASA-CASE-XMF-05046]	c 33	N71-28892	Redundant hydraulic control system for actuators [NASA-CASE-MFS-20944]	c 15	N73-13466	Airlock [NASA-CASE-MFS-20922-1]	c 18	N74-22136
Method of coating through-holes Patent [NASA-CASE-XMF-05999]	c 15	N71-29032	Device and method for determining X ray reflection efficiency of optical surfaces [NASA-CASE-MFS-20243]	c 23	N73-13662	Low distortion automatic phase control circuit [NASA-CASE-MFS-21671-1]	c 33	N74-22885
Response analyzers for sensors Patent [NASA-CASE-MFS-11204]	c 14	N71-29134	Process for making diamonds [NASA-CASE-MFS-20698-2]	c 15	N73-19457			
Current regulating voltage divider [NASA-CASE-MFS-20935]	c 09	N71-34212	Test stand system for vacuum chambers [NASA-CASE-MFS-21362]	c 11	N73-20267			
			Material fatigue testing system [NASA-CASE-MFS-20673]	c 14	N73-20476			

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Process for spinning flame retardant elastomeric compositions			Coal-shale interface detector			Dual laser optical system and method for studying fluid flow		
[NASA-CASE-MSC-14331-3]	c 27	N78-32262	[NASA-CASE-MFS-23720-1]	c 43	N80-23711	[NASA-CASE-MFS-25315-1]	c 36	N83-29680
Velocity measurement system			Cork-resin ablative insulation for complex surfaces and method for applying the same			Beam connector apparatus and assembly		
[NASA-CASE-MFS-23363-1]	c 35	N78-32396	[NASA-CASE-MFS-23626-1]	c 24	N80-26388	[NASA-CASE-MFS-25134-1]	c 31	N83-31895
Hybrid holographic non-destructive test system			Redundant motor drive system			Adaptive reference voltage generator for firing angle control of line-commutated inverters		
[NASA-CASE-MFS-23114-1]	c 38	N78-32447	[NASA-CASE-MFS-23777-1]	c 37	N80-32716	[NASA-CASE-MFS-25215-1]	c 33	N83-31953
FM/CW radar system			Three phase power factor controller			Triac failure detector		
[NASA-CASE-MFS-22234-1]	c 32	N79-10264	[NASA-CASE-MFS-25535-1]	c 33	N81-12330	[NASA-CASE-MFS-25607-1]	c 33	N83-34190
Method of obtaining intensified image from developed photographic films and plates			Method and apparatus for shaping and enhancing acoustical levitation forces			Adaptive control system for line-commutated inverters		
[NASA-CASE-MFS-23461-1]	c 35	N79-10389	[NASA-CASE-MFS-25050-1]	c 71	N81-15767	[NASA-CASE-MFS-25209-1]	c 33	N83-35227
Computerized system for translating a torch head			Microwave integrated circuit for Josephson voltage standards			Apparatus and method for heating a material in a transparent ampoule		
[NASA-CASE-MFS-23620-1]	c 37	N79-10421	[NASA-CASE-MFS-23845-1]	c 33	N81-17348	[NASA-CASE-MFS-25436-1]	c 27	N83-36220
Rotatable mass for a flywheel			Process for preparation of large-particle-size monodisperse latexes			Resilient seal ring assembly with spring means applying force to wedge member		
[NASA-CASE-MFS-23051-1]	c 37	N79-10422	[NASA-CASE-MFS-25000-1]	c 25	N81-19242	[NASA-CASE-MFS-25678-1]	c 37	N84-11497
Water system virus detection			Containerless high temperature calorimeter apparatus			Prosthetic occlusive device for an internal passageway		
[NASA-CASE-MSC-16098-1]	c 51	N79-10693	[NASA-CASE-MFS-23923-1]	c 35	N81-19426	[NASA-CASE-MFS-25740-1]	c 52	N84-11744
Anastigmatic three-mirror telescope			Electrical power generating system			Constant-output atomizer		
[NASA-CASE-MFS-23675-1]	c 89	N79-10969	[NASA-CASE-MFS-24368-3]	c 33	N81-22280	[NASA-CASE-MFS-25631-1]	c 34	N84-12406
Apparatus for assembling space structure			Solar tracking system			Heat sealable, flame and abrasion resistant coated fabric		
[NASA-CASE-MFS-23579-1]	c 18	N79-11108	[NASA-CASE-MFS-23999-1]	c 44	N81-24520	[NASA-CASE-MSC-18382-2]	c 27	N84-14324
Spherical bearing			Prosthetic urinary sphincter			Electrical self-aligning connector		
[NASA-CASE-MFS-23447-1]	c 37	N79-11404	[NASA-CASE-MFS-23717-1]	c 52	N81-25660	[NASA-CASE-MFS-25211-2]	c 33	N84-14423
Method for making an aluminum or copper substrate panel for selective absorption of solar energy			Pneumatic inflatable end effector			Control system for an induction motor with energy recovery		
[NASA-CASE-MFS-23518-1]	c 44	N79-11469	[NASA-CASE-MFS-23696-1]	c 54	N81-26718	[NASA-CASE-MFS-25477-1]	c 33	N84-14424
System for the measurement of ultra-low stray light levels			Power factor control system for ac induction motors			A dc to dc converter		
[NASA-CASE-MFS-23513-1]	c 74	N79-11865	[NASA-CASE-MFS-23988-1]	c 33	N81-27395	[NASA-CASE-MFS-25430-1]	c 33	N84-16453
Simulator method and apparatus for practicing the mating of an observer-controlled object with a target			Method of manufacture of bonded fiber flywheel			Pulsed thyristor trigger control circuit		
[NASA-CASE-MFS-23052-2]	c 74	N79-13855	[NASA-CASE-MFS-23674-1]	c 24	N81-29163	[NASA-CASE-MFS-25616-1]	c 33	N84-16455
Multilevel metallization method for fabricating a metal oxide semiconductor device			Biocentrifuge system capable of exchanging specimen cages while in operational mode			Clamp-mount device		
[NASA-CASE-MFS-23541-1]	c 76	N79-14906	[NASA-CASE-MFS-23825-1]	c 51	N81-32829	[NASA-CASE-MFS-25510-1]	c 37	N84-16560
Direct current transformer			Motor power factor controller with a reduced voltage starter			Space probe/satellite ejection apparatus for spacecraft		
[NASA-CASE-MFS-23659-1]	c 33	N79-17133	[NASA-CASE-MFS-25586-1]	c 33	N82-11360	[NASA-CASE-MFS-15429-1]	c 18	N84-22609
Method of making a rocket nozzle			Method for retarding dye fading during archival storage of developed color photographic film			Method for sequentially processing a multi-level interconnect circuit in a vacuum chamber		
[NASA-CASE-XMF-06884-1]	c 20	N79-21123	[NASA-CASE-MFS-23250-1]	c 35	N82-11432	[NASA-CASE-MFS-256704-1]	c 33	N84-22884
Fluid thrust control system			Liquid immersion apparatus for minute articles			Three phase power factor controller		
[NASA-CASE-XMF-05964-1]	c 20	N79-21124	[NASA-CASE-MFS-25363-1]	c 37	N82-12441	[NASA-CASE-MFS-25535-2]	c 33	N84-22885
Rocket injector head			Controlled overspray spray nozzle			Motor power control circuit for ac induction motors		
[NASA-CASE-XMF-04592-1]	c 20	N79-21125	[NASA-CASE-MFS-25139-1]	c 34	N82-13376	[NASA-CASE-MFS-25323-1]	c 33	N84-22886
Infusible silazane polymer and process for producing same			Multi-channel temperature measurement amplification system			Two-dimensional scanner apparatus		
[NASA-CASE-XMF-02526-1]	c 27	N79-21190	[NASA-CASE-MFS-23775-1]	c 44	N82-16474	[NASA-CASE-MFS-25687-1]	c 35	N84-22928
Fluorine-containing polyformals			Solar energy control system			Method of and apparatus for double-exposure holographic interferometry		
[NASA-CASE-XMF-06900-1]	c 27	N79-21191	[NASA-CASE-MFS-25287-1]	c 44	N82-18686	[NASA-CASE-MFS-25405-1]	c 35	N84-22929
Method and apparatus for preparing multiconductor cable with flat conductors			Method of bonding plasticized elastomer to metal and articles produced thereby			Diffuser/ejector system for a very high vacuum environment		
[NASA-CASE-MFS-10946-1]	c 31	N79-21226	[NASA-CASE-MFS-25181-1]	c 27	N82-24340	[NASA-CASE-MFS-25791-1]	c 09	N84-27749
Edge coating of flat wires			Amplified wind turbine apparatus			Space Shuttle with rail system and aft thrust structure securing solid rocket boosters to external tank		
[NASA-CASE-XMF-05757-1]	c 31	N79-21227	[NASA-CASE-MFS-23830-1]	c 44	N82-24639	[NASA-CASE-MFS-25853-1]	c 16	N84-27784
Stable superconducting magnet			Magnetic field control			Three stage rocket vehicle with parallel staging		
[NASA-CASE-XMF-05373-1]	c 33	N79-21264	[NASA-CASE-MFS-23828-1]	c 33	N82-26569	[NASA-CASE-MFS-25878-1]	c 18	N84-27787
Retractable environmental seal			Exothermic furnace module			Phase detector for three-phase power factor controller		
[NASA-CASE-MFS-23646-1]	c 37	N79-22474	[NASA-CASE-MFS-25707-1]	c 35	N82-26631	[NASA-CASE-MFS-25854-1]	c 33	N84-27975
Horizontally mounted solar collector			Photoelectric detection system			Device for determining frost depth and density		
[NASA-CASE-MFS-23349-1]	c 44	N79-23481	[NASA-CASE-MFS-23776-1]	c 33	N82-28545	[NASA-CASE-MFS-25754-1]	c 35	N84-28018
Coal-shale interface detection			Apparatus for sequentially transporting containers			Sonic levitation apparatus		
[NASA-CASE-MFS-23720-3]	c 43	N79-25443	[NASA-CASE-MFS-23846-1]	c 37	N82-32731	[NASA-CASE-MFS-25828-1]	c 71	N84-28568
General purpose rocket furnace			Method for sequentially processing a multi-level interconnect circuit in a vacuum chamber			Apparatus for measuring charged particle beam		
[NASA-CASE-MFS-23460-1]	c 12	N79-26075	[NASA-CASE-MFS-15670-1]	c 33	N82-33634	[NASA-CASE-MFS-25641-1]	c 72	N84-28575
Contour measurement system			Electrophoresis device			Coupling an induction motor type generator to ac power lines		
[NASA-CASE-MFS-23726-1]	c 43	N79-26439	[NASA-CASE-MFS-25426-1]	c 25	N83-10126	[NASA-CASE-MFS-25302-2]	c 33	N84-33660
Method of construction of a multi-cell solar array			Combinational logic for generating gate drive signals for phase control rectifiers			Three-phase power factor controller with induced EMF sensing		
[NASA-CASE-MFS-23540-1]	c 44	N79-26475	[NASA-CASE-MFS-25208-1]	c 33	N83-10345	[NASA-CASE-MFS-25852-1]	c 33	N84-33661
Thickness measurement system			Static continuous electrophoresis device			Longwall shearer tracking system		
[NASA-CASE-MFS-23721-1]	c 31	N79-28370	[NASA-CASE-MFS-25306-1]	c 25	N83-13187	[NASA-CASE-MFS-25717-1]	c 35	N84-33768
Coal-rock interface detector			Collimated beam manifold with the number of output beams variable at a given output angle			Impacting device for testing insulation		
[NASA-CASE-MFS-23725-1]	c 43	N79-31706	[NASA-CASE-MFS-25312-1]	c 74	N83-17305	[NASA-CASE-MFS-25862-2]	c 37	N84-33807
Calibrating pressure switch			Method and apparatus for suppressing ignition overpressure in solid rocket propulsion systems			Insulation bonding test system		
[NASA-CASE-XMF-04494-1]	c 33	N79-33392	[NASA-CASE-MFS-25843-1]	c 20	N83-17588	[NASA-CASE-MFS-25862-1]	c 27	N85-20126
Passive propellant system			Extended range X-ray telescope			Adjustable indicating device for load position		
[NASA-CASE-MFS-23642-1]	c 20	N80-10278	[NASA-CASE-MFS-25282-1]	c 34	N83-19015	[NASA-CASE-MFS-28008-1]	c 35	N85-20300
Electrophoretic fractional elution apparatus employing a rotational seal fraction collector			Automatic weld torch guidance control system			Process for producing tris s(n-methylamino) methylsilane		
[NASA-CASE-MFS-23284-1]	c 37	N80-14397	[NASA-CASE-MFS-25807]	c 37	N83-20154	[NASA-CASE-MFS-25721-1]	c 25	N85-21280
Coal-shale interface detection system			Electrical rotary joint apparatus for large space structures			Solar powered actuator with continuously variable auxiliary power control		
[NASA-CASE-MFS-23720-2]	c 43	N80-14423	[NASA-CASE-MFS-23981-1]	c 07	N83-20944	[NASA-CASE-MFS-25637-1]	c 44	N85-21769
Solar concentrator			Gas levitator having fixed levitation node for containerless processing			Power control for ac motor		
[NASA-CASE-MFS-23727-1]	c 44	N80-14473	[NASA-CASE-MFS-25509-1]	c 35	N83-24828	[NASA-CASE-MFS-25861-1]	c 33	N85-22877
Aluminum or copper substrate panel for selective absorption of solar energy			Electrical power generating system			Hemispherical latching apparatus		
[NASA-CASE-MFS-23518-3]	c 44	N80-16452	[NASA-CASE-MFS-25302-1]	c 33	N83-28319	[NASA-CASE-MFS-25837-1]	c 18	N85-29991
Method for separating biological cells			Satellite retrieval system			Method of and apparatus for generating an interstitial point in a data stream having an even number of data points		
[NASA-CASE-MFS-23883-1]	c 51	N80-16715	[NASA-CASE-MFS-25403-1]	c 18	N83-29303	[NASA-CASE-MFS-25319-1]	c 60	N85-33701
Oceanic wave measurement system			Method and apparatus for supercooling and solidifying substances					
[NASA-CASE-MFS-23862-1]	c 48	N80-18667	[NASA-CASE-MFS-25242-1]	c 35	N83-29650			
Wind wheel electric power generator								
[NASA-CASE-MFS-23515-1]	c 44	N80-21828						
Preparation of monotectic alloys having a controlled microstructure by directional solidification under dopant-induced interface breakdown								
[NASA-CASE-MFS-23816-1]	c 26	N80-23419						

Variable length strut with longitudinal compliance and locking capability			
[NASA-CASE-MFS-25907-1]	c 37	N85-34401	
Device and method for frictionally testing materials for ignitability			
[NASA-CASE-MSC-20622-1]	c 25	N86-19413	
Portable 90 degree proof loading device			
[NASA-CASE-MSC-20250-1]	c 35	N86-19581	
Apparatus for adapting an end effector device remotely controlled manipulator arm			
[NASA-CASE-MFS-25949-1]	c 37	N86-19603	
Spectral slicing X-ray telescope with variable magnification			
[NASA-CASE-MFS-25942-1]	c 74	N86-20124	
X-ray determination of parts alignment			
[NASA-CASE-MSC-20418-1]	c 74	N86-20126	
Space probe/satellite ejection apparatus for spacecraft			
[NASA-CASE-MFS-25429-1]	c 18	N86-20469	
Wind dynamic range video camera			
[NASA-CASE-MFS-25750-1]	c 32	N86-20647	
Amplifier for measuring low-level signals in the presence of high common mode voltage			
[NASA-CASE-MFS-25868-1]	c 33	N86-20670	
High gradient directional solidification furnace			
[NASA-CASE-MFS-25963-1]	c 35	N86-20750	
Damping seal for turbomachinery			
[NASA-CASE-MFS-25842-2]	c 37	N86-20788	
Self-locking telescoping manipulator arm			
[NASA-CASE-MFS-25906-1]	c 37	N86-20789	
Cryogenic insulation strength and bond tester			
[NASA-CASE-MFS-25910-1]	c 39	N86-20841	
Optical stereo video signal processor			
[NASA-CASE-MFS-25752-1]	c 74	N86-21348	
Containerless high purity pulling process and apparatus for glass fiber			
[NASA-CASE-MFS-25905-2]	c 31	N86-21718	
Automated weld torch guidance control system			
[NASA-CASE-MFS-25807-2]	c 37	N86-21850	
Multispectral glancing incidence X-ray telescope			
[NASA-CASE-MFS-28013-1]	c 89	N86-22459	
Shuttle-launch triangular space station			
[NASA-CASE-MSC-20676-1]	c 18	N86-24729	
Fluid flow meter for measuring the rate of fluid flow in a conduit			
[NASA-CASE-MFS-28030-1]	c 35	N86-25752	
Magnetic spin reduction system for free spinning objects			
[NASA-CASE-MFS-25966-1]	c 16	N86-26352	
Propulsion apparatus and method using boil-off gas from a cryogenic liquid			
[NASA-CASE-MFS-25946-1]	c 20	N86-26368	
Solid sorbent air sampler			
[NASA-CASE-MSC-20653-1]	c 35	N86-26595	
Planar oscillatory stirring apparatus			
[NASA-CASE-MFS-26002-1-CU]	c 35	N86-26598	
Angular measurement system			
[NASA-CASE-MFS-25825-1]	c 31	N86-29055	
Apparatus and method for inspecting a bearing ball			
[NASA-CASE-MFS-25833-1]	c 35	N86-32698	
Method of repairing hidden leaks in tubes			
[NASA-CASE-MFS-19796-1]	c 37	N86-32736	
Remotely operable peristaltic pump			
[NASA-CASE-MFS-28059-1]	c 37	N86-32738	
Double window viewing chamber assembly			
[NASA-CASE-MFS-28057-1]	c 09	N87-14355	
Low loss injector for liquid propellant rocket engines			
[NASA-CASE-MFS-25989-1]	c 20	N87-14420	
Emitted vibration measurement device and method			
[NASA-CASE-MFS-25981-1]	c 35	N87-14670	
High-temperature, high-pressure optical cell			
[NASA-CASE-MFS-26000-1]	c 74	N87-14971	
Non-backdrivable free wheeling coupling			
[NASA-CASE-MSC-20475-1]	c 37	N87-17037	
Welding torch with arc light reflector			
[NASA-CASE-MFS-29134-1]	c 74	N87-17493	
Space ultra-vacuum facility and method of operation			
[NASA-CASE-MFS-28139-1]	c 29	N87-18679	
Orbital maneuvering end effectors			
[NASA-CASE-MFS-28161-1]	c 37	N87-18817	
Quasi-containerless glass formation method and apparatus			
[NASA-CASE-MFS-28090-1]	c 27	N87-21111	
Four quadrant control circuit for a brushless three-phase dc motor			
[NASA-CASE-MFS-28080-1]	c 33	N87-21233	
Dual motion valve with single motion input			
[NASA-CASE-MFS-28058-1]	c 37	N87-21332	
Self indexing latch system			
[NASA-CASE-MFS-25956-1]	c 37	N87-21333	
Bidirectional control system for energy flow in solar powered flywheel			
[NASA-CASE-MFS-25978-1]	c 44	N87-21410	
Tube coupling device			
[NASA-CASE-MFS-25964-2]	c 37	N87-22977	

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Method for treating wastewater using microorganisms and vascular aquatic plants			
[NASA-CASE-NSTL-10]	c 45	N84-1265	
<b>National Aeronautics and Space Administration. Pasadena Office, CA.</b>			
Phase control circuits using frequency multiplication for phased array antennas			
[NASA-CASE-ERC-10285]	c 10	N73-1620	
Method of forming difunctional polyisobutylene			
[NASA-CASE-NPO-10893]	c 27	N73-223	
Radiation and particle detector and amplifier			
[NASA-CASE-NPO-12128-1]	c 14	N73-3231	
Expandable space frames			
[NASA-CASE-ERC-10365-1]	c 31	N73-3274	
Use of thin film light detector			
[NASA-CASE-NPO-11432-2]	c 35	N74-1505	
Temperature compensated digital inertial sensor			
[NASA-CASE-NPO-13044-1]	c 35	N74-1505	
Compact hydrogenator			
[NASA-CASE-NPO-11682-1]	c 35	N74-1512	
Short range laser obstacle detector			
[NASA-CASE-NPO-11856-1]	c 36	N74-1514	
System for stabilizing cable phase delay utilizing coaxial cable under pressure			
[NASA-CASE-NPO-13138-1]	c 33	N74-1792	
Banded transformer cores			
[NASA-CASE-NPO-11966-1]	c 33	N74-1792	
Inverter ratio failure detector			
[NASA-CASE-NPO-13160-1]	c 35	N74-1805	
Heat transfer device			
[NASA-CASE-NPO-11120-1]	c 34	N74-1855	
Storage battery comprising negative plates of a wedge shaped configuration			
[NASA-CASE-NPO-11806-1]	c 44	N74-1969	
Gated compressor, distortionless signal limiter			
[NASA-CASE-NPO-11820-1]	c 32	N74-1978	
Apparatus for scanning the surface of a cylindrical body			
[NASA-CASE-NPO-11861-1]	c 36	N74-2000	
Decision feedback loop for tracking a polyphase modulated carrier			
[NASA-CASE-NPO-13103-1]	c 32	N74-2081	
Optically actuated two position mechanical mover			
[NASA-CASE-NPO-13105-1]	c 37	N74-2106	
Flow control valve			
[NASA-CASE-NPO-11951-1]	c 37	N74-2106	
Thin film gauge			
[NASA-CASE-NPO-10617-1]	c 35	N74-2205	
High isolation RF signal selection switches			
[NASA-CASE-NPO-13081-1]	c 33	N74-2281	
Single reflector interference spectrometer and drive system therefor			
[NASA-CASE-NPO-11932-1]	c 35	N74-2304	
Scanning nozzle plating system			
[NASA-CASE-NPO-11758-1]	c 31	N74-2306	
Rock sampling			
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Fluidized bed desulfurization  
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Memory metal actuator  
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Method and apparatus for contour mapping using synthetic aperture radar  
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Brushless DC motor control system responsive to control signals generated by a computer or the like  
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Vibrating-chamber levitation systems  
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Self-locking double retention redundant full pin release  
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Neighborhood comparison operator  
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Solar heated oil shale pyrolysis process  
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Discharge cell for optogalvanic spectroscopy having orthogonal relationship between the probe laser and discharge axis  
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- Protective telescoping shield for solar concentrator  
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- Method of making macrocrystalline or single crystal semiconductor material  
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- Apparatus for production of ultrapure amorphous metals utilizing acoustic cooling  
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- Fluidic angular velocity sensor  
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- Double photon excitation of high-Rydberg atoms as a long-lived submillimeter detector  
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- Compensation for primary reflector wavefront error  
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- FET charge sensor and voltage probe  
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- Method of examining microcircuit patterns  
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- High intensity casting system  
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- Ground plane interference elimination by passive element  
[NASA-CASE-NPO-16632-1CU] c 32 N87-15390
- Large TV display system  
[NASA-CASE-NPO-16932-1CU] c 33 N87-15413
- Method for growing low defect, high purity crystalline layers utilizing lateral overgrowth of a patterned mask  
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- Tank tread assemblies with track-linking mechanism  
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- High band gap 2-6 and 3-5 tunneling junctions for silicon multijunction solar cells  
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- Local area network with fault-checking, priorities and redundant backup  
[NASA-CASE-NPO-16949-1CU] c 62 N87-19021
- Ten degree Kelvin hydride refrigerator  
[NASA-CASE-NPO-16393-1CU] c 31 N87-21159
- Synchronization tracking in pulse position modulation receiver  
[NASA-CASE-NPO-16256-1] c 32 N87-21207
- Low noise lead screw positioner  
[NASA-CASE-NPO-15617-1] c 35 N87-21304
- Method for forming hermetic seals  
[NASA-CASE-NPO-16423-1CU] c 37 N87-21334
- Reed-Solomon decoder  
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- Generation of intense negative ion beams  
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- Variable energy, high flux, ground-state atomic oxygen source  
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- Method and apparatus for measuring minority carrier lifetime in a direct band-gap semiconductor  
[NASA-CASE-NPO-16337-1CU] c 33 N87-22894
- Water-absorbing capacitor system for measuring relative humidity  
[NASA-CASE-NPO-16544-1CU] c 35 N87-22953
- Closed loop fiber optic rotation sensor  
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- Total immersion crystal growth  
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- Floating emitter solar cell  
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- Means for phase locking the outputs of a surface emitting laser diode array  
[NASA-CASE-NPO-16542-1CU] c 36 N87-23960
- Multiplex electric discharge gas laser system  
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- Rotary stepping device with memory metal actuator  
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- Sample levitation and melt in microgravity  
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- Antimultipath communication by injecting tone into null in signal spectrum  
[NASA-CASE-NPO-16414-1CU] c 32 N87-25511
- Method and means for generation of tunable laser sidebands in the far-infrared region  
[NASA-CASE-NPO-16497-1CU] c 36 N87-25567
- Hybrid analog-digital associative neural network  
[NASA-CASE-NPO-17058-1CU] c 62 N87-25803
- Method and apparatus for enhancing laser absorption sensitivity  
[NASA-CASE-NPO-16567-1CU] c 36 N87-28006
- Coaxial cable connector  
[NASA-CASE-NPO-16764-1CU] c 33 N88-14270
- Tailorable infrared sensing device with strain layer superlattice structure  
[NASA-CASE-NPO-16607-1CU] c 76 N88-14836
- Method of evaporation  
[NASA-CASE-NPO-15609-2] c 25 N88-23846
- Krypton based adsorption type cryogenic refrigerator  
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- Cryogenic regenerator including saran-carbon heat conduction matrix  
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- Real time pipelined system for forming the sum of products in the processing of video data  
[NASA-CASE-NPO-16462-1CU] c 60 N88-24169
- Single mode levitation and translation  
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- Method of producing high T(subc) superconducting NBN films  
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- Isotope separation using tuned laser and electron beam  
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- Energy efficient continuous flow ash lockhopper  
[NASA-CASE-NPO-16985-1CU] c 31 N88-24814
- Acoustic convective system  
[NASA-CASE-NPO-17278-1CU] c 31 N88-24818
- Apparatus for using a time interval counter to measure frequency stability  
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- Magnetically switched power supply system for lasers  
[NASA-CASE-NPO-16402-2] c 33 N88-24862
- Timing control system  
[NASA-CASE-NPO-16882-1CU] c 33 N88-24863
- A universal computer control system for motors  
[NASA-CASE-NPO-17134-1CU] c 33 N88-24864
- Noncontact temperature pattern measuring device  
[NASA-CASE-NPO-17024-1CU] c 35 N88-24943
- Atmospheric autorotating imaging device  
[NASA-CASE-NPO-17390-1CU] c 35 N88-24944
- Articulated suspension system  
[NASA-CASE-NPO-17354-1CU] c 37 N88-24973
- Real-time optical multiple object recognition and tracking system and method  
[NASA-CASE-NPO-17139-1CU] c 74 N88-25301
- Low-loss, high-isolation, fiber-optic isolator  
[NASA-CASE-NPO-17207-1CU] c 74 N88-25304
- Real-time image difference detection using a polarization rotation spatial light modulator  
[NASA-CASE-NPO-17144-1CU] c 74 N88-25305
- Improved properties of SiGe/GaP alloys  
[NASA-CASE-NPO-17259-1CU] c 76 N88-25358
- Data volume reduction for imaging radar polarimetry  
[NASA-CASE-NPO-17184-1CU] c 32 N88-26541
- Low noise cryogenic dielectric resonator oscillator  
[NASA-CASE-NPO-17157-1CU] c 33 N88-26596
- A VLSI single-chip (225,223) Reed-Solomon encoder with interleaver  
[NASA-CASE-NPO-17280-1CU] c 17 N88-27220
- Method for Viterbi decoding of large constraint length convolutional codes  
[NASA-CASE-NPO-17310-1CU] c 17 N88-28946
- Digital phase-lock loop having an estimator and predictor of error  
[NASA-CASE-NPO-17196-1CU] c 32 N88-29076
- Power supply conditioning circuit  
[NASA-CASE-NPO-17233-1CU] c 33 N88-29095
- Thermocouple for heating and cooling of memory metal actuators  
[NASA-CASE-NPO-17068-1CU] c 35 N88-29151
- Nanosequence digital logic controller  
[NASA-CASE-NPO-16116-2] c 60 N88-29310
- Doppler-corrected differential detection system  
[NASA-CASE-NPO-16987-1CU] c 32 N88-30001
- Self-actuating heat switches for redundant refrigeration systems  
[NASA-CASE-NPO-17085-1CU] c 31 N89-12785
- Tm, Ho:YLF laser end-pumped by a semiconductor diode laser array  
[NASA-CASE-NPO-17282-1CU] c 36 N89-12856
- Stabilization and oscillation of an acoustically levitated object  
[NASA-CASE-NPO-16896-1CU] c 71 N89-13236
- Multi-element spherical shell generation  
[NASA-CASE-NPO-17203-1CU] c 34 N89-13728
- Remote object configuration/orientation determination  
[NASA-CASE-NPO-17436-1CU] c 35 N89-13764
- Passively activated prehensile digit for a robotic end effector  
[NASA-CASE-NPO-16766-1CU] c 37 N89-13785
- Rotary control lock  
[NASA-CASE-NPO-17453-1CU] c 37 N89-13787
- Dynamic range compression/expansion of light beams by photorefractive crystals  
[NASA-CASE-NPO-17140-1CU] c 74 N89-14077
- Remotely controllable real-time optical processor  
[NASA-CASE-NPO-16750-1CU] c 74 N89-14078
- Preparation of dilute magnetic semiconductor films by metalorganic chemical vapor deposition  
[NASA-CASE-NPO-17399-1CU] c 76 N89-14120
- Joule Thomson refrigerator  
[NASA-CASE-NPO-17143-1CU] c 31 N89-14351
- Controlled sample orientation and rotation in an acoustic levitator  
[NASA-CASE-NPO-17086-1CU] c 35 N89-14422
- A compact fast wide angle broad band spectrometer optical system  
[NASA-CASE-NPO-17562-1CU] c 74 N89-24153
- Programmable pipelined image processor  
[NASA-CASE-NPO-16461-1CU] c 60 N89-26400
- Television monitor field shifter and an opto-electronic method for obtaining a stereo image of optimal depth resolution and reduced depth distortion on a single screen  
[NASA-CASE-NPO-17249-1CU] c 32 N89-28676
- Digital carrier demodulator employing components working beyond normal limits  
[NASA-CASE-NPO-17628-1CU] c 32 N89-28684
- Systolic VLSI array for implementing the Kalman filter algorithm  
[NASA-CASE-NPO-17108-1CU] c 33 N89-28713
- Apparatus and method for characterizing the transmission efficiency of a mass spectrometer  
[NASA-CASE-NPO-16989-1CU] c 35 N89-28794
- Reversal electron attachment ionizer for detection of trace species  
[NASA-CASE-NPO-17596-1CU] c 35 N89-28795
- Field induced gap infrared detector  
[NASA-CASE-NPO-17526-1CU] c 35 N89-28796
- Robust high-performance control for robotic manipulators  
[NASA-CASE-NPO-17785-1CU] c 37 N89-28846
- Trochoidal analysis of scattered electrons in a merged electron-ion beam geometry  
[NASA-CASE-NPO-16789-1CU] c 72 N89-29169
- Fiber optic frequency transfer link  
[NASA-CASE-NPO-17703-1CU] c 74 N89-29191
- Two stage sorption type cryogenic refrigerator including heat regeneration system  
[NASA-CASE-NPO-17630-1CU] c 31 N89-29577
- Integrated circuit reliability testing  
[NASA-CASE-NPO-17393-1CU] c 33 N89-29679
- Low power consumption current transducer  
[NASA-CASE-NPO-16888-1CU] c 33 N89-29681
- Distributed proximity sensor system  
[NASA-CASE-NPO-17275-1CU] c 37 N89-29750
- Computer access security code system  
[NASA-CASE-NPO-17525-1CU] c 60 N89-29955
- Dynamic resource allocation scheme for distributed heterogeneous computer systems  
[NASA-CASE-NPO-17197-1CU] c 62 N89-29976
- Long wavelength infrared detector  
[NASA-CASE-NPO-17543-1CU] c 74 N89-30044
- Oxidation of semiconductors and superconductors  
[NASA-CASE-NPO-17534-1CU] c 76 N89-30076
- National Aeronautics and Space Administration, Wallops Flight Center, Wallops Island, VA.**
- Thin film strain transducer  
[NASA-CASE-WLP-10055-1] c 35 N84-28015
- Thin film strain transducer  
[NASA-CASE-WLP-10055-2] c 35 N85-21598
- National Aeronautics and Space Administration, Western Operations Office, Santa Monica, CA.**
- Automatic pump Patent  
[NASA-CASE-XNP-04731] c 15 N71-24042
- National Bureau of Standards, Boulder, CO.**
- Densitometer Patent  
[NASA-CASE-XLE-00688] c 14 N70-41330
- National Oceanic and Atmospheric Administration, Boulder, CO.**
- Determining distance to lightning strokes from a single station  
[NASA-CASE-KSC-10698] c 07 N73-20175
- National Research Corp., Cambridge, MA.**
- Gauge calibration by diffusion  
[NASA-CASE-XGS-07752] c 14 N73-30390
- Ultrahigh vacuum measuring ionization gauge  
[NASA-CASE-XLA-05087] c 14 N73-30391
- Apparatus for absolute pressure measurement  
[NASA-CASE-LAR-10000] c 14 N73-30394
- Ultrahigh vacuum gauge having two collector electrodes  
[NASA-CASE-LAR-02743] c 14 N73-32324
- Rock sampling  
[NASA-CASE-XNP-10007-1] c 46 N74-23068
- Rock sampling  
[NASA-CASE-XNP-09755] c 46 N74-23069
- National Science Foundation, Washington, DC.**
- Laser apparatus  
[NASA-CASE-GSC-12237-1] c 36 N80-14384
- Nevada Univ. System, Reno.**
- Constant-output atomizer  
[NASA-CASE-MFS-25631-1] c 34 N84-12406
- New England Medical Center Hospitals, Boston, MA.**
- Determination of antimicrobial susceptibilities on infected urines without isolation  
[NASA-CASE-GSC-12046-1] c 52 N79-14750

**North American Aviation, Inc., Canoga Park, CA.**

- Method of joining aluminum to stainless steel Patent  
[NASA-CASE-MFS-07369] c 15 N71-20443
- Propellant mass distribution metering apparatus Patent  
[NASA-CASE-NPO-10185] c 10 N71-26339
- Safety-type locking pin  
[NASA-CASE-MFS-18495] c 15 N72-11385
- Hydrogen fire detection system with logic circuit to analyze the spectrum of temporal variations of the optical spectrum  
[NASA-CASE-MFS-13130] c 10 N72-17173

**North American Aviation, Inc., Downey, CA.**

- Heat shield oven  
[NASA-CASE-XMS-04318] c 15 N69-27871
- Extensible cable support Patent  
[NASA-CASE-XMF-07587] c 15 N71-18701
- High pressure air valve Patent  
[NASA-CASE-MSC-11010] c 15 N71-19485
- Load relieving device Patent  
[NASA-CASE-XMS-06329-1] c 15 N71-20441
- Optical projector system Patent  
[NASA-CASE-XNP-03853] c 23 N71-21882
- Brazing alloy Patent  
[NASA-CASE-NPO-03063] c 17 N71-23365
- Vibrophonocardiograph Patent  
[NASA-CASE-XFR-07172] c 05 N71-27234

**North American Aviation, Inc., El Segundo, CA.**

- Aerodynamic spike nozzle Patent  
[NASA-CASE-XGS-01143] c 31 N71-15647
- Expanding center probe and drogue  
[NASA-CASE-XMS-03613] c 31 N71-16346
- Radio frequency shielded enclosure Patent  
[NASA-CASE-XMF-09422] c 07 N71-19436
- High impedance measuring apparatus Patent  
[NASA-CASE-XMS-08589-1] c 09 N71-20569
- Latching mechanism Patent  
[NASA-CASE-XMS-03745] c 15 N71-21076
- Tube dimpling tool Patent  
[NASA-CASE-XMS-06876] c 15 N71-21536
- Positive locking check valve Patent  
[NASA-CASE-XMS-09310] c 15 N71-22706
- Etching of aluminum for bonding Patent  
[NASA-CASE-XMF-02303] c 17 N71-23828
- Method and apparatus for varying thermal conductivity Patent  
[NASA-CASE-XNP-05524] c 33 N71-24876
- Purge device for thrust engines Patent  
[NASA-CASE-XMS-04826] c 28 N71-28849
- Method and construction for protecting heat sensitive bodies from thermal radiation and convective heat Patent  
[NASA-CASE-XNP-01310] c 33 N71-28852
- Propellant tank pressurization system Patent  
[NASA-CASE-XNP-00650] c 27 N71-28929
- Spherical shield Patent  
[NASA-CASE-XNP-01855] c 15 N71-28937
- Universal restrainer and joint Patent  
[NASA-CASE-XNP-02278] c 15 N71-28951
- Method and device for cooling Patent  
[NASA-CASE-HQN-00938] c 33 N71-29053

**North American Aviation, Inc., Los Angeles, CA.**

- Method and system for respiration analysis Patent  
[NASA-CASE-XFR-08403] c 05 N71-11202

**North American Aviation, Inc., Torrance, CA.**

- Method and apparatus for detection and location of microleaks Patent  
[NASA-CASE-XMF-02307] c 14 N71-10779

**North American Aviation, Inc., Woodland Hills, CA.**

- Fluid pressure balanced seal  
[NASA-CASE-XGS-01286-1] c 37 N79-33469

**North American Phillips Co., Inc., Briarcliff Manor, NY.**

- Linear magnetic bearings  
[NASA-CASE-GSC-12582-2] c 37 N85-20337

**North American Rockwell Corp., Canoga Park, CA.**

- Noncontaminating swabs  
[NASA-CASE-MFS-18100] c 15 N72-11390
- Observation window for a gas confining chamber  
[NASA-CASE-NPO-10890] c 11 N73-12265
- Droplet monitoring probe  
[NASA-CASE-NPO-10985] c 14 N73-20478
- Circuit board package with wedge shaped covers  
[NASA-CASE-MFS-21919-1] c 10 N73-25243
- Heat flow calorimeter  
[NASA-CASE-GSC-11434-1] c 34 N74-27859

**North American Rockwell Corp., Downey, CA.**

- Spacecraft Patent  
[NASA-CASE-MSC-13047-1] c 31 N71-25434
- Latching mechanism Patent  
[NASA-CASE-MSC-15474-1] c 15 N71-26162
- Dye penetrant for surfaces subsequently contacted by liquid oxygen Patent  
[NASA-CASE-XMF-02221] c 18 N71-27170
- Frangible link  
[NASA-CASE-MSC-11849-1] c 15 N72-22488

- Impact monitoring apparatus  
[NASA-CASE-MSC-15626-1] c 14 N72-25411
- Bonding or repairing process  
[NASA-CASE-MSC-12357] c 15 N73-12489
- Self-cycling fluid heater  
[NASA-CASE-MSC-15567-1] c 33 N73-16918
- Phase protection system for ac power lines  
[NASA-CASE-MSC-17832-1] c 33 N74-14956
- Apparatus for remote handling of materials  
[NASA-CASE-LAR-10634-1] c 37 N74-18123
- Grain refinement control in TIG arc welding  
[NASA-CASE-MSC-19095-1] c 37 N75-19683

**North American Rockwell Corp., El Segundo, CA.**

- Apparatus for testing wiring harness by vibration generating means  
[NASA-CASE-MSC-15158-1] c 14 N72-17325

**North American Rockwell Corp., Los Angeles, CA.**

- Tactile sensing means for prosthetic limbs  
[NASA-CASE-MFS-16570-1] c 05 N73-32013

**North Carolina State Univ., Raleigh.**

- Thermal shock resistant hafnia ceramic material  
[NASA-CASE-LAR-10894-1] c 18 N73-14584
- Thermal shock and erosion resistant tantalum carbide ceramic material  
[NASA-CASE-LAR-11902-1] c 27 N78-17206

**Northeastern Univ., Boston, MA.**

- Pulse-width modulation multiplier Patent  
[NASA-CASE-XER-09213] c 07 N71-12390

**Northrop Corp., Hawthorne, CA.**

- Shock tube bypass piston tunnel  
[NASA-CASE-NPO-12109] c 11 N72-22245
- Folding structure fabricated of rigid panels  
[NASA-CASE-XHQ-02146] c 18 N73-27040

**Northrop Nortronics, Palos Verdes Peninsula, CA.**

- Method of making dry electrodes  
[NASA-CASE-FRC-10029-2] c 05 N72-25121
- Valve seat  
[NASA-CASE-NPO-10606] c 15 N72-25451

**Northrop Space Labs., Hawthorne, CA.**

- Method of evaluating moisture barrier properties of encapsulating materials Patent  
[NASA-CASE-NPO-10051] c 18 N71-24934

**Nortronics, Palos Verdes Peninsula, CA.**

- Flexible conductive disc electrode Patent  
[NASA-CASE-FRC-10029] c 09 N71-24618
- Gas low pressure low flow rate metering system Patent  
[NASA-CASE-FRC-10022] c 12 N71-26546
- Method of removing insulated material from insulated wires  
[NASA-CASE-FRC-10038] c 15 N72-20444

**Notre Dame Univ., IN.**

- Synthesis of polymeric schiff bases by schiff-base exchange reactions Patent  
[NASA-CASE-XMF-08651] c 06 N71-11236

- Direct synthesis of polymeric schiff bases from two amines and two aldehydes Patent  
[NASA-CASE-XMF-08655] c 06 N71-11239

- Azine polymers and process for preparing the same Patent  
[NASA-CASE-XMF-08656] c 06 N71-11242

- Synthesis of polymeric schiff bases by reaction of acetals and amine compounds Patent  
[NASA-CASE-XMF-08652] c 06 N71-11243

- Aromatic diamine-aromatic dialdehyde high molecular weight Schiff base polymers prepared in a monofunctional Schiff base Patent  
[NASA-CASE-XMF-03074] c 06 N71-24740

**O****Oakland Univ., Rochester, MI.**

- Optical process for producing classification maps from multispectral data  
[NASA-CASE-MSC-14472-1] c 43 N77-10584

- Interactive color display for multispectral imagery using correlation clustering  
[NASA-CASE-MSC-16253-1] c 32 N79-20297

**Occidental Research Corp., La Verne, CA.**

- Process for preparing higher oxides of the alkali and alkaline earth metals  
[NASA-CASE-ARC-10992-1] c 26 N78-32229

**Ohio State Univ., Columbus.**

- Horn antenna having V-shaped corrugated slots  
[NASA-CASE-LAR-11112-1] c 32 N76-15330

- Distributed-switch Dicke radiometers  
[NASA-CASE-GSC-12219-1] c 35 N80-18359

**Old Dominion Univ., Norfolk, VA.**

- Instrumentation for measuring aircraft noise and sonic boom  
[NASA-CASE-LAR-11476-1] c 07 N76-27232

- Differential sound level meter  
[NASA-CASE-LAR-12106-1] c 71 N78-14867

- High-temperature microphone system  
[NASA-CASE-LAR-12375-1] c 32 N79-24203

- Aerodynamic side-force alleviator means  
[NASA-CASE-LAR-12326-1] c 02 N81-14968
- Leading edge flap system for aircraft control augmentation  
[NASA-CASE-LAR-12787-2] c 08 N85-19985

**Oregon Univ., Portland.**

- Method for separating biological cells  
[NASA-CASE-MFS-23883-1] c 51 N80-16715

**Organon Diagnostics, El Monte, CA.**

- Water system virus detection  
[NASA-CASE-MSC-16098-1] c 51 N79-10693

**P****Packard-Bell Electronics Corp., Newbury Park, CA.**

- Optical alignment system Patent  
[NASA-CASE-XNP-02029] c 14 N70-41955

**Panau Corp., Pennsauken, NJ.**

- Method of forming transparent films of ZnO  
[NASA-CASE-FRC-10019] c 15 N73-12487

**PCR, Inc., Gainesville, FL.**

- Perfluoroalkyl polytriazines containing pendent iododifluoromethyl groups  
[NASA-CASE-ARC-11241-1] c 25 N81-14016

**Peninsular ChemResearch, Inc., Gainesville, FL.**

- Hydroxy terminated perfluoro ethers Patent  
[NASA-CASE-NPO-10768] c 06 N71-27254

- Perfluoro polyether acyl fluorides  
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- Polyurethane resins from hydroxy terminated perfluoro ethers  
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- Highly fluorinated polyurethanes  
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- Carboranylchlorophosphazenes and their polymers  
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- Carboranymethylene-substituted phosphazenes and polymers thereof  
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[NASA-CASE-NPO-10998-1] c 06 N73-32029  
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[NASA-CASE-MSC-18606-1] c 32 N82-11336  
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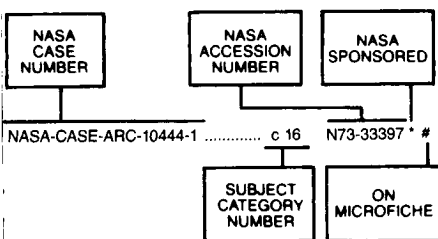
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### Section 2

#### Typical Number Index Listing



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 NAS 1.71:KSC-13678-1 ..... c 76 N88-25355 \* #  
 NAS 1.71:KSC-13689-1 ..... c 35 N87-23941 \* #  
 NAS 1.71:KSC-13696-1 ..... c 37 N89-23880 \* #  
 NAS 1.71:KSC-13705-1 ..... c 39 N88-25011 \* #  
 NAS 1.71:KSC-13710-1 ..... c 35 N88-29145 \* #  
 NAS 1.71:KSC-13719-1 ..... c 37 N89-12867 \* #  
 NAS 1.71:KSC-13724-1 ..... c 38 N88-23983 \* #  
 NAS 1.71:KSC-13738-1 ..... c 18 N87-29586 \* #

NAS 1.71:KSC-13740-1 ..... c 35 N88-30105 \* #  
 NAS 1.71:KSC-13771-1 ..... c 36 N89-14428 \* #  
 NAS 1.71:KSC-13772-1 ..... c 36 N89-28816 \* #  
 NAS 1.71:KSC-13773-1 ..... c 20 N88-24685 \* #  
 NAS 1.71:KSC-13775-1 ..... c 35 N89-14408 \* #  
 NAS 1.71:KSC-13777-1 ..... c 05 N88-29789 \* #  
 NAS 1.71:KSC-13817-1 ..... c 26 N88-29012 \* #  
 NAS 1.71:KSC-13854-1-CU ..... c 04 N88-24621 \* #  
 NAS 1.71:KSC-13875-1 ..... c 05 N89-14233 \* #  
 NAS 1.71:KSC-13889-1 ..... c 39 N88-30160 \* #  
 NAS 1.71:KSC-13898-1 ..... c 37 N88-30130 \* #  
 NAS 1.71:KSC-13925-1 ..... c 27 N89-25334 \* #  
 NAS 1.71:KSC-13952-1-SB ..... c 34 N88-24910 \* #  
 NAS 1.71:KSC-13963-1 ..... c 76 N89-14119 \* #  
 NAS 1.71:KSC-13983-1 ..... c 05 N88-24628 \* #  
 NAS 1.71:KSC-13985-1 ..... c 24 N89-28586 \* #  
 NAS 1.71:KSC-13988-1 ..... c 23 N89-18114 \* #  
 NAS 1.71:KSC-13992-1-CU ..... c 23 N89-13496 \* #  
 NAS 1.71:KSC-14031-1 ..... c 05 N89-14232 \* #  
 NAS 1.71:KSC-14049-1 ..... c 07 N89-23466 \* #  
 NAS 1.71:KSC-14101-1 ..... c 27 N89-23692 \* #  
 NAS 1.71:KSC-14149-1-SB ..... c 14 N89-28547 \* #  
 NAS 1.71:KSC-14203-1 ..... c 36 N89-28817 \* #  
 NAS 1.71:KSC-12995-1 ..... c 37 N84-33808 \* #  
 NAS 1.71:KSC-13324-2 ..... c 24 N85-21266 \* #  
 NAS 1.71:KSC-13414-1 ..... c 44 N85-20530 \* #  
 NAS 1.71:KSC-13495-1 ..... c 33 N84-33663 \* #  
 NAS 1.71:KSC-13524-1 ..... c 07 N84-33410 \* #  
 NAS 1.71:KSC-13639-1 ..... c 26 N84-33555 \* #  
 NAS 1.71:KSC-13770-3 ..... c 27 N85-21350 \* #  
 NAS 1.71:KSC-13770-4 ..... c 27 N85-21351 \* #  
 NAS 1.71:KSC-13770-5 ..... c 27 N85-21352 \* #  
 NAS 1.71:KSC-13827-1 ..... c 44 N85-21768 \* #  
 NAS 1.71:KSC-13833-1 ..... c 33 N85-21492 \* #  
 NAS 1.71:KSC-13837-2 ..... c 24 N85-21267 \* #  
 NAS 1.71:KSC-13881-1 ..... c 20 N85-21256 \* #  
 NAS 1.71:KSC-14080-1 ..... c 31 N85-20153 \* #  
 NAS 1.71:KSC-14124-1 ..... c 35 N89-28806 \* #  
 NAS 1.71:KSC-14127-1 ..... c 33 N86-20680 \* #  
 NAS 1.71:KSC-14203-1 ..... c 27 N88-29984 \* #  
 NAS 1.71:KSC-14295-1 ..... c 31 N89-14348 \* #  
 NAS 1.71:KSC-14346-1 ..... c 23 N87-14433 \* #  
 NAS 1.71:KSC-14472-1 ..... c 24 N89-14259 \* #  
 NAS 1.71:KSC-14520-1 ..... c 33 N88-23936 \* #  
 NAS 1.71:KSC-14679-1 ..... c 27 N89-28651 \* #  
 NAS 1.71:KSC-14695-1 ..... c 37 N89-28830 \* #  
 NAS 1.71:KSC-14698-1 ..... c 24 N88-29888 \* #  
 NAS 1.71:KSC-14734-1 ..... c 24 N89-23623 \* #  
 NAS 1.71:KSC-14848-1 ..... c 14 N89-28549 \* #  
 NAS 1.71:MFS-25302-2 ..... c 33 N84-33660 \* #  
 NAS 1.71:MFS-25637-1 ..... c 44 N85-21769 \* #  
 NAS 1.71:MFS-25717-1 ..... c 35 N84-33768 \* #  
 NAS 1.71:MFS-25721-1 ..... c 25 N85-21280 \* #  
 NAS 1.71:MFS-25852-1 ..... c 33 N84-33661 \* #  
 NAS 1.71:MFS-25861-1 ..... c 33 N85-22877 \* #  
 NAS 1.71:MFS-25862-1 ..... c 27 N85-20126 \* #  
 NAS 1.71:MFS-25862-2 ..... c 37 N84-33807 \* #  
 NAS 1.71:MFS-26002-1-CU ..... c 35 N86-26598 \* #  
 NAS 1.71:MFS-26049-1-NP ..... c 25 N89-28603 \* #  
 NAS 1.71:MFS-26008-1 ..... c 35 N85-20300 \* #  
 NAS 1.71:MFS-28013-1 ..... c 89 N86-22459 \* #  
 NAS 1.71:MFS-28139-1 ..... c 29 N87-18679 \* #  
 NAS 1.71:MFS-28153-1 ..... c 31 N86-32589 \* #  
 NAS 1.71:MFS-28161-1 ..... c 37 N87-18817 \* #  
 NAS 1.71:MFS-28182-1 ..... c 76 N88-25357 \* #  
 NAS 1.71:MFS-28183-1 ..... c 74 N89-13253 \* #  
 NAS 1.71:MFS-28206-1-SB ..... c 76 N88-25356 \* #  
 NAS 1.71:MFS-28248-1 ..... c 31 N88-24817 \* #  
 NAS 1.71:MFS-28273-1 ..... c 37 N88-23974 \* #  
 NAS 1.71:MFS-28281-1 ..... c 09 N88-28938 \* #  
 NAS 1.71:MFS-28282-1 ..... c 76 N88-29602 \* #  
 NAS 1.71:MFS-28287-1 ..... c 35 N88-23959 \* #  
 NAS 1.71:MFS-28327-1 ..... c 18 N89-28556 \* #  
 NAS 1.71:MFS-28345-1 ..... c 37 N89-28841 \* #  
 NAS 1.71:MFS-28345-2 ..... c 37 N89-28842 \* #  
 NAS 1.71:MFS-28370-1 ..... c 35 N89-28793 \* #  
 NAS 1.71:MFS-28376-1 ..... c 14 N89-28546 \* #  
 NAS 1.71:MFS-29149-1 ..... c 33 N87-29737 \* #  
 NAS 1.71:MFS-29260-1 ..... c 37 N88-24972 \* #  
 NAS 1.71:MFS-29291-1 ..... c 37 N89-12868 \* #  
 NAS 1.71:MFS-29489-1 ..... c 31 N89-23739 \* #  
 NAS 1.71:MFS-29491-1 ..... c 31 N89-23738 \* #  
 NAS 1.71:MSC-18578-1 ..... c 32 N85-21427 \* #

NAS 1.71:MSC-18808-1 ..... c 32 N88-23923 \* #  
 NAS 1.71:MSC-20112-1 ..... c 37 N85-20338 \* #  
 NAS 1.71:MSC-20275-1 ..... c 35 N85-21595 \* #  
 NAS 1.71:MSC-20319-1 ..... c 37 N85-21649 \* #  
 NAS 1.71:MSC-20761-1 ..... c 37 N87-15465 \* #  
 NAS 1.71:MSC-20782-1 ..... c 27 N89-13620 \* #  
 NAS 1.71:MSC-20783-1 ..... c 35 N86-20756 \* #  
 NAS 1.71:MSC-20865-1 ..... c 32 N87-18692 \* #  
 NAS 1.71:MSC-20907-1 ..... c 37 N87-18818 \* #  
 NAS 1.71:MSC-21059-1 ..... c 35 N89-12843 \* #  
 NAS 1.71:MSC-21082-1 ..... c 27 N87-29672 \* #  
 NAS 1.71:MSC-21094-1 ..... c 35 N88-24941 \* #  
 NAS 1.71:MSC-21095-1 ..... c 37 N89-12866 \* #  
 NAS 1.71:MSC-21170-1 ..... c 17 N88-24662 \* #  
 NAS 1.71:MSC-21171-1 ..... c 37 N88-23973 \* #  
 NAS 1.71:MSC-21293-1 ..... c 51 N89-14666 \* #  
 NAS 1.71:MSC-21294-1 ..... c 51 N89-13131 \* #  
 NAS 1.71:MSC-21299-1 ..... c 20 N88-24684 \* #  
 NAS 1.71:MSC-21330-1 ..... c 16 N88-24660 \* #  
 NAS 1.71:MSC-21332-1 ..... c 03 N89-11724 \* #  
 NAS 1.71:MSC-21334-1 ..... c 32 N89-25360 \* #  
 NAS 1.71:MSC-21348-1 ..... c 62 N89-24084 \* #  
 NAS 1.71:MSC-21354-1 ..... c 37 N88-24969 \* #  
 NAS 1.71:MSC-21356-1 ..... c 18 N88-24671 \* #  
 NAS 1.71:MSC-21360-1 ..... c 18 N89-25263 \* #  
 NAS 1.71:MSC-21361-1 ..... c 51 N89-25557 \* #  
 NAS 1.71:MSC-21364-1 ..... c 54 N89-13889 \* #  
 NAS 1.71:MSC-21365-1 ..... c 37 N89-12865 \* #  
 NAS 1.71:MSC-21366-1 ..... c 54 N89-12206 \* #  
 NAS 1.71:MSC-21372-1 ..... c 35 N89-12842 \* #  
 NAS 1.71:MSC-21386-1 ..... c 18 N89-28552 \* #  
 NAS 1.71:MSC-21408-1 ..... c 37 N89-28829 \* #  
 NAS 1.71:MSC-21629-1 ..... c 54 N89-29027 \* #  
 NAS 1.71:NPO-13556-1 ..... c 35 N84-33766 \* #  
 NAS 1.71:NPO-15155-1 ..... c 74 N85-22139 \* #  
 NAS 1.71:NPO-15295-1 ..... c 60 N85-21992 \* #  
 NAS 1.71:NPO-15341-1 ..... c 35 N84-33769 \* #  
 NAS 1.71:NPO-15430-1 ..... c 46 N85-21846 \* #  
 NAS 1.71:NPO-15433-1 ..... c 32 N85-21428 \* #  
 NAS 1.71:NPO-15466-1 ..... c 71 N85-22104 \* #  
 NAS 1.71:NPO-15483-1 ..... c 37 N85-21650 \* #  
 NAS 1.71:NPO-15493-2 ..... c 35 N85-34373 \* #  
 NAS 1.71:NPO-15494-2 ..... c 35 N85-34373 \* #  
 NAS 1.71:NPO-15519-1 ..... c 32 N84-34651 \* #  
 NAS 1.71:NPO-15558-1 ..... c 35 N84-34705 \* #  
 NAS 1.71:NPO-15560-1 ..... c 33 N85-21491 \* #  
 NAS 1.71:NPO-15644-1 ..... c 35 N84-33767 \* #  
 NAS 1.71:NPO-15651-1 ..... c 43 N85-21723 \* #  
 NAS 1.71:NPO-15753-1 ..... c 27 N84-33589 \* #  
 NAS 1.71:NPO-15759-1 ..... c 35 N85-21596 \* #  
 NAS 1.71:NPO-15790-1 ..... c 36 N85-21631 \* #  
 NAS 1.71:NPO-15801-1 ..... c 74 N85-23396 \* #  
 NAS 1.71:NPO-15808-1 ..... c 44 N84-34792 \* #  
 NAS 1.71:NPO-15851-1 ..... c 37 N85-21652 \* #  
 NAS 1.71:NPO-15920-1 ..... c 33 N85-21493 \* #  
 NAS 1.71:NPO-16022-1 ..... c 71 N85-22105 \* #  
 NAS 1.71:NPO-16027-1 ..... c 35 N85-21597 \* #  
 NAS 1.71:NPO-16233-1 ..... c 37 N86-20801 \* #  
 NAS 1.71:NPO-16306-1-CU ..... c 76 N85-30934 \* #  
 NAS 1.71:NPO-16420-1 ..... c 33 N86-20681 \* #  
 NAS 1.71:NPO-16464-1-CU ..... c 60 N86-24224 \* #  
 NAS 1.71:NPO-16494-1-CU ..... c 34 N85-29182 \* #  
 NAS 1.71:NPO-16584-1-CU ..... c 76 N86-25269 \* #  
 NAS 1.71:NPO-16632-1-CU ..... c 32 N87-15390 \* #  
 NAS 1.71:NPO-16784-1 ..... c 33 N87-10231 \* #  
 NAS 1.71:NPO-16869 ..... c 74 N86-33138 \* #  
 NAS 1.71:NPO-16882-1-CU ..... c 33 N88-24863 \* #  
 NAS 1.71:NPO-16892-1-CU ..... c 37 N87-14704 \* #  
 NAS 1.71:NPO-16901-1-CU ..... c 31 N87-15327 \* #  
 NAS 1.71:NPO-16932-1 ..... c 33 N87-15413 \* #  
 NAS 1.71:NPO-16949-1-CU ..... c 62 N87-19021 \* #  
 NAS 1.71:NPO-16985-1-CU ..... c 31 N88-24814 \* #  
 NAS 1.71:NPO-16987-1-CU ..... c 32 N88-30001 \* #  
 NAS 1.71:NPO-16989-1-CU ..... c 35 N88-28794 \* #  
 NAS 1.71:NPO-17024-1-CU ..... c 35 N88-24943 \* #  
 NAS 1.71:NPO-17134-1-CU ..... c 33 N88-24864 \* #  
 NAS 1.71:NPO-17139-1-CU ..... c 74 N88-25301 \* #  
 NAS 1.71:NPO-17144-1-CU ..... c 74 N88-25305 \* #  
 NAS 1.71:NPO-17184-1-CU ..... c 32 N88-26541 \* #  
 NAS 1.71:NPO-17197-1-CU ..... c 62 N89-29976 \* #  
 NAS 1.71:NPO-17203-1-CU ..... c 34 N89-13728 \* #  
 NAS 1.71:NPO-17207-1-CU ..... c 74 N88-25304 \* #

NAS 1.71:NPO-17233-1-CU	c 33	N88-29095 *	#	NASA-CASE-ARC-10462-1	c 37	N74-27901 *	NASA-CASE-ARC-11057-1	c 27	N78-31233 *
NAS 1.71:NPO-17259-1-CU	c 76	N88-25358 *	#	NASA-CASE-ARC-10463-1	c 09	N73-32111 *	NASA-CASE-ARC-11058-1	c 54	N78-31735 *
NAS 1.71:NPO-17275-1-CU	c 37	N89-29750 *	#	NASA-CASE-ARC-10464-1	c 27	N74-12812 *	NASA-CASE-ARC-11058-2	c 54	N79-24651 *
NAS 1.71:NPO-17278-1-CU	c 31	N88-24818 *	#	NASA-CASE-ARC-10466-1	c 60	N75-13539 *	NASA-CASE-ARC-11059-1	c 54	N78-32721 *
NAS 1.71:NPO-17280-1-CU	c 17	N88-27220 *	#	NASA-CASE-ARC-10467-1	c 09	N73-14214 *	NASA-CASE-ARC-11060-1	c 27	N79-22300 *
NAS 1.71:NPO-17282-1-CU	c 36	N89-12856 *	#	NASA-CASE-ARC-10468-1	c 14	N73-33361 *	NASA-CASE-ARC-11097-1	c 25	N82-24312 *
NAS 1.71:NPO-17291-1-CU	c 34	N88-23946 *	#	NASA-CASE-ARC-10469-1	c 25	N75-12086 *	NASA-CASE-ARC-11100-1	c 54	N78-31736 *
NAS 1.71:NPO-17310-1-CU	c 17	N88-28946 *	#	NASA-CASE-ARC-10470-1	c 02	N73-26005 *	NASA-CASE-ARC-11101-1	c 54	N78-17675 *
NAS 1.71:NPO-17325-1-CU	c 32	N88-24846 *	#	NASA-CASE-ARC-10470-3	c 05	N76-29217 *	NASA-CASE-ARC-11104-1	c 15	N79-26100 *
NAS 1.71:NPO-17334-1-CU	c 31	N88-23917 *	#	NASA-CASE-ARC-10516-1	c 70	N74-21300 *	NASA-CASE-ARC-11106-1	c 05	N80-14107 *
NAS 1.71:NPO-17354-1-CU	c 37	N88-24973 *	#	NASA-CASE-ARC-10519-2	c 05	N75-25915 *	NASA-CASE-ARC-11107-1	c 25	N80-16116 *
NAS 1.71:NPO-17390-1-CU	c 35	N88-24944 *	#	NASA-CASE-ARC-10583-1	c 52	N76-29894 *	NASA-CASE-ARC-11110-1	c 37	N82-24492 *
NAS 1.71:NPO-17393-1-CU	c 33	N89-29679 *	#	NASA-CASE-ARC-10592-1	c 27	N74-21156 *	NASA-CASE-ARC-11114-1	c 51	N81-14605 *
NAS 1.71:NPO-17399-1-CU	c 76	N89-14120 *	#	NASA-CASE-ARC-10592-2	c 27	N76-32315 *	NASA-CASE-ARC-11116-1	c 33	N82-24420 *
NAS 1.71:NPO-17436-1-CU	c 35	N89-13764 *	#	NASA-CASE-ARC-10593-1	c 33	N74-27682 *	NASA-CASE-ARC-11117-1	c 52	N81-14612 *
NAS 1.71:NPO-17453-1-CU	c 37	N89-13787 *	#	NASA-CASE-ARC-10596-1	c 33	N74-21851 *	NASA-CASE-ARC-11118-1	c 52	N81-29764 *
NAS 1.71:NPO-17525-1-CU	c 60	N89-29955 *	#	NASA-CASE-ARC-10597-1	c 52	N74-20726 *	NASA-CASE-ARC-11118-2	c 52	N81-14613 *
NAS 1.71:NPO-17526-1-CU	c 35	N89-28796 *	#	NASA-CASE-ARC-10598-1	c 75	N74-30156 *	NASA-CASE-ARC-11120-1	c 52	N80-18691 *
NAS 1.71:NPO-17534-1-CU	c 76	N89-30076 *	#	NASA-CASE-ARC-10599-1	c 05	N73-26071 *	NASA-CASE-ARC-11121-1	c 25	N79-14169 *
NAS 1.71:NPO-17543-1-CU	c 74	N89-30044 *	#	NASA-CASE-ARC-10631-1	c 74	N76-20958 *	NASA-CASE-ARC-11154-1	c 25	N80-23383 *
NAS 1.71:NPO-17562-1-CU	c 74	N89-24153 *	#	NASA-CASE-ARC-10633-1	c 25	N74-26947 *	NASA-CASE-ARC-11157-1	c 37	N80-18393 *
NAS 1.71:NPO-17596-1-CU	c 35	N89-28795 *	#	NASA-CASE-ARC-10637-1	c 35	N75-16783 *	NASA-CASE-ARC-11158-1	c 09	N82-24212 *
NAS 1.71:NPO-17628-1-CU	c 32	N89-28684 *	#	NASA-CASE-ARC-10639-1	c 35	N78-13400 *	NASA-CASE-ARC-11164-1	c 44	N83-34448 *
NAS 1.71:NPO-17630-1-CU	c 31	N89-29577 *	#	NASA-CASE-ARC-10642-1	c 36	N76-14447 *	NASA-CASE-ARC-11167-1	c 52	N81-25662 *
NAS 1.71:NPO-17703-1-CU	c 74	N89-29191 *	#	NASA-CASE-ARC-10643-1	c 25	N75-12087 *	NASA-CASE-ARC-11169-1	c 24	N79-24062 *
NAS 1.71:NPO-17785-1-CU	c 37	N89-28846 *	#	NASA-CASE-ARC-10710-1	c 09	N75-12969 *	NASA-CASE-ARC-11170-1	c 27	N79-11215 *
NAS 1.71:NST-00007-1	c 45	N89-28967 *	#	NASA-CASE-ARC-10711-2	c 33	N76-21390 *	NASA-CASE-ARC-11174-1	c 24	N81-13999 *
NAS 1.71:WLP-10055-2	c 35	N85-21598 *	#	NASA-CASE-ARC-10712-1	c 07	N74-33218 *	NASA-CASE-ARC-11176-1	c 27	N82-18389 *
NASA-CASE-ARC-10003-1	c 09	N71-25866 *	#	NASA-CASE-ARC-10714-1	c 27	N76-15310 *	NASA-CASE-ARC-11176-2	c 27	N81-27271 *
NASA-CASE-ARC-10009-1	c 15	N71-17822 *	#	NASA-CASE-ARC-10716-1	c 35	N77-20399 *	NASA-CASE-ARC-11241-1	c 25	N81-14016 *
NASA-CASE-ARC-10017-1	c 14	N72-29464 *	#	NASA-CASE-ARC-10721-1	c 27	N76-22376 *	NASA-CASE-ARC-11243-2	c 23	N85-33187 *
NASA-CASE-ARC-10020	c 10	N72-17172 *	#	NASA-CASE-ARC-10722-1	c 51	N75-25503 *	NASA-CASE-ARC-11244-1	c 23	N82-16174 *
NASA-CASE-ARC-10030	c 09	N71-12521 *	#	NASA-CASE-ARC-10753-1	c 54	N75-27760 *	NASA-CASE-ARC-11245-1	c 28	N82-18401 *
NASA-CASE-ARC-10042-2	c 10	N72-11256 *	#	NASA-CASE-ARC-10754-1	c 07	N75-24736 *	NASA-CASE-ARC-11246-1	c 31	N83-34073 *
NASA-CASE-ARC-10043-1	c 05	N71-11193 *	#	NASA-CASE-ARC-10755-2	c 34	N76-27517 *	NASA-CASE-ARC-11248-1	c 27	N81-17259 *
NASA-CASE-ARC-10050	c 03	N71-33409 *	#	NASA-CASE-ARC-10756-1	c 54	N77-32721 *	NASA-CASE-ARC-11251-1	c 37	N81-17433 *
NASA-CASE-ARC-10097-2	c 07	N73-25160 *	#	NASA-CASE-ARC-10760-1	c 25	N76-22323 *	NASA-CASE-ARC-11252-1	c 25	N83-36118 *
NASA-CASE-ARC-10098-1	c 06	N71-24739 *	#	NASA-CASE-ARC-10761-1	c 07	N77-18154 *	NASA-CASE-ARC-11253-1	c 27	N81-17262 *
NASA-CASE-ARC-10099-1	c 18	N71-15469 *	#	NASA-CASE-ARC-10802-1	c 35	N75-30502 *	NASA-CASE-ARC-11253-2	c 27	N82-24338 *
NASA-CASE-ARC-10100-1	c 05	N71-24738 *	#	NASA-CASE-ARC-10806-1	c 35	N75-29381 *	NASA-CASE-ARC-11253-3	c 27	N81-24256 *
NASA-CASE-ARC-10101-1	c 09	N71-33109 *	#	NASA-CASE-ARC-10807-1	c 05	N77-17029 *	NASA-CASE-ARC-11256-1	c 15	N82-24272 *
NASA-CASE-ARC-10105	c 09	N72-17153 *	#	NASA-CASE-ARC-10808-1	c 09	N76-24280 *	NASA-CASE-ARC-11257-1	c 04	N81-21047 *
NASA-CASE-ARC-10106-1	c 28	N72-22769 *	#	NASA-CASE-ARC-10810-1	c 33	N76-19339 *	NASA-CASE-ARC-11258-1	c 52	N80-33081 *
NASA-CASE-ARC-10131-1	c 15	N71-27754 *	#	NASA-CASE-ARC-10812-1	c 07	N83-33884 *	NASA-CASE-ARC-11261-1	c 24	N83-25789 *
NASA-CASE-ARC-10132-1	c 09	N71-24597 *	#	NASA-CASE-ARC-10813-1	c 27	N76-16230 *	NASA-CASE-ARC-11264-2	c 52	N83-29991 *
NASA-CASE-ARC-10134	c 30	N72-17873 *	#	NASA-CASE-ARC-10814-2	c 07	N80-26298 *	NASA-CASE-ARC-11267-2	c 23	N82-24338 *
NASA-CASE-ARC-10136-1	c 09	N72-22202 *	#	NASA-CASE-ARC-10816-1	c 35	N76-24525 *	NASA-CASE-ARC-11310-1	c 27	N82-24339 *
NASA-CASE-ARC-10137-1	c 09	N71-28468 *	#	NASA-CASE-ARC-10820-1	c 35	N78-19466 *	NASA-CASE-ARC-11311-1	c 74	N83-13978 *
NASA-CASE-ARC-10138-1	c 14	N72-24477 *	#	NASA-CASE-ARC-10849-1	c 17	N76-29347 *	NASA-CASE-ARC-11312-1	c 36	N83-34304 *
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NASA-CASE-ERC-10174	c 14	N72-25409 *	NASA-CASE-GSC-10087-1	c 02	N71-19287 *	NASA-CASE-GSC-11215-1	c 09	N73-28083 *
NASA-CASE-ERC-10178	c 16	N71-24832 *	NASA-CASE-GSC-10087-2	c 21	N71-13958 *	NASA-CASE-GSC-11222-1	c 16	N73-32391 *
NASA-CASE-ERC-10179	c 07	N72-20141 *	NASA-CASE-GSC-10087-3	c 07	N72-12080 *	NASA-CASE-GSC-11239-1	c 10	N73-25241 *
NASA-CASE-ERC-10180-1	c 60	N74-20836 *	NASA-CASE-GSC-10087-4	c 07	N73-20174 *	NASA-CASE-GSC-11262-1	c 36	N74-21091 *
NASA-CASE-ERC-10187	c 16	N69-31343 *	NASA-CASE-GSC-10097-1	c 08	N71-27210 *	NASA-CASE-GSC-11291-1	c 25	N72-33696 *
NASA-CASE-ERC-10208	c 15	N70-10867 *	NASA-CASE-GSC-10114-1	c 10	N71-27366 *	NASA-CASE-GSC-11296-1	c 23	N73-30666 *
NASA-CASE-ERC-10214	c 09	N72-31235 *	NASA-CASE-GSC-10118-1	c 07	N71-24621 *	NASA-CASE-GSC-11302-1	c 14	N73-13416 *
NASA-CASE-ERC-10222	c 09	N72-22199 *	NASA-CASE-GSC-10131-1	c 07	N71-24624 *	NASA-CASE-GSC-11304-1	c 06	N72-21105 *
NASA-CASE-ERC-10224-2	c 09	N73-27150 *	NASA-CASE-GSC-10135	c 33	N78-17296 *	NASA-CASE-GSC-11340-1	c 10	N72-33230 *
NASA-CASE-ERC-10224	c 09	N72-25261 *	NASA-CASE-GSC-10185-1	c 07	N72-12081 *	NASA-CASE-GSC-11353-1	c 74	N74-21304 *
NASA-CASE-ERC-10226-1	c 14	N73-16483 *	NASA-CASE-GSC-10186	c 08	N71-33110 *	NASA-CASE-GSC-11358-1	c 06	N73-26100 *
NASA-CASE-ERC-10248	c 14	N72-17323 *	NASA-CASE-GSC-10188-1	c 23	N71-24725 *	NASA-CASE-GSC-11367-1	c 44	N74-19692 *
NASA-CASE-ERC-10267	c 09	N72-23173 *	NASA-CASE-GSC-10216-1	c 23	N71-26722 *	NASA-CASE-GSC-11367	c 10	N71-26374 *
NASA-CASE-ERC-10268	c 09	N72-25252 *	NASA-CASE-GSC-10218-1	c 15	N72-21465 *	NASA-CASE-GSC-11368-1	c 09	N73-32108 *
NASA-CASE-ERC-10275	c 26	N72-25680 *	NASA-CASE-GSC-10220-1	c 07	N71-27233 *	NASA-CASE-GSC-11394-1	c 09	N73-32109 *
NASA-CASE-ERC-10276	c 14	N73-26432 *	NASA-CASE-GSC-10221-1	c 09	N72-23171 *	NASA-CASE-GSC-11425-1	c 76	N74-20329 *
NASA-CASE-ERC-10283	c 16	N72-25485 *	NASA-CASE-GSC-10225-1	c 06	N73-27086 *	NASA-CASE-GSC-11425-2	c 76	N75-25730 *
NASA-CASE-ERC-10285	c 10	N73-16206 *	NASA-CASE-GSC-10299-1	c 09	N71-24804 *	NASA-CASE-GSC-11428-1	c 32	N74-20864 *
NASA-CASE-ERC-10292	c 14	N72-25410 *	NASA-CASE-GSC-10303	c 15	N72-22487 *	NASA-CASE-GSC-11434-1	c 34	N74-27859 *
NASA-CASE-ERC-10307	c 08	N72-21198 *	NASA-CASE-GSC-10306-1	c 15	N71-24694 *	NASA-CASE-GSC-11444-1	c 14	N73-28490 *
NASA-CASE-ERC-10324	c 07	N72-25173 *	NASA-CASE-GSC-10344-1	c 03	N72-27053 *	NASA-CASE-GSC-11445-1	c 31	N74-27902 *
NASA-CASE-ERC-10325	c 15	N72-25457 *	NASA-CASE-GSC-10349-1	c 44	N82-24645 *	NASA-CASE-GSC-11446-1	c 33	N74-20860 *



NASA-CASE-GSC-11479-1	c 35	N74-28097 *	NASA-CASE-GSC-12173-1	c 51	N79-10694 *	NASA-CASE-GSC-12880-1	c 26	N86-32550 *
NASA-CASE-GSC-11487-1	c 14	N73-30393 *	NASA-CASE-GSC-12190-1	c 33	N79-12321 *	NASA-CASE-GSC-12883-1	c 27	N85-29044 *
NASA-CASE-GSC-11492-1	c 35	N74-26949 *	NASA-CASE-GSC-12191-1	c 31	N80-32583 *	NASA-CASE-GSC-12892-1	c 32	N89-14374 *
NASA-CASE-GSC-11513-1	c 33	N74-20862 *	NASA-CASE-GSC-12194-2	c 20	N82-18314 *	NASA-CASE-GSC-12897-1	c 74	N87-21679 *
NASA-CASE-GSC-11514-1	c 03	N72-24037 *	NASA-CASE-GSC-12207-1	c 24	N79-14156 *	NASA-CASE-GSC-12899-1	c 33	N86-20669 *
NASA-CASE-GSC-11531-1	c 52	N74-27566 *	NASA-CASE-GSC-12219-1	c 35	N80-18359 *	NASA-CASE-GSC-12911-1	c 74	N86-29650 *
NASA-CASE-GSC-11533-1	c 14	N73-13435 *	NASA-CASE-GSC-12223-1	c 60	N83-25378 *	NASA-CASE-GSC-12944-1	c 52	N86-19885 *
NASA-CASE-GSC-11551-1	c 37	N76-18459 *	NASA-CASE-GSC-12225-1	c 74	N79-14891 *	NASA-CASE-GSC-12956-1	c 35	N87-14671 *
NASA-CASE-GSC-11553-1	c 35	N74-15831 *	NASA-CASE-GSC-12228-1	c 33	N79-10398 *	NASA-CASE-GSC-12957-1	c 37	N87-17038 *
NASA-CASE-GSC-11560-1	c 33	N74-20861 *	NASA-CASE-GSC-12237-1	c 36	N80-14384 *	NASA-CASE-GSC-12958-1	c 33	N86-32624 *
NASA-CASE-GSC-11569-1	c 89	N74-30886 *	NASA-CASE-GSC-12253-1	c 34	N79-31523 *	NASA-CASE-GSC-12961-1	c 33	N87-22895 *
NASA-CASE-GSC-11571-1	c 36	N77-25499 *	NASA-CASE-GSC-12263-1	c 74	N79-20857 *	NASA-CASE-GSC-12970-1	c 08	N88-23808 *
NASA-CASE-GSC-11577-1	c 37	N75-15992 *	NASA-CASE-GSC-12273-1	c 35	N80-21719 *	NASA-CASE-GSC-13008-1	c 27	N88-23894 *
NASA-CASE-GSC-11577-3	c 24	N79-25143 *	NASA-CASE-GSC-12274-1	c 37	N79-28550 *	NASA-CASE-GSC-13018-1	c 33	N87-21232 *
NASA-CASE-GSC-11582-1	c 33	N75-19517 *	NASA-CASE-GSC-12289-1	c 37	N80-32717 *	NASA-CASE-GSC-13019-1	c 34	N88-29133 *
NASA-CASE-GSC-11600-1	c 35	N74-21019 *	NASA-CASE-GSC-12291-1	c 76	N80-18951 *	NASA-CASE-GSC-13112-1	c 31	N89-29578 *
NASA-CASE-GSC-11602-1	c 33	N74-21850 *	NASA-CASE-GSC-12297-1	c 37	N79-28549 *			
NASA-CASE-GSC-11617-1	c 33	N74-32660 *	NASA-CASE-GSC-12303-1	c 24	N79-31347 *	NASA-CASE-HQN-00573-1	c 37	N79-33468 *
NASA-CASE-GSC-11619-1	c 34	N75-12222 *	NASA-CASE-GSC-12318-1	c 37	N80-23655 *	NASA-CASE-HQN-00936	c 31	N71-29050 *
NASA-CASE-GSC-11620-1	c 34	N74-23039 *	NASA-CASE-GSC-12321-1	c 36	N82-16396 *	NASA-CASE-HQN-00937	c 07	N71-28979 *
NASA-CASE-GSC-11623-1	c 33	N75-25040 *	NASA-CASE-GSC-12322-1	c 37	N80-14398 *	NASA-CASE-HQN-00938	c 33	N71-29053 *
NASA-CASE-GSC-11743-1	c 32	N75-24981 *	NASA-CASE-GSC-12324-1	c 33	N81-33403 *	NASA-CASE-HQN-10037-1	c 14	N73-27376 *
NASA-CASE-GSC-11744-1	c 33	N75-26243 *	NASA-CASE-GSC-12331-1	c 18	N80-14183 *	NASA-CASE-HQN-10069	c 33	N75-27251 *
NASA-CASE-GSC-11746-1	c 36	N75-19654 *	NASA-CASE-GSC-12334-1	c 36	N79-14362 *	NASA-CASE-HQN-10274-1	c 27	N82-29451 *
NASA-CASE-GSC-11752-1	c 77	N75-20140 *	NASA-CASE-GSC-12347-1	c 33	N80-18286 *	NASA-CASE-HQN-10328-2	c 27	N82-29454 *
NASA-CASE-GSC-11760-1	c 33	N75-19516 *	NASA-CASE-GSC-12348-1	c 74	N80-24149 *	NASA-CASE-HQN-10364	c 06	N71-27363 *
NASA-CASE-GSC-11782-1	c 74	N76-30053 *	NASA-CASE-GSC-12354-1	c 35	N82-24471 *	NASA-CASE-HQN-10439	c 21	N72-21624 *
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NASA-CASE-GSC-11786-1	c 24	N76-24363 *	NASA-CASE-GSC-12360-1	c 33	N81-19392 *	NASA-CASE-HQN-10537-1	c 06	N72-10138 *
NASA-CASE-GSC-11789-1	c 33	N77-14333 *	NASA-CASE-GSC-12365-1	c 32	N80-28578 *	NASA-CASE-HQN-10541-1	c 07	N71-26291 *
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NASA-CASE-GSC-11829-1	c 35	N75-27331 *	NASA-CASE-GSC-12411-1	c 33	N81-14221 *	NASA-CASE-HQN-10541-3	c 23	N72-23695 *
NASA-CASE-GSC-11839-1	c 60	N77-14751 *	NASA-CASE-GSC-12415-1	c 33	N82-24419 *	NASA-CASE-HQN-10541-4	c 16	N71-27183 *
NASA-CASE-GSC-11839-2	c 60	N78-10709 *	NASA-CASE-GSC-12420-1	c 33	N82-16340 *	NASA-CASE-HQN-10542-1	c 74	N75-25706 *
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NASA-CASE-GSC-11844-1	c 33	N75-19522 *	NASA-CASE-GSC-12430-1	c 60	N82-16747 *	NASA-CASE-HQN-10638-1	c 15	N73-30460 *
NASA-CASE-GSC-11849-1	c 33	N76-16332 *	NASA-CASE-GSC-12447-2	c 60	N84-28491 *	NASA-CASE-HQN-10654-1	c 16	N73-13489 *
NASA-CASE-GSC-11862-1	c 32	N76-18295 *	NASA-CASE-GSC-12508-1	c 04	N84-22546 *	NASA-CASE-HQN-10683	c 14	N71-34389 *
NASA-CASE-GSC-11868-1	c 17	N76-22245 *	NASA-CASE-GSC-12513-1	c 31	N81-19343 *	NASA-CASE-HQN-10703	c 21	N73-13643 *
NASA-CASE-GSC-11877-1	c 74	N76-18913 *	NASA-CASE-GSC-12515-1	c 33	N81-26360 *	NASA-CASE-HQN-10740-1	c 72	N74-19310 *
NASA-CASE-GSC-11883-1	c 37	N77-19458 *	NASA-CASE-GSC-12517-1	c 37	N83-32067 *	NASA-CASE-HQN-10756-1	c 14	N72-25428 *
NASA-CASE-GSC-11883-2	c 37	N78-31426 *	NASA-CASE-GSC-12518-1	c 33	N82-24421 *	NASA-CASE-HQN-10780	c 14	N71-30265 *
NASA-CASE-GSC-11889-1	c 35	N76-16393 *	NASA-CASE-GSC-12528-1	c 74	N81-24900 *	NASA-CASE-HQN-10781	c 23	N71-30292 *
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NASA-CASE-GSC-11902-1	c 38	N77-17495 *	NASA-CASE-GSC-12558-1	c 36	N85-21638 *	NASA-CASE-HQN-10844-1	c 36	N75-19653 *
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NASA-CASE-GSC-11917-2	c 51	N76-29891 *	NASA-CASE-GSC-12565-1	c 36	N84-14509 *	NASA-CASE-HQN-10876-1	c 33	N76-27473 *
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NASA-CASE-GSC-11925-1	c 33	N76-18353 *	NASA-CASE-GSC-12567-1	c 33	N84-22887 *	NASA-CASE-HQN-10888-1	c 44	N79-14527 *
NASA-CASE-GSC-11960-1	c 37	N77-14479 *	NASA-CASE-GSC-12582-2	c 37	N85-20337 *	NASA-CASE-HQN-10931-2	c 27	N82-29452 *
NASA-CASE-GSC-11963-1	c 33	N77-10429 *	NASA-CASE-GSC-12584-1	c 37	N82-32730 *			
NASA-CASE-GSC-11968-1	c 32	N76-15329 *	NASA-CASE-GSC-12587-1	c 35	N82-32659 *	NASA-CASE-KSC-10002	c 10	N71-25865 *
NASA-CASE-GSC-11974-1	c 37	N77-19458 *	NASA-CASE-GSC-12592-1	c 36	N84-28065 *	NASA-CASE-KSC-10003	c 10	N73-13235 *
NASA-CASE-GSC-11975-1	c 37	N77-19458 *	NASA-CASE-GSC-12595-1	c 33	N82-24422 *	NASA-CASE-KSC-10020	c 10	N71-27338 *
NASA-CASE-GSC-11976-1	c 43	N78-10529 *	NASA-CASE-GSC-12608-1	c 74	N83-10900 *	NASA-CASE-KSC-10031	c 15	N72-22486 *
NASA-CASE-GSC-11978-1	c 37	N77-17464 *	NASA-CASE-GSC-12609-1	c 36	N81-22344 *	NASA-CASE-KSC-10108	c 14	N73-25461 *
NASA-CASE-GSC-11989-1	c 74	N77-28932 *	NASA-CASE-GSC-12609-2	c 36	N83-29681 *	NASA-CASE-KSC-10126	c 11	N71-24985 *
NASA-CASE-GSC-11998-1	c 34	N77-32413 *	NASA-CASE-GSC-12614-1	c 74	N83-32577 *	NASA-CASE-KSC-10162	c 09	N72-11225 *
NASA-CASE-GSC-12010-1	c 74	N78-18905 *	NASA-CASE-GSC-12619-1	c 37	N84-12491 *	NASA-CASE-KSC-10164	c 07	N71-33108 *
NASA-CASE-GSC-12017-1	c 32	N77-30308 *	NASA-CASE-GSC-12622-1	c 37	N84-12492 *	NASA-CASE-KSC-10198	c 11	N71-28629 *
NASA-CASE-GSC-12018-1	c 33	N77-14334 *	NASA-CASE-GSC-12630-1	c 33	N83-36355 *	NASA-CASE-KSC-10242	c 15	N72-23497 *
NASA-CASE-GSC-12022-1	c 44	N76-28635 *	NASA-CASE-GSC-12636-1	c 31	N83-27058 *	NASA-CASE-KSC-10278	c 05	N72-16015 *
NASA-CASE-GSC-12022-2	c 44	N78-24609 *	NASA-CASE-GSC-12640-1	c 74	N84-11920 *	NASA-CASE-KSC-10294	c 14	N72-18411 *
NASA-CASE-GSC-12023-1	c 44	N76-28635 *	NASA-CASE-GSC-12643-1	c 37	N83-26078 *	NASA-CASE-KSC-10326	c 08	N72-21197 *
NASA-CASE-GSC-12030-1	c 44	N78-24608 *	NASA-CASE-GSC-12645-1	c 33	N84-16454 *	NASA-CASE-KSC-10392	c 07	N73-26117 *
NASA-CASE-GSC-12032-2	c 43	N82-13465 *	NASA-CASE-GSC-12646-1	c 33	N83-34191 *	NASA-CASE-KSC-10393	c 09	N72-21247 *
NASA-CASE-GSC-12039-1	c 51	N77-22794 *	NASA-CASE-GSC-12650-1	c 33	N84-14421 *	NASA-CASE-KSC-10397	c 08	N72-25206 *
NASA-CASE-GSC-12044-1	c 60	N78-17691 *	NASA-CASE-GSC-12652-1	c 52	N84-34913 *	NASA-CASE-KSC-10513	c 15	N72-25453 *
NASA-CASE-GSC-12046-1	c 52	N79-14750 *	NASA-CASE-GSC-12682-1	c 35	N84-33765 *	NASA-CASE-KSC-10521	c 07	N73-20176 *
NASA-CASE-GSC-12053-1	c 32	N77-28346 *	NASA-CASE-GSC-12683-1	c 74	N83-36898 *	NASA-CASE-KSC-10565	c 09	N72-25250 *
NASA-CASE-GSC-12058-1	c 74	N77-26942 *	NASA-CASE-GSC-12686-1	c 27	N83-34039 *	NASA-CASE-KSC-10595	c 08	N73-12176 *
NASA-CASE-GSC-12059-1	c 35	N77-27366 *	NASA-CASE-GSC-12697-1	c 44	N83-28574 *	NASA-CASE-KSC-10615	c 15	N73-12486 *
NASA-CASE-GSC-12075-1	c 32	N77-31350 *	NASA-CASE-GSC-12726-1	c 37	N83-34323 *	NASA-CASE-KSC-10622-1	c 31	N72-21893 *
NASA-CASE-GSC-12077-1	c 35	N77-24455 *	NASA-CASE-GSC-12756-1	c 74	N84-23248 *	NASA-CASE-KSC-10626	c 14	N73-27378 *
NASA-CASE-GSC-12081-2	c 52	N82-22875 *	NASA-CASE-GSC-12761-1	c 74	N86-32266 *	NASA-CASE-KSC-10639	c 15	N73-26472 *
NASA-CASE-GSC-12082-1	c 54	N76-22914 *	NASA-CASE-GSC-12762-1	c 37	N84-28083 *	NASA-CASE-KSC-10644	c 09	N72-27227 *
NASA-CASE-GSC-12082-2	c 52	N81-25661 *	NASA-CASE-GSC-12770-1	c 25	N83-29324 *	NASA-CASE-KSC-10647-1	c 10	N72-31273 *
NASA-CASE-GSC-12083-1	c 73	N78-32848 *	NASA-CASE-GSC-12771-1	c 34	N84-14461 *	NASA-CASE-KSC-10654-1	c 07	N73-30115 *
NASA-CASE-GSC-12088-1	c 74	N78-13874 *	NASA-CASE-GSC-12773-2	c 33	N87-23904 *	NASA-CASE-KSC-10698	c 07	N73-20175 *
NASA-CASE-GSC-12110-1	c 27	N77-32308 *	NASA-CASE-GSC-12782-1	c 33	N88-14271 *	NASA-CASE-KSC-10723-1	c 37	N75-13265 *
NASA-CASE-GSC-12111-2	c 33	N81-29342 *	NASA-CASE-GSC-12788-1	c 33	N85-29145 *	NASA-CASE-KSC-10728-1	c 14	N73-32319 *
NASA-CASE-GSC-12115-1	c 62	N76-31946 *	NASA-CASE-GSC-12789-1	c 35	N85-20294 *	NASA-CASE-KSC-10729-1	c 09	N73-32110 *
NASA-CASE-GSC-12137-1	c 33	N78-32338 *	NASA-CASE-GSC-12795-1	c 35	N86-19580 *	NASA-CASE-KSC-10730-1	c 14	N73-32318 *
NASA-CASE-GSC-12138-1	c 33	N79-20314 *	NASA-CASE-GSC-12799-1	c 31	N85-21404 *	NASA-CASE-KSC-10731-1	c 33	N74-27862 *
NASA-CASE-GSC-12143-1	c 35	N77-32456 *	NASA-CASE-GSC-12804-1	c 33	N86-20668 *	NASA-CASE-KSC-10736-1	c 33	N75-19521 *
NASA-CASE-GSC-12145-1	c 33	N78-32339 *	NASA-CASE-GSC-12808-1	c 25	N85-21279 *	NASA-CASE-KSC-10750-1	c 35	N75-12270 *
NASA-CASE-GSC-12146-1	c 33	N78-32340 *	NASA-CASE-GSC-12812-1	c 34	N83-35307 *	NASA-CASE-KSC-10769-1	c 33	N74-29556 *
NASA-CASE-GSC-12147-1	c 32	N81-27341 *	NASA-CASE-GSC-12816-1	c 76	N86-20150 *	NASA-CASE-KSC-10782-1	c 33	N75-30431 *
NASA-CASE-GSC-12148-1	c 32	N79-20296 *	NASA-CASE-GSC-12817-1	c 33	N85-29146 *	NASA-CASE-KSC-10807-1	c 33	N75-26246 *
NASA-CASE-GSC-12150-1	c 32	N79-11265 *	NASA-CASE-GSC-12818-1	c 33	N85-29147 *	NASA-CASE-KSC-10834-1	c 33	N76-14371 *
NASA-CASE-GSC-12158-1	c 51	N83-27569 *	NASA-CASE-GSC-12825-1	c 74	N86-28732 *	NASA-CASE-KSC-10849-1	c 52	N77-14738 *
NASA-CASE-GSC-12168-1	c 31	N79-17029 *	NASA-CASE-GSC-12849-1	c 74	N86-26190 *	NASA-CASE-KSC-10891-1	c 33	N79-18193 *
NASA-CASE-GSC-12171-1	c 33	N79-28416 *	NASA-CASE-GSC-12851-1	c 35	N85-30281 *	NASA-CASE-KSC-11004-1	c 54	N77-30749 *

NASA-CASE-KSC-11008-1	c 33	N79-22373 *	NASA-CASE-LAR-10439-1	c 33	N73-27796 *	NASA-CASE-LAR-11213-1	c 35	N75-15014 *
NASA-CASE-KSC-11010-1	c 74	N79-12890 *	NASA-CASE-LAR-10440-1	c 14	N73-32323 *	NASA-CASE-LAR-11224-1	c 37	N76-18456 *
NASA-CASE-KSC-11018-1	c 33	N79-10337 *	NASA-CASE-LAR-10450-1	c 37	N74-27905 *	NASA-CASE-LAR-11237-1	c 35	N75-19612 *
NASA-CASE-KSC-11023-1	c 32	N79-23310 *	NASA-CASE-LAR-10483-1	c 14	N73-32327 *	NASA-CASE-LAR-11252-1	c 05	N75-25914 *
NASA-CASE-KSC-11025-1	c 32	N83-13323 *	NASA-CASE-LAR-10489-1	c 31	N74-18124 *	NASA-CASE-LAR-11263-1	c 35	N75-33368 *
NASA-CASE-KSC-11030-1	c 52	N77-25772 *	NASA-CASE-LAR-10489-2	c 31	N74-32920 *	NASA-CASE-LAR-11310-1	c 07	N77-28118 *
NASA-CASE-KSC-11031-1	c 33	N79-11315 *	NASA-CASE-LAR-10496-1	c 14	N72-22437 *	NASA-CASE-LAR-11326-1	c 35	N75-33368 *
NASA-CASE-KSC-11034-1	c 44	N78-32542 *	NASA-CASE-LAR-10503-1	c 09	N72-21248 *	NASA-CASE-LAR-11341-1	c 36	N75-19655 *
NASA-CASE-KSC-11035-1	c 35	N78-28411 *	NASA-CASE-LAR-10507-1	c 11	N72-25284 *	NASA-CASE-LAR-11352-1	c 33	N75-26245 *
NASA-CASE-KSC-11042-1	c 09	N82-29330 *	NASA-CASE-LAR-10511-1	c 09	N72-29172 *	NASA-CASE-LAR-11354-1	c 35	N75-27330 *
NASA-CASE-KSC-11042-2	c 02	N81-26073 *	NASA-CASE-LAR-10513-1	c 07	N72-25170 *	NASA-CASE-LAR-11361-1	c 44	N77-22607 *
NASA-CASE-KSC-11047-1	c 74	N78-14889 *	NASA-CASE-LAR-10523-1	c 14	N72-22444 *	NASA-CASE-LAR-11370-1	c 35	N80-28686 *
NASA-CASE-KSC-11048-1	c 62	N81-24779 *	NASA-CASE-LAR-10539-1	c 17	N73-12547 *	NASA-CASE-LAR-11387-1	c 04	N76-20114 *
NASA-CASE-KSC-11057-1	c 33	N79-14305 *	NASA-CASE-LAR-10541-1	c 15	N72-32487 *	NASA-CASE-LAR-11387-2	c 04	N77-19056 *
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NASA-CASE-KSC-11065-1	c 33	N81-26359 *	NASA-CASE-LAR-10545-1	c 09	N72-21244 *	NASA-CASE-LAR-11390-1	c 32	N77-21267 *
NASA-CASE-KSC-11069-1	c 52	N79-26772 *	NASA-CASE-LAR-10546-1	c 11	N72-25287 *	NASA-CASE-LAR-11397-1	c 27	N75-29263 *
NASA-CASE-KSC-11076-1	c 34	N81-26402 *	NASA-CASE-LAR-10547-1	c 31	N74-13177 *	NASA-CASE-LAR-11405-1	c 45	N76-31714 *
NASA-CASE-KSC-11085-1	c 54	N81-24724 *	NASA-CASE-LAR-10549-1	c 31	N73-13898 *	NASA-CASE-LAR-11428-1	c 35	N74-34857 *
NASA-CASE-KSC-11097-1	c 27	N82-33520 *	NASA-CASE-LAR-10550-1	c 09	N74-30597 *	NASA-CASE-LAR-11434-1	c 35	N76-22509 *
NASA-CASE-KSC-11099-1	c 47	N82-24779 *	NASA-CASE-LAR-10551-1	c 25	N74-12813 *	NASA-CASE-LAR-11435-1	c 35	N76-15432 *
NASA-CASE-KSC-11104-1	c 74	N83-29032 *	NASA-CASE-LAR-10557	c 02	N72-11018 *	NASA-CASE-LAR-11458-1	c 35	N76-16392 *
NASA-CASE-KSC-11155-1	c 04	N86-19304 *	NASA-CASE-LAR-10574-1	c 11	N73-13257 *	NASA-CASE-LAR-11465-1	c 37	N76-21554 *
NASA-CASE-KSC-11170-1	c 33	N83-36356 *	NASA-CASE-LAR-10578-1	c 12	N73-25262 *	NASA-CASE-LAR-11476-1	c 07	N76-27332 *
NASA-CASE-KSC-11218-1	c 09	N85-19990 *	NASA-CASE-LAR-10585-1	c 02	N76-22154 *	NASA-CASE-LAR-11490-1	c 39	N78-16387 *
NASA-CASE-KSC-11282-1	c 85	N87-21755 *	NASA-CASE-LAR-10586-1	c 19	N74-15089 *	NASA-CASE-LAR-11500-1	c 35	N76-24523 *
NASA-CASE-KSC-11285-1	c 32	N86-27513 *	NASA-CASE-LAR-10590-1	c 15	N70-26819 *	NASA-CASE-LAR-11549-1	c 37	N77-11397 *
NASA-CASE-KSC-11304-2	c 28	N86-23744 *	NASA-CASE-LAR-10595-1	c 35	N74-16135 *	NASA-CASE-LAR-11551-1	c 44	N80-29834 *
NASA-CASE-KSC-11322-1	c 54	N89-29953 *	NASA-CASE-LAR-10612-1	c 12	N73-28144 *	NASA-CASE-LAR-11552-1	c 35	N76-14429 *
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NASA-CASE-LAR-02743	c 14	N73-32324 *	NASA-CASE-LAR-10623-1	c 14	N73-30395 *	NASA-CASE-LAR-11570-1	c 34	N76-18364 *
NASA-CASE-LAR-10000	c 14	N73-30394 *	NASA-CASE-LAR-10626-1	c 19	N74-21015 *	NASA-CASE-LAR-11575-1	c 02	N76-16014 *
NASA-CASE-LAR-10007-1	c 05	N71-11195 *	NASA-CASE-LAR-10629-1	c 35	N75-33367 *	NASA-CASE-LAR-11607-1	c 32	N77-14292 *
NASA-CASE-LAR-10031	c 15	N72-22484 *	NASA-CASE-LAR-10634-1	c 37	N74-18123 *	NASA-CASE-LAR-11617-2	c 35	N78-32397 *
NASA-CASE-LAR-10056	c 05	N71-12351 *	NASA-CASE-LAR-10642-1	c 07	N74-31270 *	NASA-CASE-LAR-11645-1	c 02	N77-10001 *
NASA-CASE-LAR-10061-1	c 15	N72-31483 *	NASA-CASE-LAR-10668-1	c 06	N73-16106 *	NASA-CASE-LAR-11648-1	c 35	N77-14407 *
NASA-CASE-LAR-10073-1	c 37	N76-24575 *	NASA-CASE-LAR-10670-1	c 06	N73-30097 *	NASA-CASE-LAR-11649-1	c 51	N77-27677 *
NASA-CASE-LAR-10076-1	c 05	N73-20137 *	NASA-CASE-LAR-10670-2	c 15	N74-27360 *	NASA-CASE-LAR-11658-1	c 37	N77-14478 *
NASA-CASE-LAR-10083-1	c 15	N71-27006 *	NASA-CASE-LAR-10682-1	c 02	N73-26004 *	NASA-CASE-LAR-11667-1	c 52	N76-19785 *
NASA-CASE-LAR-10089-1	c 34	N74-23066 *	NASA-CASE-LAR-10686	c 14	N71-28935 *	NASA-CASE-LAR-11674-1	c 07	N76-18117 *
NASA-CASE-LAR-10098	c 32	N71-26681 *	NASA-CASE-LAR-10688-1	c 37	N74-21056 *	NASA-CASE-LAR-11675-1	c 45	N76-17656 *
NASA-CASE-LAR-10102-1	c 05	N72-23085 *	NASA-CASE-LAR-10717-1	c 21	N73-30641 *	NASA-CASE-LAR-11688-1	c 24	N82-26384 *
NASA-CASE-LAR-10103-1	c 15	N73-14468 *	NASA-CASE-LAR-10726-1	c 14	N73-20475 *	NASA-CASE-LAR-11690-1	c 35	N80-14371 *
NASA-CASE-LAR-10105-1	c 34	N74-15652 *	NASA-CASE-LAR-10728-1	c 14	N73-12445 *	NASA-CASE-LAR-11695-2	c 37	N81-24443 *
NASA-CASE-LAR-10106-1	c 15	N71-27169 *	NASA-CASE-LAR-10730-1	c 33	N74-10223 *	NASA-CASE-LAR-11709-1	c 37	N76-27567 *
NASA-CASE-LAR-10121-1	c 15	N71-26721 *	NASA-CASE-LAR-10739-1	c 14	N73-16484 *	NASA-CASE-LAR-11711-1	c 74	N78-17866 *
NASA-CASE-LAR-10128-1	c 08	N73-20217 *	NASA-CASE-LAR-10753-1	c 08	N74-30421 *	NASA-CASE-LAR-11726-1	c 37	N76-27568 *
NASA-CASE-LAR-10129-1	c 15	N73-25512 *	NASA-CASE-LAR-10756-1	c 32	N73-26910 *	NASA-CASE-LAR-11729-1	c 34	N79-12359 *
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NASA-CASE-LAR-10135-1	c 09	N79-21083 *	NASA-CASE-LAR-10773-3	c 51	N77-25769 *	NASA-CASE-LAR-11782-1	c 74	N77-20882 *
NASA-CASE-LAR-10137-1	c 09	N72-22204 *	NASA-CASE-LAR-10774	c 10	N71-13545 *	NASA-CASE-LAR-11797-1	c 05	N81-19087 *
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NASA-CASE-LAR-10194-1	c 34	N74-30608 *	NASA-CASE-LAR-10815-1	c 16	N72-22520 *	NASA-CASE-LAR-11883-1	c 09	N77-27131 *
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NASA-CASE-LAR-10204	c 14	N71-27215 *	NASA-CASE-LAR-10855-1	c 14	N73-13415 *	NASA-CASE-LAR-11898-1	c 24	N78-10214 *
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NASA-CASE-LAR-10256-1	c 85	N74-34672 *	NASA-CASE-LAR-10913	c 14	N72-16282 *	NASA-CASE-LAR-11932-1	c 05	N78-32086 *
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NASA-CASE-LAR-10274-1	c 14	N71-17626 *	NASA-CASE-LAR-10941-2	c 37	N79-13364 *	NASA-CASE-LAR-11973-1	c 35	N78-27384 *
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NASA-CASE-LAR-10294-1	c 26	N72-28762 *	NASA-CASE-LAR-10970-1	c 33	N76-14372 *	NASA-CASE-LAR-11999-1	c 44	N80-18552 *
NASA-CASE-LAR-10295-1	c 35	N74-21062 *	NASA-CASE-LAR-10994-1	c 24	N75-13032 *	NASA-CASE-LAR-12007-3	c 35	N84-16523 *
NASA-CASE-LAR-10305	c 14	N71-26137 *	NASA-CASE-LAR-11021-1	c 32	N76-14321 *	NASA-CASE-LAR-12009-1	c 44	N78-15560 *
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NASA-CASE-LAR-10311-1	c 16	N73-16536 *	NASA-CASE-LAR-11042-1	c 33	N75-27252 *	NASA-CASE-LAR-12018-1	c 20	N78-24275 *
NASA-CASE-LAR-10317-1	c 32	N71-16103 *	NASA-CASE-LAR-11051-1	c 15	N76-14158 *	NASA-CASE-LAR-12019-1	c 24	N78-17150 *
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NASA-CASE-LAR-10319-1	c 14	N73-32322 *	NASA-CASE-LAR-11059-1	c 76	N75-12810 *	NASA-CASE-LAR-12045-1	c 34	N77-24223 *
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NASA-CASE-LAR-10323-1	c 12	N71-17573 *	NASA-CASE-LAR-11071-1	c 35	N75-19611 *	NASA-CASE-LAR-12052-1	c 18	N81-29152 *
NASA-CASE-LAR-10337-1	c 24	N75-30260 *	NASA-CASE-LAR-11074-1	c 51	N75-13502 *	NASA-CASE-LAR-12054-1	c 27	N79-33316 *
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NASA-CASE-LAR-10385-2	c 70	N74-13436 *	NASA-CASE-LAR-11141-1	c 07	N74-32418 *	NASA-CASE-LAR-12095-1	c 31	N81-25258 *
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NASA-CASE-LAR-10423-1	c 23	N82-29358 *	NASA-CASE-LAR-11207-1	c 35	N75-19613 *	NASA-CASE-LAR-12149-2	c 09	N79-31228 *
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NASA-CASE-LAR-12177-1	c 36	N81-24422 *	NASA-CASE-LAR-12862-1	c 27	N84-27886 *	NASA-CASE-LAR-13474-1-SB	c 26	N87-25455 *
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NASA-CASE-LAR-12205-1	c 44	N80-20810 *	NASA-CASE-LAR-12883-1	c 71	N83-17235 *	NASA-CASE-LAR-13508-1	c 35	N88-23962 *
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NASA-CASE-LAR-12230-1	c 35	N79-14347 *	NASA-CASE-LAR-12893-1	c 76	N85-30923 *	NASA-CASE-LAR-13512-1	c 35	N87-28884 *
NASA-CASE-LAR-12250-1	c 14	N81-26161 *	NASA-CASE-LAR-12894-1	c 27	N85-20125 *	NASA-CASE-LAR-13519-1	c 35	N88-23963 *
NASA-CASE-LAR-12251-1	c 74	N80-27185 *	NASA-CASE-LAR-12923-1	c 37	N84-12493 *	NASA-CASE-LAR-13522-1-SB	c 09	N87-25334 *
NASA-CASE-LAR-12259-2	c 54	N86-22112 *	NASA-CASE-LAR-12931-1	c 27	N84-22747 *	NASA-CASE-LAR-13528-1	c 25	N88-29002 *
NASA-CASE-LAR-12260-1	c 35	N79-10390 *	NASA-CASE-LAR-12931-2	c 27	N86-21675 *	NASA-CASE-LAR-13532-1	c 34	N86-26575 *
NASA-CASE-LAR-12261-1	c 02	N80-20224 *	NASA-CASE-LAR-12950-1	c 09	N84-34448 *	NASA-CASE-LAR-13552-1-CU	c 33	N89-14385 *
NASA-CASE-LAR-12264-1	c 15	N78-32168 *	NASA-CASE-LAR-12958-1	c 44	N84-23019 *	NASA-CASE-LAR-13554-1	c 02	N89-12551 *
NASA-CASE-LAR-12268-1	c 08	N81-24106 *	NASA-CASE-LAR-12966-1	c 35	N85-30282 *	NASA-CASE-LAR-13555-1	c 23	N86-32526 *
NASA-CASE-LAR-12269-1	c 35	N80-18358 *	NASA-CASE-LAR-12967-1	c 35	N84-22932 *	NASA-CASE-LAR-13562-1	c 24	N87-18613 *
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NASA-CASE-LEW-11159-1	c 14	N73-28488 *	NASA-CASE-LEW-12270-1	c 26	N77-32280 *	NASA-CASE-LEW-13131-1	c 44	N83-10494 *
NASA-CASE-LEW-11162-1	c 33	N74-12913 *	NASA-CASE-LEW-12274-1	c 37	N80-31790 *	NASA-CASE-LEW-13132-1	c 27	N83-29388 *
NASA-CASE-LEW-11169-1	c 37	N76-23570 *	NASA-CASE-LEW-12296-1	c 33	N82-26568 *	NASA-CASE-LEW-13135-2	c 27	N81-24257 *
NASA-CASE-LEW-11179-1	c 27	N76-16229 *	NASA-CASE-LEW-12312-1	c 07	N77-32148 *	NASA-CASE-LEW-13142-1	c 07	N83-36029 *
NASA-CASE-LEW-11180-1	c 25	N73-25760 *	NASA-CASE-LEW-12313-1	c 37	N78-10468 *	NASA-CASE-LEW-13142-2	c 07	N86-20389 *
NASA-CASE-LEW-11187-1	c 28	N73-17993 *	NASA-CASE-LEW-12317-1	c 07	N78-17055 *	NASA-CASE-LEW-13148-1	c 33	N80-20487 *
NASA-CASE-LEW-11188-1	c 02	N74-20646 *	NASA-CASE-LEW-12321-1	c 37	N78-10467 *	NASA-CASE-LEW-13148-2	c 44	N81-29524 *
NASA-CASE-LEW-11192-1	c 09	N73-13208 *	NASA-CASE-LEW-12358-1	c 44	N79-17313 *	NASA-CASE-LEW-13150-1	c 44	N79-26474 *
NASA-CASE-LEW-11227-1	c 73	N75-30876 *	NASA-CASE-LEW-12358-2	c 25	N82-21268 *	NASA-CASE-LEW-13169-1	c 26	N82-29415 *
NASA-CASE-LEW-11262-1	c 27	N74-13270 *	NASA-CASE-LEW-12364-1	c 44	N77-22606 *	NASA-CASE-LEW-13169-2	c 26	N82-30371 *
NASA-CASE-LEW-11267-1	c 17	N73-32414 *	NASA-CASE-LEW-12378-1	c 07	N79-14097 *	NASA-CASE-LEW-13171-1	c 44	N82-29708 *
NASA-CASE-LEW-11274-1	c 37	N75-21631 *	NASA-CASE-LEW-12389-2	c 07	N78-18066 *	NASA-CASE-LEW-13171-2	c 44	N83-32176 *
NASA-CASE-LEW-11286-1	c 07	N74-27490 *	NASA-CASE-LEW-12389-3	c 07	N79-14096 *	NASA-CASE-LEW-13174-1	c 34	N83-27144 *
NASA-CASE-LEW-11325-1	c 06	N73-27980 *	NASA-CASE-LEW-12390-1	c 07	N78-17056 *	NASA-CASE-LEW-13199-1	c 07	N82-26293 *
NASA-CASE-LEW-11326-1	c 23	N73-30665 *	NASA-CASE-LEW-12419-1	c 07	N77-14025 *	NASA-CASE-LEW-13201-1	c 07	N81-14999 *
NASA-CASE-LEW-11358	c 03	N71-26084 *	NASA-CASE-LEW-12441-1	c 34	N79-13289 *	NASA-CASE-LEW-13226-1	c 27	N81-17260 *
NASA-CASE-LEW-11359-2	c 03	N72-20034 *	NASA-CASE-LEW-12441-2	c 34	N80-24573 *	NASA-CASE-LEW-13246-1	c 44	N83-27344 *
NASA-CASE-LEW-11359	c 03	N71-28579 *	NASA-CASE-LEW-12441-3	c 44	N81-24519 *	NASA-CASE-LEW-13268-1	c 27	N82-29453 *
NASA-CASE-LEW-11387-1	c 37	N74-18128 *	NASA-CASE-LEW-12443-1	c 44	N83-32175 *	NASA-CASE-LEW-13268-2	c 37	N82-26674 *
NASA-CASE-LEW-11388-1	c 15	N73-32358 *	NASA-CASE-LEW-12444-1	c 33	N77-28385 *	NASA-CASE-LEW-13269-1	c 18	N83-20996 *
NASA-CASE-LEW-11388-2	c 37	N74-21055 *	NASA-CASE-LEW-12445-1	c 37	N81-22360 *	NASA-CASE-LEW-13269-2	c 37	N84-22957 *
NASA-CASE-LEW-11390-2	c 25	N76-27383 *	NASA-CASE-LEW-12452-1	c 07	N78-25089 *	NASA-CASE-LEW-13282-1	c 33	N82-24415 *
NASA-CASE-LEW-11390-3	c 25	N76-29379 *	NASA-CASE-LEW-12465-1	c 25	N78-25148 *	NASA-CASE-LEW-13286-1	c 33	N84-14422 *
NASA-CASE-LEW-11402-1	c 07	N74-28226 *	NASA-CASE-LEW-12477-1	c 37	N77-32501 *	NASA-CASE-LEW-13324-2	c 24	N85-21266 *
NASA-CASE-LEW-11484-1	c 24	N73-33181 *	NASA-CASE-LEW-12493-1	c 24	N81-17170 *	NASA-CASE-LEW-13339-1	c 26	N82-31505 *
NASA-CASE-LEW-11496-1	c 44	N77-14580 *	NASA-CASE-LEW-12493-2	c 24	N81-26179 *	NASA-CASE-LEW-13343-1	c 27	N82-28441 *
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NASA-CASE-LEW-11569-1	c 07	N74-15453 *	NASA-CASE-LEW-12508-3	c 34	N83-29625 *	NASA-CASE-LEW-1335901	c 27	N83-31855 *
NASA-CASE-LEW-11573-1	c 26	N77-28265 *	NASA-CASE-LEW-12513-1	c 25	N79-22235 *	NASA-CASE-LEW-13400-1	c 44	N82-31764 *
NASA-CASE-LEW-11581-1	c 54	N75-13531 *	NASA-CASE-LEW-12527-1	c 37	N77-32500 *	NASA-CASE-LEW-13401-1	c 44	N82-29709 *
NASA-CASE-LEW-11583-1	c 35	N79-17192 *	NASA-CASE-LEW-12541-1	c 44	N78-25529 *	NASA-CASE-LEW-13401-2	c 44	N83-32177 *
NASA-CASE-LEW-11593-1	c 20	N76-14190 *	NASA-CASE-LEW-12542-2	c 26	N79-22271 *	NASA-CASE-LEW-13414-1	c 44	N85-20530 *
NASA-CASE-LEW-11617-1	c 33	N74-10195 *	NASA-CASE-LEW-12542-3	c 26	N80-32484 *	NASA-CASE-LEW-13426-1	c 25	N84-16276 *
NASA-CASE-LEW-11632-2	c 35	N75-13213 *	NASA-CASE-LEW-12550-1	c 24	N77-19170 *	NASA-CASE-LEW-13429-1	c 33	N83-31952 *
NASA-CASE-LEW-11646-1	c 20	N74-31269 *	NASA-CASE-LEW-12552-1	c 44	N78-25527 *	NASA-CASE-LEW-13450-1	c 31	N83-35177 *
NASA-CASE-LEW-11669-1	c 05	N73-27062 *	NASA-CASE-LEW-12552-2	c 44	N79-11472 *	NASA-CASE-LEW-13495-1	c 33	N84-33663 *
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NASA-CASE-LEW-11694-1	c 20	N75-18310 *	NASA-CASE-LEW-12582-1	c 76	N83-34796 *	NASA-CASE-LEW-13524-1	c 07	N84-33410 *
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NASA-CASE-LEW-11860-1	c 37	N76-18458 *	NASA-CASE-LEW-12619-1	c 24	N77-19171 *	NASA-CASE-LEW-13620-1	c 44	N83-13579 *
NASA-CASE-LEW-11866-1	c 72	N76-15860 *	NASA-CASE-LEW-12649-1	c 44	N78-25530 *	NASA-CASE-LEW-13622-1	c 07	N84-22559 *
NASA-CASE-LEW-11873-1	c 37	N79-22475 *	NASA-CASE-LEW-12658-1	c 71	N79-14871 *	NASA-CASE-LEW-13639-1	c 26	N84-33555 *
NASA-CASE-LEW-11876-1	c 20	N76-21276 *	NASA-CASE-LEW-12661-1	c 35	N79-14345 *	NASA-CASE-LEW-13639-2	c 26	N84-27855 *
NASA-CASE-LEW-11877-1	c 34	N78-27357 *	NASA-CASE-LEW-12668-1	c 52	N78-14773 *	NASA-CASE-LEW-13653-1	c 44	N84-28205 *
NASA-CASE-LEW-11881-1	c 33	N77-17354 *	NASA-CASE-LEW-12718-1	c 34	N78-25351 *	NASA-CASE-LEW-13654-1	c 07	N84-22560 *
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NASA-CASE-LEW-11915-1	c 35	N76-14431 *	NASA-CASE-LEW-12760-1	c 07	N77-17059 *	NASA-CASE-LEW-13717-1	c 37	N85-30333 *
NASA-CASE-LEW-11925-1	c 37	N75-31446 *	NASA-CASE-LEW-12775-1	c 44	N79-11468 *	NASA-CASE-LEW-13736-1	c 33	N84-27974 *
NASA-CASE-LEW-11930-1	c 24	N76-22309 *	NASA-CASE-LEW-12780-1	c 20	N79-20179 *	NASA-CASE-LEW-13758-1	c 24	N84-27829 *
NASA-CASE-LEW-11930-3	c 24	N80-33482 *	NASA-CASE-LEW-12785-1	c 37	N78-24545 *	NASA-CASE-LEW-13770-1	c 27	N84-27885 *
NASA-CASE-LEW-11930-4	c 24	N79-17916 *	NASA-CASE-LEW-12791-1	c 33	N78-32341 *	NASA-CASE-LEW-13770-2	c 25	N85-28982 *
NASA-CASE-LEW-11938-1	c 33	N76-15373 *	NASA-CASE-LEW-12793-1	c 37	N79-11403 *	NASA-CASE-LEW-13770-3	c 27	N85-21350 *
NASA-CASE-LEW-11949-1	c 37	N76-29588 *	NASA-CASE-LEW-12806-2	c 44	N81-12542 *	NASA-CASE-LEW-13770-4	c 27	N85-21351 *

NASA-CASE-LEW-13770-5	c 27	N85-21352 *	NASA-CASE-MFS-14259	c 15	N71-19213 *	NASA-CASE-MFS-20831	c 28	N71-29153 *
NASA-CASE-LEW-13770-6	c 25	N85-30039 *	NASA-CASE-MFS-14322	c 08	N71-18692 *	NASA-CASE-MFS-20855-1	c 15	N77-10112 *
NASA-CASE-LEW-13773-2	c 33	N86-20671 *	NASA-CASE-MFS-14405	c 15	N72-28495 *	NASA-CASE-MFS-20855	c 15	N73-27405 *
NASA-CASE-LEW-13822-1	c 44	N86-25874 *	NASA-CASE-MFS-14610	c 09	N71-28886 *	NASA-CASE-MFS-20861-1	c 18	N73-32437 *
NASA-CASE-LEW-13827-1	c 44	N85-21768 *	NASA-CASE-MFS-14671	c 05	N71-12341 *	NASA-CASE-MFS-20863	c 31	N73-26876 *
NASA-CASE-LEW-13828-1	c 24	N85-30027 *	NASA-CASE-MFS-14685	c 31	N71-15689 *	NASA-CASE-MFS-20890	c 14	N72-22439 *
NASA-CASE-LEW-13833-1	c 33	N85-21492 *	NASA-CASE-MFS-14710	c 09	N72-22195 *	NASA-CASE-MFS-20916	c 14	N73-25460 *
NASA-CASE-LEW-13834-1	c 26	N87-14482 *	NASA-CASE-MFS-14711	c 15	N71-26185 *	NASA-CASE-MFS-20922-1	c 18	N74-22136 *
NASA-CASE-LEW-13837-1	c 24	N84-22695 *	NASA-CASE-MFS-14741	c 09	N70-20737 *	NASA-CASE-MFS-20922	c 31	N72-20840 *
NASA-CASE-LEW-13837-2	c 24	N85-21267 *	NASA-CASE-MFS-14772	c 15	N71-17692 *	NASA-CASE-MFS-20932-1	c 35	N75-19616 *
NASA-CASE-LEW-13864-1	c 27	N86-19457 *	NASA-CASE-MFS-14971	c 15	N71-24984 *	NASA-CASE-MFS-20935	c 09	N71-34212 *
NASA-CASE-LEW-13881-1	c 20	N85-21256 *	NASA-CASE-MFS-15063	c 14	N72-25412 *	NASA-CASE-MFS-20944	c 15	N73-13466 *
NASA-CASE-LEW-13899-1	c 31	N87-21160 *	NASA-CASE-MFS-15162	c 14	N72-32452 *	NASA-CASE-MFS-20979-2	c 06	N73-32030 *
NASA-CASE-LEW-13914-1	c 37	N85-33489 *	NASA-CASE-MFS-15218-1	c 37	N77-19457 *	NASA-CASE-MFS-20979	c 06	N72-25151 *
NASA-CASE-LEW-13922-1	c 33	N86-20672 *	NASA-CASE-MFS-15429-1	c 18	N84-22609 *	NASA-CASE-MFS-20994-1	c 35	N75-12271 *
NASA-CASE-LEW-13923-1	c 26	N85-35267 *	NASA-CASE-MFS-15670-1	c 33	N82-33634 *	NASA-CASE-MFS-21010-1	c 05	N73-30078 *
NASA-CASE-LEW-13934-1	c 35	N83-35338 *	NASA-CASE-MFS-16570-1	c 05	N73-32013 *	NASA-CASE-MFS-21040-1	c 06	N73-30098 *
NASA-CASE-LEW-13935-1	c 33	N87-21234 *	NASA-CASE-MFS-16609-3	c 03	N76-32140 *	NASA-CASE-MFS-21042	c 07	N72-25171 *
NASA-CASE-LEW-13981-2	c 33	N86-21742 *	NASA-CASE-MFS-18100	c 15	N72-11390 *	NASA-CASE-MFS-21045-1	c 35	N75-15932 *
NASA-CASE-LEW-14028-1	c 44	N86-19721 *	NASA-CASE-MFS-18495	c 15	N72-11385 *	NASA-CASE-MFS-21046-1	c 14	N73-27377 *
NASA-CASE-LEW-14035-1	c 07	N84-24577 *	NASA-CASE-MFS-19193-1	c 37	N75-19686 *	NASA-CASE-MFS-21049-1	c 52	N74-27864 *
NASA-CASE-LEW-14037-1	c 20	N87-16875 *	NASA-CASE-MFS-19194-1	c 37	N76-14460 *	NASA-CASE-MFS-21077-1	c 24	N75-28135 *
NASA-CASE-LEW-14039-1	c 34	N85-33433 *	NASA-CASE-MFS-19220-1	c 20	N76-22296 *	NASA-CASE-MFS-21087-1	c 35	N74-17153 *
NASA-CASE-LEW-14057-1	c 24	N85-35233 *	NASA-CASE-MFS-19259-1	c 36	N78-14380 *	NASA-CASE-MFS-21108-1	c 34	N74-27861 *
NASA-CASE-LEW-14072-1	c 27	N86-19458 *	NASA-CASE-MFS-19287-1	c 34	N77-30399 *	NASA-CASE-MFS-21109-1	c 05	N73-27941 *
NASA-CASE-LEW-14072-2	c 27	N86-32569 *	NASA-CASE-MFS-19796-1	c 37	N86-32736 *	NASA-CASE-MFS-21115-1	c 54	N74-12779 *
NASA-CASE-LEW-14072-3	c 27	N87-23736 *	NASA-CASE-MFS-20011	c 18	N72-22566 *	NASA-CASE-MFS-21136-1	c 35	N74-18323 *
NASA-CASE-LEW-14077-1	c 44	N85-34441 *	NASA-CASE-MFS-20044	c 14	N71-28993 *	NASA-CASE-MFS-21163-1	c 54	N74-17853 *
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NASA-CASE-LEW-14108-1	c 33	N87-28832 *	NASA-CASE-MFS-20075	c 09	N71-26133 *	NASA-CASE-MFS-21244-1	c 36	N75-15028 *
NASA-CASE-LEW-14124-1	c 35	N89-28806 *	NASA-CASE-MFS-20095	c 24	N72-11595 *	NASA-CASE-MFS-21309-1	c 37	N74-18125 *
NASA-CASE-LEW-14127-1	c 33	N86-20680 *	NASA-CASE-MFS-20096	c 14	N71-30026 *	NASA-CASE-MFS-21311-1	c 20	N74-21271 *
NASA-CASE-LEW-14130-1	c 31	N86-32587 *	NASA-CASE-MFS-20125	c 16	N72-13437 *	NASA-CASE-MFS-21362	c 11	N73-20267 *
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NASA-CASE-LEW-14170-1	c 37	N86-25790 *	NASA-CASE-MFS-20180	c 16	N72-12440 *	NASA-CASE-MFS-21372-1	c 74	N74-27866 *
NASA-CASE-LEW-14177-1	c 44	N86-32875 *	NASA-CASE-MFS-20207-1	c 09	N73-32107 *	NASA-CASE-MFS-21374-1	c 33	N74-12951 *
NASA-CASE-LEW-14196-2	c 37	N87-25585 *	NASA-CASE-MFS-20240	c 14	N71-26788 *	NASA-CASE-MFS-21394-1	c 34	N74-27744 *
NASA-CASE-LEW-14203-1	c 27	N88-29984 *	NASA-CASE-MFS-20242	c 14	N73-19421 *	NASA-CASE-MFS-21395-1	c 25	N74-26948 *
NASA-CASE-LEW-14212-1	c 37	N88-23978 *	NASA-CASE-MFS-20243	c 23	N73-13662 *	NASA-CASE-MFS-21415-1	c 52	N74-20728 *
NASA-CASE-LEW-14262-1	c 26	N87-28647 *	NASA-CASE-MFS-20249	c 15	N72-11386 *	NASA-CASE-MFS-21424-1	c 34	N74-27730 *
NASA-CASE-LEW-14295-1	c 31	N89-14348 *	NASA-CASE-MFS-20261	c 14	N71-27005 *	NASA-CASE-MFS-21433	c 09	N73-20332 *
NASA-CASE-LEW-14297-1	c 35	N89-12048 *	NASA-CASE-MFS-20284-1	c 52	N74-12778 *	NASA-CASE-MFS-21441-1	c 14	N73-30392 *
NASA-CASE-LEW-14345-1	c 23	N88-26404 *	NASA-CASE-MFS-20299	c 15	N72-11392 *	NASA-CASE-MFS-21455-1	c 35	N74-15146 *
NASA-CASE-LEW-14346-1	c 23	N87-14433 *	NASA-CASE-MFS-20317	c 15	N73-13463 *	NASA-CASE-MFS-21462-1	c 33	N74-14935 *
NASA-CASE-LEW-14374-1	c 09	N88-28939 *	NASA-CASE-MFS-20325	c 28	N71-27095 *	NASA-CASE-MFS-21465-1	c 10	N73-32145 *
NASA-CASE-LEW-14392-1	c 27	N87-28656 *	NASA-CASE-MFS-20332-2	c 05	N73-25125 *	NASA-CASE-MFS-21470-1	c 44	N74-19870 *
NASA-CASE-LEW-14392-2	c 27	N89-29538 *	NASA-CASE-MFS-20332	c 05	N72-20097 *	NASA-CASE-MFS-21481-1	c 37	N74-18127 *
NASA-CASE-LEW-14472-1	c 24	N89-14259 *	NASA-CASE-MFS-20333	c 09	N71-13486 *	NASA-CASE-MFS-21485-1	c 37	N74-25968 *
NASA-CASE-LEW-14520-1	c 33	N88-23936 *	NASA-CASE-MFS-20335-1	c 35	N74-10415 *	NASA-CASE-MFS-21488-1	c 14	N75-24794 *
NASA-CASE-LEW-14586-1	c 07	N83-31603 *	NASA-CASE-MFS-20355	c 33	N71-25353 *	NASA-CASE-MFS-21540-1	c 32	N74-17990 *
NASA-CASE-LEW-14679-1	c 27	N89-28651 *	NASA-CASE-MFS-20385	c 09	N71-24904 *	NASA-CASE-MFS-21556-1	c 35	N74-26945 *
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NASA-CASE-LEW-14698-1	c 24	N88-29888 *	NASA-CASE-MFS-20395	c 15	N71-24903 *	NASA-CASE-MFS-21606-1	c 37	N75-19685 *
NASA-CASE-LEW-14734-1	c 24	N89-23623 *	NASA-CASE-MFS-20400	c 31	N71-18611 *	NASA-CASE-MFS-21611-1	c 54	N75-12616 *
NASA-CASE-LEW-14848-1	c 14	N89-28549 *	NASA-CASE-MFS-20407	c 09	N73-19235 *	NASA-CASE-MFS-21616-1	c 33	N75-30429 *
NASA-CASE-LEW-23169-2	c 26	N81-16209 *	NASA-CASE-MFS-20408	c 18	N73-12604 *	NASA-CASE-MFS-21628-1	c 44	N75-32581 *
NASA-CASE-MFS-06074	c 15	N71-20393 *	NASA-CASE-MFS-20410	c 15	N71-19214 *	NASA-CASE-MFS-21628-2	c 44	N76-23675 *
NASA-CASE-MFS-07369	c 15	N71-20443 *	NASA-CASE-MFS-20413	c 15	N72-21463 *	NASA-CASE-MFS-21629	c 14	N72-22442 *
NASA-CASE-MFS-10068	c 10	N71-25139 *	NASA-CASE-MFS-20418	c 14	N72-24473 *	NASA-CASE-MFS-21660-1	c 35	N74-21017 *
NASA-CASE-MFS-10340	c 15	N71-17628 *	NASA-CASE-MFS-20423	c 15	N72-11388 *	NASA-CASE-MFS-21671-1	c 33	N74-22885 *
NASA-CASE-MFS-10412	c 12	N71-17578 *	NASA-CASE-MFS-20433	c 15	N72-28496 *	NASA-CASE-MFS-21672-1	c 74	N76-19335 *
NASA-CASE-MFS-10506	c 06	N73-30100 *	NASA-CASE-MFS-20434	c 11	N72-25288 *	NASA-CASE-MFS-21675-1	c 25	N74-33378 *
NASA-CASE-MFS-10507	c 06	N73-30101 *	NASA-CASE-MFS-20453	c 15	N71-29133 *	NASA-CASE-MFS-21680-1	c 18	N74-27397 *
NASA-CASE-MFS-10509	c 06	N73-30103 *	NASA-CASE-MFS-20482	c 15	N72-22492 *	NASA-CASE-MFS-21681-1	c 18	N74-27397 *
NASA-CASE-MFS-10512	c 06	N73-30099 *	NASA-CASE-MFS-20485	c 14	N72-11365 *	NASA-CASE-MFS-21698-1	c 33	N74-26732 *
NASA-CASE-MFS-10555	c 11	N71-19494 *	NASA-CASE-MFS-20486-2	c 27	N74-17283 *	NASA-CASE-MFS-21704-1	c 35	N75-25124 *
NASA-CASE-MFS-10946-1	c 31	N79-21226 *	NASA-CASE-MFS-20506-1	c 35	N75-12273 *	NASA-CASE-MFS-21728-1	c 35	N74-27865 *
NASA-CASE-MFS-11132	c 15	N71-17649 *	NASA-CASE-MFS-20509	c 11	N72-17183 *	NASA-CASE-MFS-21761-1	c 35	N75-15931 *
NASA-CASE-MFS-11133	c 31	N71-16222 *	NASA-CASE-MFS-20523	c 14	N72-27412 *	NASA-CASE-MFS-21846-1	c 37	N74-26976 *
NASA-CASE-MFS-11204	c 14	N71-29134 *	NASA-CASE-MFS-20546-2	c 14	N73-30389 *	NASA-CASE-MFS-21919-1	c 10	N73-25243 *
NASA-CASE-MFS-11279	c 16	N71-20400 *	NASA-CASE-MFS-20586	c 15	N71-17686 *	NASA-CASE-MFS-21931-1	c 37	N75-26372 *
NASA-CASE-MFS-11492	c 06	N73-30102 *	NASA-CASE-MFS-20589	c 25	N72-32688 *	NASA-CASE-MFS-22002-1	c 44	N76-16612 *
NASA-CASE-MFS-11497	c 28	N71-16224 *	NASA-CASE-MFS-20596	c 14	N72-17324 *	NASA-CASE-MFS-22022-1	c 37	N76-15460 *
NASA-CASE-MFS-11537	c 14	N71-20442 *	NASA-CASE-MFS-20607-1	c 37	N76-19436 *	NASA-CASE-MFS-22039-1	c 09	N75-12968 *
NASA-CASE-MFS-12750	c 27	N71-16223 *	NASA-CASE-MFS-20619	c 28	N72-11708 *	NASA-CASE-MFS-22040-1	c 35	N74-26946 *
NASA-CASE-MFS-12805	c 15	N71-17805 *	NASA-CASE-MFS-20620	c 11	N72-27262 *	NASA-CASE-MFS-22060-1	c 35	N75-29380 *
NASA-CASE-MFS-12806	c 14	N71-17588 *	NASA-CASE-MFS-20642	c 14	N72-21407 *	NASA-CASE-MFS-22073-1	c 33	N75-13139 *
NASA-CASE-MFS-12827	c 14	N71-17656 *	NASA-CASE-MFS-20645-1	c 37	N74-23070 *	NASA-CASE-MFS-22088-1	c 33	N75-15874 *
NASA-CASE-MFS-12915	c 11	N71-17600 *	NASA-CASE-MFS-20658-1	c 14	N73-30386 *	NASA-CASE-MFS-22102-1	c 54	N74-20725 *
NASA-CASE-MFS-13046	c 07	N71-19433 *	NASA-CASE-MFS-20673	c 14	N73-20476 *	NASA-CASE-MFS-22129-1	c 33	N75-18477 *
NASA-CASE-MFS-13130	c 10	N72-17173 *	NASA-CASE-MFS-20675	c 26	N73-26751 *	NASA-CASE-MFS-22133-1	c 33	N74-26977 *
NASA-CASE-MFS-13532	c 18	N72-17532 *	NASA-CASE-MFS-20698-2	c 15	N73-19457 *	NASA-CASE-MFS-22145-1	c 75	N75-13625 *
NASA-CASE-MFS-13686	c 15	N71-18132 *	NASA-CASE-MFS-20698	c 15	N72-20446 *	NASA-CASE-MFS-22145-2	c 75	N76-17951 *
NASA-CASE-MFS-13687-2	c 09	N72-22198 *	NASA-CASE-MFS-20710	c 11	N72-23215 *	NASA-CASE-MFS-22189-1	c 35	N75-19615 *
NASA-CASE-MFS-13687	c 09	N71-28691 *	NASA-CASE-MFS-20730-1	c 39	N74-13131 *	NASA-CASE-MFS-22208-1	c 33	N75-26244 *
NASA-CASE-MFS-13929	c 15	N71-27091 *	NASA-CASE-MFS-20757	c 09	N72-28225 *	NASA-CASE-MFS-22234-1	c 32	N79-10264 *
NASA-CASE-MFS-13994-1	c 06	N71-11240 *	NASA-CASE-MFS-20760	c 14	N72-33377 *	NASA-CASE-MFS-22283-1	c 37	N75-33395 *
NASA-CASE-MFS-13994-2	c 06	N72-25148 *	NASA-CASE-MFS-20761-1	c 44	N74-27519 *	NASA-CASE-MFS-22287-1	c 75	N76-14931 *
NASA-CASE-MFS-14017	c 14	N71-26627 *	NASA-CASE-MFS-20767-1	c 38	N74-15130 *	NASA-CASE-MFS-22323-1	c 37	N76-14463 *
NASA-CASE-MFS-14023	c 33	N71-25351 *	NASA-CASE-MFS-20774	c 14	N73-19420 *	NASA-CASE-MFS-22324-1	c 27	N75-27160 *
NASA-CASE-MFS-14114-2	c 09	N71-24807 *	NASA-CASE-MFS-20775-1	c 31	N75-12161 *	NASA-CASE-MFS-22342-1	c 33	N75-30428 *
NASA-CASE-MFS-14114	c 33	N71-27862 *	NASA-CASE-MFS-20809	c 23	N73-13660 *	NASA-CASE-MFS-22343-1	c 33	N74-34638 *
NASA-CASE-MFS-14216	c 14	N73-13418 *	NASA-CASE-MFS-20823-1	c 16	N73-30476 *	NASA-CASE-MFS-22355-1	c 23	N76-15268 *
NASA-CASE-MFS-14253	c 33	N71-24858 *	NASA-CASE-MFS-20829	c 12	N72-21310 *	NASA-CASE-MFS-22356-1	c 23	N75-30256 *
			NASA-CASE-MFS-20830	c 15	N71-30028 *	NASA-CASE-MFS-22409-2	c 74	N78-15880 *



NASA-CASE-MFS-22411-1	c 37	N74-21058 *	NASA-CASE-MFS-23828-1	c 33	N82-26569 *	NASA-CASE-MFS-28001-2	c 37	N88-14360 *
NASA-CASE-MFS-22458-1	c 44	N77-10635 *	NASA-CASE-MFS-23830-1	c 44	N82-24639 *	NASA-CASE-MFS-28008-1	c 35	N85-20300 *
NASA-CASE-MFS-22517-1	c 35	N76-18402 *	NASA-CASE-MFS-23845-1	c 33	N81-17348 *	NASA-CASE-MFS-28013-1	c 35	N86-22459 *
NASA-CASE-MFS-22537-1	c 35	N75-27328 *	NASA-CASE-MFS-23846-1	c 37	N82-32731 *	NASA-CASE-MFS-28030-1	c 89	N86-25752 *
NASA-CASE-MFS-22560-1	c 33	N77-14335 *	NASA-CASE-MFS-23862-1	c 48	N80-18667 *	NASA-CASE-MFS-28044-1	c 31	N87-25491 *
NASA-CASE-MFS-22562-1	c 44	N76-14595 *	NASA-CASE-MFS-23883-1	c 51	N80-16715 *	NASA-CASE-MFS-28057-1	c 09	N87-14355 *
NASA-CASE-MFS-22597	c 36	N78-17366 *	NASA-CASE-MFS-23923-1	c 35	N81-19426 *	NASA-CASE-MFS-28058-1	c 37	N87-21332 *
NASA-CASE-MFS-22631-1	c 66	N76-19888 *	NASA-CASE-MFS-23981-1	c 07	N83-20944 *	NASA-CASE-MFS-28059-1	c 37	N86-32738 *
NASA-CASE-MFS-22636-1	c 37	N76-22540 *	NASA-CASE-MFS-23988-1	c 33	N81-27395 *	NASA-CASE-MFS-28060-1	c 76	N87-25862 *
NASA-CASE-MFS-22649-1	c 37	N75-25186 *	NASA-CASE-MFS-23999-1	c 44	N81-24520 *	NASA-CASE-MFS-28080-1	c 33	N87-21233 *
NASA-CASE-MFS-22671-1	c 35	N75-21582 *	NASA-CASE-MFS-24368-3	c 33	N81-22280 *	NASA-CASE-MFS-28087-1	c 35	N87-23944 *
NASA-CASE-MFS-22671-2	c 35	N77-17426 *	NASA-CASE-MFS-25000-1	c 25	N81-19242 *	NASA-CASE-MFS-28090-1	c 27	N87-21111 *
NASA-CASE-MFS-22707-1	c 37	N76-15457 *	NASA-CASE-MFS-25050-1	c 71	N81-15767 *	NASA-CASE-MFS-28110-1	c 37	N87-24689 *
NASA-CASE-MFS-22729-1	c 32	N76-21366 *	NASA-CASE-MFS-25134-1	c 31	N83-31895 *	NASA-CASE-MFS-28118-1	c 39	N87-25601 *
NASA-CASE-MFS-22734-1	c 18	N75-19329 *	NASA-CASE-MFS-25139-1	c 34	N82-13376 *	NASA-CASE-MFS-28122-1	c 72	N88-24253 *
NASA-CASE-MFS-22743-1	c 44	N76-22657 *	NASA-CASE-MFS-25181-1	c 27	N82-24340 *	NASA-CASE-MFS-28137-1	c 76	N88-24544 *
NASA-CASE-MFS-22744-1	c 44	N76-24696 *	NASA-CASE-MFS-25208-1	c 33	N83-10345 *	NASA-CASE-MFS-28139-1	c 29	N87-18679 *
NASA-CASE-MFS-22749-1	c 44	N76-14601 *	NASA-CASE-MFS-25209-1	c 33	N83-35227 *	NASA-CASE-MFS-28142-1	c 25	N88-23845 *
NASA-CASE-MFS-22758-1	c 70	N75-26789 *	NASA-CASE-MFS-25211-2	c 33	N84-14423 *	NASA-CASE-MFS-28144-1	c 76	N88-24545 *
NASA-CASE-MFS-22787-1	c 15	N77-10113 *	NASA-CASE-MFS-25215-1	c 33	N83-31953 *	NASA-CASE-MFS-28153-1	c 31	N86-32589 *
NASA-CASE-MFS-22905-1	c 19	N76-22284 *	NASA-CASE-MFS-25242-1	c 35	N83-29650 *	NASA-CASE-MFS-28161-1	c 37	N87-18817 *
NASA-CASE-MFS-22906-1	c 75	N78-27913 *	NASA-CASE-MFS-25282-1	c 34	N83-19015 *	NASA-CASE-MFS-28182-1	c 76	N88-25357 *
NASA-CASE-MFS-22907-1	c 26	N76-18257 *	NASA-CASE-MFS-25287-1	c 44	N82-18686 *	NASA-CASE-MFS-28183-1	c 74	N89-13253 *
NASA-CASE-MFS-22926-1	c 24	N77-27187 *	NASA-CASE-MFS-25302-1	c 33	N83-28319 *	NASA-CASE-MFS-28185-1	c 37	N88-23979 *
NASA-CASE-MFS-22938-1	c 34	N76-18374 *	NASA-CASE-MFS-25302-2	c 33	N84-33660 *	NASA-CASE-MFS-28206-1-SB	c 76	N88-25356 *
NASA-CASE-MFS-22991-1	c 34	N77-10463 *	NASA-CASE-MFS-25306-1	c 25	N83-13187 *	NASA-CASE-MFS-28217-1	c 34	N89-14392 *
NASA-CASE-MFS-23001-1	c 76	N77-32919 *	NASA-CASE-MFS-25312-1	c 74	N83-17305 *	NASA-CASE-MFS-28242-1	c 35	N89-26202 *
NASA-CASE-MFS-23008-1	c 35	N78-18390 *	NASA-CASE-MFS-25315-1	c 36	N83-29680 *	NASA-CASE-MFS-28248-1	c 31	N88-24817 *
NASA-CASE-MFS-23047-1	c 37	N76-18454 *	NASA-CASE-MFS-25319-1	c 60	N85-33701 *	NASA-CASE-MFS-28253-1	c 37	N89-28831 *
NASA-CASE-MFS-23051-1	c 37	N79-10422 *	NASA-CASE-MFS-25323-1	c 33	N84-22886 *	NASA-CASE-MFS-28273-1	c 37	N88-23974 *
NASA-CASE-MFS-23052-2	c 74	N79-13855 *	NASA-CASE-MFS-25363-1	c 37	N82-12441 *	NASA-CASE-MFS-28281-1	c 09	N88-28938 *
NASA-CASE-MFS-23059-1	c 44	N76-27664 *	NASA-CASE-MFS-25403-1	c 18	N83-29303 *	NASA-CASE-MFS-28282-1	c 76	N88-29602 *
NASA-CASE-MFS-23062-1	c 37	N77-12402 *	NASA-CASE-MFS-25405-1	c 35	N84-22929 *	NASA-CASE-MFS-28287-1	c 35	N88-23959 *
NASA-CASE-MFS-23074-1	c 54	N77-21844 *	NASA-CASE-MFS-25426-1	c 25	N83-10126 *	NASA-CASE-MFS-28327-1	c 18	N89-28556 *
NASA-CASE-MFS-23088-1	c 37	N77-23483 *	NASA-CASE-MFS-25429-1	c 18	N86-20469 *	NASA-CASE-MFS-28345-1	c 37	N89-28841 *
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NASA-CASE-MFS-23114-1	c 38	N78-32447 *	NASA-CASE-MFS-25436-1	c 27	N83-36220 *	NASA-CASE-MFS-28370-1	c 35	N89-28793 *
NASA-CASE-MFS-23118-1	c 35	N77-31465 *	NASA-CASE-MFS-25477-1	c 33	N84-14424 *	NASA-CASE-MFS-28376-1	c 14	N89-28546 *
NASA-CASE-MFS-23167-1	c 44	N76-31667 *	NASA-CASE-MFS-25509-1	c 35	N83-24828 *	NASA-CASE-MFS-29134-1	c 74	N87-17493 *
NASA-CASE-MFS-23175-1	c 35	N77-30436 *	NASA-CASE-MFS-25510-1	c 37	N84-16560 *	NASA-CASE-MFS-29149-1	c 33	N87-29737 *
NASA-CASE-MFS-23178-1	c 35	N77-10493 *	NASA-CASE-MFS-25535-1	c 33	N81-12330 *	NASA-CASE-MFS-29177-1	c 37	N88-14362 *
NASA-CASE-MFS-23181-1	c 33	N77-17351 *	NASA-CASE-MFS-25535-2	c 33	N84-22885 *	NASA-CASE-MFS-29207-1	c 74	N87-25843 *
NASA-CASE-MFS-23194-1	c 35	N78-17357 *	NASA-CASE-MFS-25586-1	c 33	N82-11360 *	NASA-CASE-MFS-29252-1	c 37	N88-23980 *
NASA-CASE-MFS-23225-1	c 52	N77-14735 *	NASA-CASE-MFS-25607-1	c 33	N83-34190 *	NASA-CASE-MFS-29260-1	c 37	N88-24972 *
NASA-CASE-MFS-23250-1	c 35	N82-11432 *	NASA-CASE-MFS-25616-1	c 33	N84-16455 *	NASA-CASE-MFS-29291-1	c 37	N89-12868 *
NASA-CASE-MFS-23267-1	c 35	N77-20401 *	NASA-CASE-MFS-25631-1	c 34	N84-12406 *	NASA-CASE-MFS-29348-1	c 74	N89-25689 *
NASA-CASE-MFS-23270-1	c 44	N78-25531 *	NASA-CASE-MFS-25637-1	c 44	N85-21769 *	NASA-CASE-MFS-29489-1	c 31	N89-23739 *
NASA-CASE-MFS-23274-1	c 33	N78-13320 *	NASA-CASE-MFS-25641-1	c 72	N84-28575 *	NASA-CASE-MFS-29491-1	c 31	N89-23738 *
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NASA-CASE-MFS-23284-1	c 37	N80-14397 *	NASA-CASE-MFS-25687-1	c 35	N84-22928 *	NASA-CASE-MSC-10959	c 15	N71-26243 *
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NASA-CASE-MFS-23303-1	c 32	N77-18307 *	NASA-CASE-MFS-25717-1	c 35	N84-33768 *	NASA-CASE-MSC-10966	c 14	N71-19568 *
NASA-CASE-MFS-23311-1	c 54	N78-17676 *	NASA-CASE-MFS-25721-1	c 25	N85-21280 *	NASA-CASE-MSC-11010	c 15	N71-19485 *
NASA-CASE-MFS-23312-1	c 33	N78-27326 *	NASA-CASE-MFS-25740-1	c 52	N84-11744 *	NASA-CASE-MSC-11072	c 54	N74-32546 *
NASA-CASE-MFS-23315-1	c 76	N78-24950 *	NASA-CASE-MFS-25750-1	c 32	N86-20647 *	NASA-CASE-MSC-11235	c 33	N78-17294 *
NASA-CASE-MFS-23345-1	c 27	N77-30237 *	NASA-CASE-MFS-25752-1	c 74	N86-21348 *	NASA-CASE-MSC-11242	c 35	N78-17358 *
NASA-CASE-MFS-23349-1	c 44	N79-23481 *	NASA-CASE-MFS-25754-1	c 35	N84-28018 *	NASA-CASE-MSC-11253	c 05	N71-12343 *
NASA-CASE-MFS-23362-1	c 47	N77-10753 *	NASA-CASE-MFS-25791-1	c 09	N84-27749 *	NASA-CASE-MSC-11277	c 09	N71-29008 *
NASA-CASE-MFS-23363-1	c 35	N78-32396 *	NASA-CASE-MFS-25807-2	c 37	N86-21850 *	NASA-CASE-MSC-11561-1	c 05	N73-32014 *
NASA-CASE-MFS-23405-1	c 26	N77-29260 *	NASA-CASE-MFS-25807	c 37	N83-20154 *	NASA-CASE-MSC-11817-1	c 15	N71-26611 *
NASA-CASE-MFS-23447-1	c 37	N79-11404 *	NASA-CASE-MFS-25825-1	c 31	N86-29055 *	NASA-CASE-MSC-11847-1	c 14	N72-11363 *
NASA-CASE-MFS-23460-1	c 12	N79-26075 *	NASA-CASE-MFS-25828-1	c 71	N84-28568 *	NASA-CASE-MSC-11849-1	c 15	N72-22488 *
NASA-CASE-MFS-23461-1	c 35	N79-10389 *	NASA-CASE-MFS-25833-1	c 35	N86-32698 *	NASA-CASE-MSC-12033-1	c 09	N71-13531 *
NASA-CASE-MFS-23506-1	c 24	N78-24290 *	NASA-CASE-MFS-25837-1	c 18	N85-29991 *	NASA-CASE-MSC-12049	c 31	N71-16080 *
NASA-CASE-MFS-23513-1	c 74	N79-11865 *	NASA-CASE-MFS-25842-2	c 37	N86-20788 *	NASA-CASE-MSC-12052-1	c 15	N71-24599 *
NASA-CASE-MFS-23515-1	c 44	N80-21828 *	NASA-CASE-MFS-25843-1	c 20	N83-17588 *	NASA-CASE-MSC-12084-1	c 12	N71-17569 *
NASA-CASE-MFS-23518-1	c 44	N79-11469 *	NASA-CASE-MFS-25852-1	c 33	N84-33661 *	NASA-CASE-MSC-12086-1	c 05	N71-12345 *
NASA-CASE-MFS-23518-3	c 44	N80-16452 *	NASA-CASE-MFS-25853-1	c 16	N84-27784 *	NASA-CASE-MSC-12101	c 09	N71-18720 *
NASA-CASE-MFS-23540-1	c 44	N79-26475 *	NASA-CASE-MFS-25854-1	c 33	N84-27975 *	NASA-CASE-MSC-12105-1	c 14	N72-21409 *
NASA-CASE-MFS-23541-1	c 76	N79-14906 *	NASA-CASE-MFS-25861-1	c 33	N85-22877 *	NASA-CASE-MSC-12109	c 18	N71-26285 *
NASA-CASE-MFS-23551-1	c 04	N76-26175 *	NASA-CASE-MFS-25862-1	c 27	N85-20126 *	NASA-CASE-MSC-12111-1	c 02	N71-11039 *
NASA-CASE-MFS-23564-1	c 15	N78-25119 *	NASA-CASE-MFS-25862-2	c 37	N84-33807 *	NASA-CASE-MSC-12116-1	c 15	N71-17648 *
NASA-CASE-MFS-23579-1	c 18	N79-11108 *	NASA-CASE-MFS-25868-1	c 33	N86-20670 *	NASA-CASE-MSC-12121-1	c 15	N71-27147 *
NASA-CASE-MFS-23620-1	c 37	N79-10421 *	NASA-CASE-MFS-25878-1	c 18	N84-27787 *	NASA-CASE-MSC-12135-1	c 09	N71-12526 *
NASA-CASE-MFS-23626-1	c 24	N80-26388 *	NASA-CASE-MFS-25905-2	c 31	N86-21718 *	NASA-CASE-MSC-12139-1	c 28	N71-14058 *
NASA-CASE-MFS-23642-1	c 20	N80-10278 *	NASA-CASE-MFS-25906-1	c 37	N86-20789 *	NASA-CASE-MSC-12143-1	c 33	N72-17947 *
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NASA-CASE-MFS-23646-1	c 37	N79-22474 *	NASA-CASE-MFS-25910-1	c 39	N86-20841 *	NASA-CASE-MSC-12165-1	c 07	N71-33696 *
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NASA-CASE-MFS-23675-1	c 89	N79-10969 *	NASA-CASE-MFS-25949-1	c 37	N86-19603 *	NASA-CASE-MSC-12205-1	c 07	N71-27056 *
NASA-CASE-MFS-23696-1	c 54	N81-26718 *	NASA-CASE-MFS-25956-1	c 37	N87-21333 *	NASA-CASE-MSC-12206-1	c 05	N71-17599 *
NASA-CASE-MFS-23717-1	c 52	N81-25660 *	NASA-CASE-MFS-25962-1	c 09	N89-25242 *	NASA-CASE-MSC-12209	c 09	N71-24842 *
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NASA-CASE-MFS-23721-1	c 31	N79-28370 *	NASA-CASE-MFS-25978-1	c 44	N87-21410 *	NASA-CASE-MSC-12239-1	c 52	N79-21750 *
NASA-CASE-MFS-23725-1	c 43	N79-31706 *	NASA-CASE-MFS-25981-1	c 35	N87-14670 *	NASA-CASE-MSC-12243-1	c 05	N71-24728 *
NASA-CASE-MFS-23726-1	c 43	N79-26439 *	NASA-CASE-MFS-25989-1	c 20	N87-14420 *	NASA-CASE-MSC-12259-1	c 07	N70-12616 *
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NASA-CASE-MFS-23775-1	c 44	N82-16474 *	NASA-CASE-MFS-26002-1-CU	c 35	N86-26598 *	NASA-CASE-MSC-12279-1	c 15	N70-35679 *
NASA-CASE-MFS-23776-1	c 33	N82-28545 *	NASA-CASE-MFS-26008-1-CU	c 76	N88-14835 *	NASA-CASE-MSC-12279	c 15	N72-17450 *
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NASA-CASE-MFS-23816-1	c 26	N80-23419 *	NASA-CASE-MFS-26011-1-SB	c 52	N87-24874 *	NASA-CASE-MSC-12293-1	c 14	N72-27411 *
NASA-CASE-MFS-23825-1	c 51	N81-32829 *	NASA-CASE-MFS-26049-1-NP	c 25	N89-28603 *	NASA-CASE-MSC-12297	c 14	N72-23457 *



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NASA-CASE-MSC-12327-1	c 35	N77-27368 *	NASA-CASE-MSC-14270-2	c 27	N76-23426 *	NASA-CASE-MSC-18791-1	c 37	N83-36482 *
NASA-CASE-MSC-12357	c 15	N73-12489 *	NASA-CASE-MSC-14273-1	c 34	N75-33342 *	NASA-CASE-MSC-18794-1	c 44	N83-14693 *
NASA-CASE-MSC-12363-1	c 14	N73-26431 *	NASA-CASE-MSC-14276-1	c 52	N77-14737 *	NASA-CASE-MSC-18807-1	c 37	N83-36483 *
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NASA-CASE-MSC-12404-1	c 23	N73-13661 *	NASA-CASE-MSC-14632-1	c 54	N78-14784 *	NASA-CASE-MSC-19442-1	c 74	N77-10899 *
NASA-CASE-MSC-12408-1	c 46	N74-13011 *	NASA-CASE-MSC-14640-1	c 54	N76-14804 *	NASA-CASE-MSC-19514-1	c 37	N79-20377 *
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NASA-CASE-MSC-12423-1	c 91	N76-30131 *	NASA-CASE-MSC-14653-1	c 35	N77-19385 *	NASA-CASE-MSC-19536-1	c 37	N77-22482 *
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NASA-CASE-MSC-12433	c 31	N73-14854 *	NASA-CASE-MSC-14733-1	c 54	N76-24900 *	NASA-CASE-MSC-19666-1	c 37	N78-17383 *
NASA-CASE-MSC-12458-1	c 08	N73-32081 *	NASA-CASE-MSC-14735-1	c 54	N76-24900 *	NASA-CASE-MSC-19672-1	c 38	N79-14398 *
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NASA-CASE-MSC-12494-1	c 32	N74-20810 *	NASA-CASE-MSC-14771-1	c 54	N77-32722 *	NASA-CASE-MSC-19706-1	c 09	N78-31129 *
NASA-CASE-MSC-12506-1	c 32	N77-12239 *	NASA-CASE-MSC-14773-1	c 35	N78-12390 *	NASA-CASE-MSC-20036-1	c 76	N85-33826 *
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NASA-CASE-MSC-12615-1	c 37	N76-19437 *	NASA-CASE-MSC-14939-1	c 32	N79-11264 *	NASA-CASE-MSC-20250-1	c 35	N86-19581 *
NASA-CASE-MSC-12617-1	c 35	N76-29552 *	NASA-CASE-MSC-15158-1	c 14	N72-17325 *	NASA-CASE-MSC-20254-1	c 16	N84-22601 *
NASA-CASE-MSC-12618-1	c 74	N78-17865 *	NASA-CASE-MSC-15474-1	c 15	N71-26162 *	NASA-CASE-MSC-20258-1	c 60	N84-28492 *
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NASA-CASE-MSC-12631-1	c 24	N77-28225 *	NASA-CASE-MSC-15626-1	c 14	N72-25411 *	NASA-CASE-MSC-20261-2	c 54	N84-23113 *
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NASA-CASE-MSC-12745-1	c 33	N81-27397 *	NASA-CASE-MSC-16239-1	c 37	N81-32510 *	NASA-CASE-MSC-20497-1	c 34	N85-29180 *
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NASA-CASE-MSC-21361-1	c 51	N89-25557 *	#	NASA-CASE-NPO-10591	c 03	N72-22041 *	NASA-CASE-NPO-11106	c 14	N70-34697 *
NASA-CASE-MSC-21364-1	c 54	N89-13889 *	#	NASA-CASE-NPO-10595	c 10	N71-25917 *	NASA-CASE-NPO-11118	c 03	N72-25021 *
NASA-CASE-MSC-21365-1	c 37	N89-12865 *	#	NASA-CASE-NPO-10596	c 06	N71-25929 *	NASA-CASE-NPO-11120-1	c 34	N74-18552 *
NASA-CASE-MSC-21366-1	c 54	N89-12206 *	#	NASA-CASE-NPO-10606	c 15	N72-25451 *	NASA-CASE-NPO-11129	c 09	N72-33204 *
NASA-CASE-MSC-21372-1	c 35	N89-12842 *	#	NASA-CASE-NPO-10607	c 09	N71-27232 *	NASA-CASE-NPO-11130	c 08	N72-20176 *
NASA-CASE-MSC-21386-1	c 18	N89-28552 *	#	NASA-CASE-NPO-10617-1	c 35	N74-22095 *	NASA-CASE-NPO-11133	c 10	N72-20273 *
NASA-CASE-MSC-21408-1	c 37	N89-28829 *	#	NASA-CASE-NPO-10619-1	c 35	N77-21393 *	NASA-CASE-NPO-11134	c 09	N72-21246 *
NASA-CASE-MSC-21629-1	c 54	N89-29027 *	#	NASA-CASE-NPO-10625	c 09	N71-26182 *	NASA-CASE-NPO-11138	c 03	N70-34646 *
NASA-CASE-MSC-25707-1	c 35	N85-29214 *	#	NASA-CASE-NPO-10629	c 08	N72-18184 *	NASA-CASE-NPO-11140	c 15	N72-17455 *
NASA-CASE-MSC-90153-2	c 05	N72-25120 *	#	NASA-CASE-NPO-10633	c 03	N72-28025 *	NASA-CASE-NPO-11147	c 14	N72-27408 *
NASA-CASE-NPO-08835-1	c 27	N78-33228 *	#	NASA-CASE-NPO-10634	c 23	N72-25619 *	NASA-CASE-NPO-11150	c 35	N78-17359 *
NASA-CASE-NPO-10003	c 10	N71-26415 *	#	NASA-CASE-NPO-10636	c 08	N72-25210 *	NASA-CASE-NPO-11156-2	c 33	N75-31331 *
NASA-CASE-NPO-10034	c 15	N71-17685 *	#	NASA-CASE-NPO-10637	c 15	N72-12409 *	NASA-CASE-NPO-11161	c 08	N72-25207 *
NASA-CASE-NPO-10037	c 09	N71-19610 *	#	NASA-CASE-NPO-10646	c 15	N71-28467 *	NASA-CASE-NPO-11177	c 15	N72-17453 *
NASA-CASE-NPO-10046	c 28	N72-17843 *	#	NASA-CASE-NPO-10649	c 07	N71-24840 *	NASA-CASE-NPO-11190	c 03	N71-34044 *
NASA-CASE-NPO-10051	c 18	N71-24934 *	#	NASA-CASE-NPO-10671	c 15	N72-20443 *	NASA-CASE-NPO-11191-1	c 33	N77-22386 *
NASA-CASE-NPO-10064	c 15	N71-17693 *	#	NASA-CASE-NPO-10677	c 05	N72-11084 *	NASA-CASE-NPO-11194	c 08	N72-25209 *
NASA-CASE-NPO-10066	c 09	N71-18598 *	#	NASA-CASE-NPO-10679	c 15	N72-21462 *	NASA-CASE-NPO-11201	c 14	N72-27409 *
NASA-CASE-NPO-10068	c 08	N71-19288 *	#	NASA-CASE-NPO-10680	c 31	N73-14855 *	NASA-CASE-NPO-11202	c 15	N72-25450 *
NASA-CASE-NPO-10070	c 15	N71-27372 *	#	NASA-CASE-NPO-10682	c 15	N70-34699 *	NASA-CASE-NPO-11203	c 10	N72-20224 *
NASA-CASE-NPO-10096	c 07	N71-24583 *	#	NASA-CASE-NPO-10691	c 14	N71-26199 *	NASA-CASE-NPO-11210	c 11	N72-20244 *
NASA-CASE-NPO-10109	c 03	N71-11049 *	#	NASA-CASE-NPO-10694	c 09	N72-20200 *	NASA-CASE-NPO-11213	c 15	N73-20514 *
NASA-CASE-NPO-10112	c 08	N71-12502 *	#	NASA-CASE-NPO-10700	c 07	N71-33613 *	NASA-CASE-NPO-11222	c 15	N72-25456 *
NASA-CASE-NPO-10117	c 15	N71-15608 *	#	NASA-CASE-NPO-10701	c 06	N71-28620 *	NASA-CASE-NPO-11239	c 14	N73-12446 *
NASA-CASE-NPO-10118	c 07	N71-24741 *	#	NASA-CASE-NPO-10704	c 15	N72-20445 *	NASA-CASE-NPO-11243	c 07	N72-20154 *
NASA-CASE-NPO-10122	c 12	N71-17631 *	#	NASA-CASE-NPO-10711-1	c 35	N77-21392 *	NASA-CASE-NPO-11253	c 09	N72-17157 *
NASA-CASE-NPO-10123	c 15	N71-24835 *	#	NASA-CASE-NPO-10714	c 06	N69-31244 *	NASA-CASE-NPO-11254	c 07	N72-25174 *
NASA-CASE-NPO-10138	c 33	N71-16357 *	#	NASA-CASE-NPO-10716	c 09	N71-24892 *	NASA-CASE-NPO-11282	c 10	N73-16205 *
NASA-CASE-NPO-10140	c 07	N71-24742 *	#	NASA-CASE-NPO-10721	c 15	N72-27484 *	NASA-CASE-NPO-11283	c 09	N72-25260 *
NASA-CASE-NPO-10141	c 11	N71-24964 *	#	NASA-CASE-NPO-10722	c 09	N72-20199 *	NASA-CASE-NPO-11291-1	c 14	N73-30388 *
NASA-CASE-NPO-10143	c 10	N71-26326 *	#	NASA-CASE-NPO-10737	c 28	N72-11709 *	NASA-CASE-NPO-11302-1	c 07	N73-13149 *
NASA-CASE-NPO-10144	c 14	N71-17701 *	#	NASA-CASE-NPO-10743	c 08	N72-21199 *	NASA-CASE-NPO-11302-2	c 32	N74-10132 *
NASA-CASE-NPO-10150	c 08	N71-24650 *	#	NASA-CASE-NPO-10745	c 08	N72-22164 *	NASA-CASE-NPO-11304	c 14	N73-26430 *
NASA-CASE-NPO-10151	c 37	N78-17386 *	#	NASA-CASE-NPO-10747	c 03	N72-22042 *	NASA-CASE-NPO-11307-1	c 10	N73-30205 *
NASA-CASE-NPO-10158	c 33	N71-16356 *	#	NASA-CASE-NPO-10748	c 08	N72-20177 *	NASA-CASE-NPO-11311	c 14	N72-25414 *
NASA-CASE-NPO-10166-1	c 07	N73-22076 *	#	NASA-CASE-NPO-10753	c 03	N72-26031 *	NASA-CASE-NPO-11317-2	c 36	N74-13205 *
NASA-CASE-NPO-10166-2	c 35	N76-16391 *	#	NASA-CASE-NPO-10755	c 15	N71-27084 *	NASA-CASE-NPO-11322	c 06	N72-25146 *
NASA-CASE-NPO-10169	c 10	N71-24844 *	#	NASA-CASE-NPO-10758	c 14	N73-14427 *	NASA-CASE-NPO-11330	c 33	N73-26958 *
NASA-CASE-NPO-10173	c 15	N71-24696 *	#	NASA-CASE-NPO-10760	c 09	N72-25254 *	NASA-CASE-NPO-11333	c 08	N72-22162 *
NASA-CASE-NPO-10174	c 14	N71-18465 *	#	NASA-CASE-NPO-10764-1	c 14	N73-14428 *	NASA-CASE-NPO-11336-1	c 76	N79-16678 *
NASA-CASE-NPO-10175	c 14	N71-18625 *	#	NASA-CASE-NPO-10764-2	c 35	N75-25122 *	NASA-CASE-NPO-11337-1	c 74	N81-19896 *
NASA-CASE-NPO-10185	c 10	N71-26339 *	#	NASA-CASE-NPO-10765	c 06	N72-20121 *	NASA-CASE-NPO-11338	c 08	N72-25208 *
NASA-CASE-NPO-10188	c 03	N71-20273 *	#	NASA-CASE-NPO-10767-1	c 06	N73-33076 *	NASA-CASE-NPO-11340	c 15	N72-33477 *
NASA-CASE-NPO-10189-1	c 33	N77-21314 *	#	NASA-CASE-NPO-10767-2	c 06	N72-21757 *	NASA-CASE-NPO-11342	c 09	N72-25248 *
NASA-CASE-NPO-10194	c 03	N71-20407 *	#	NASA-CASE-NPO-10768-2	c 06	N72-27144 *	NASA-CASE-NPO-11358	c 07	N72-25172 *
NASA-CASE-NPO-10198	c 09	N71-24806 *	#	NASA-CASE-NPO-10768	c 06	N71-27254 *	NASA-CASE-NPO-11361	c 07	N72-32169 *
NASA-CASE-NPO-10199	c 09	N72-17156 *	#	NASA-CASE-NPO-10769	c 08	N72-11171 *	NASA-CASE-NPO-11366	c 11	N73-26238 *
NASA-CASE-NPO-10201	c 08	N71-18694 *	#	NASA-CASE-NPO-10774	c 06	N72-17095 *	NASA-CASE-NPO-11369	c 15	N73-13467 *
NASA-CASE-NPO-10214	c 10	N71-26577 *	#	NASA-CASE-NPO-10778	c 14	N72-11364 *	NASA-CASE-NPO-11371	c 08	N73-12177 *
NASA-CASE-NPO-10230	c 09	N71-12520 *	#	NASA-CASE-NPO-10781-1	c 33	N77-21314 *	NASA-CASE-NPO-11373	c 13	N72-25323 *
NASA-CASE-NPO-10231	c 07	N71-26101 *	#	NASA-CASE-NPO-10790-1	c 33	N77-21316 *	NASA-CASE-NPO-11377	c 15	N73-27406 *
NASA-CASE-NPO-10233-1	c 74	N78-33913 *	#	NASA-CASE-NPO-10796	c 15	N71-27068 *	NASA-CASE-NPO-11387	c 14	N73-14429 *
NASA-CASE-NPO-10234	c 06	N72-17094 *	#	NASA-CASE-NPO-10808	c 15	N71-27432 *	NASA-CASE-NPO-11388	c 03	N72-23048 *
NASA-CASE-NPO-10242	c 09	N71-24803 *	#	NASA-CASE-NPO-10810	c 14	N71-27323 *	NASA-CASE-NPO-11403-1	c 33	N77-22386 *
NASA-CASE-NPO-10244	c 15	N72-26371 *	#	NASA-CASE-NPO-10812	c 15	N73-13464 *	NASA-CASE-NPO-11406	c 08	N73-12175 *
NASA-CASE-NPO-10250	c 23	N71-16212 *	#	NASA-CASE-NPO-10817-1	c 08	N73-30135 *	NASA-CASE-NPO-11417	c 15	N73-24513 *
NASA-CASE-NPO-10251	c 10	N71-27365 *	#	NASA-CASE-NPO-10821	c 03	N71-19545 *	NASA-CASE-NPO-11418-1	c 14	N73-13420 *
NASA-CASE-NPO-10271	c 17	N71-16393 *	#	NASA-CASE-NPO-10828	c 33	N72-17948 *	NASA-CASE-NPO-11426	c 07	N73-26119 *
NASA-CASE-NPO-10298	c 12	N71-17661 *	#	NASA-CASE-NPO-10830-1	c 27	N81-15104 *	NASA-CASE-NPO-11429-1	c 74	N77-21941 *
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NASA-CASE-NPO-10302	c 10	N71-26142 *	#	NASA-CASE-NPO-10844	c 07	N72-20140 *	NASA-CASE-NPO-11456	c 08	N73-26176 *
NASA-CASE-NPO-10303	c 07	N72-22127 *	#	NASA-CASE-NPO-10851	c 07	N71-24613 *	NASA-CASE-NPO-11458A	c 20	N78-32179 *
NASA-CASE-NPO-10309	c 15	N69-23190 *	#	NASA-CASE-NPO-10857-1	c 33	N80-14330 *	NASA-CASE-NPO-11458	c 28	N72-23810 *
NASA-CASE-NPO-10311	c 31	N71-15643 *	#	NASA-CASE-NPO-10882	c 06	N72-22107 *	NASA-CASE-NPO-11479	c 15	N73-13462 *
NASA-CASE-NPO-10316-1	c 37	N77-22479 *	#	NASA-CASE-NPO-10863-2	c 06	N72-25152 *	NASA-CASE-NPO-11481	c 21	N73-13644 *
NASA-CASE-NPO-10320	c 14	N71-17655 *	#	NASA-CASE-NPO-10863	c 06	N70-11251 *	NASA-CASE-NPO-11493	c 14	N73-12447 *
NASA-CASE-NPO-10331	c 09	N71-26701 *	#	NASA-CASE-NPO-10866-1	c 28	N79-14228 *	NASA-CASE-NPO-11497	c 08	N73-25206 *
NASA-CASE-NPO-10337	c 14	N71-15604 *	#	NASA-CASE-NPO-10870-1	c 33	N77-22386 *	NASA-CASE-NPO-11510-1	c 33	N77-21315 *
NASA-CASE-NPO-10342	c 10	N71-33407 *	#	NASA-CASE-NPO-10872-1	c 35	N79-16246 *	NASA-CASE-NPO-11515-1	c 33	N77-13315 *
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NASA-CASE-NPO-10348	c 10	N71-12554 *	#	NASA-CASE-NPO-10893	c 27	N73-22710 *	NASA-CASE-NPO-11559	c 28	N73-24784 *
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NASA-CASE-NPO-10373	c 03	N71-18698 *	#	NASA-CASE-NPO-10998-1	c 06	N73-32029 *	NASA-CASE-NPO-11572	c 07	N73-16121 *
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NASA-CASE-NPO-10404	c 03	N71-12255 *	#	NASA-CASE-NPO-11012	c 14	N72-22441 *	NASA-CASE-NPO-11609-2	c 27	N77-31308 *
NASA-CASE-NPO-10412	c 09	N71-28421 *	#	NASA-CASE-NPO-11011	c 15	N72-11391 *	NASA-CASE-NPO-11623-1	c 71	N74-31148 *
NASA-CASE-NPO-10416	c 12	N71-27332 *	#	NASA-CASE-NPO-11016	c 11	N72-22247 *	NASA-CASE-NPO-11628-1	c 07	N73-30113 *
NASA-CASE-NPO-10417	c 16	N71-33410 *	#	NASA-CASE-NPO-11018	c 08	N72-31226 *	NASA-CASE-NPO-11630	c 08	N72-33172 *
NASA-CASE-NPO-10424-1	c 27	N81-24258 *	#	NASA-CASE-NPO-11021	c 08	N72-21200 *	NASA-CASE-NPO-11631	c 10	N73-12244 *
NASA-CASE-NPO-10431	c 15	N71-29132 *	#	NASA-CASE-NPO-11023	c 03	N72-20032 *	NASA-CASE-NPO-11659-1	c 35	N74-11283 *
NASA-CASE-NPO-10440	c 15	N72-21466 *	#	NASA-CASE-NPO-11023	c 09	N72-17155 *	NASA-CASE-NPO-11661	c 07	N73-14130 *
NASA-CASE-NPO-10447	c 06	N70-11252 *	#	NASA-CASE-NPO-11031	c 07	N71-33606 *	NASA-CASE-NPO-11682-1	c 35	N74-15127 *
NASA-CASE-NPO-10467	c 23	N71-26654 *	#	NASA-CASE-NPO-11036	c 15	N72-24522 *	NASA-CASE-NPO-11686	c 14	N73-25462 *
NASA-CASE-NPO-10468	c 23	N71-33229 *	#	NASA-CASE-NPO-11059	c 15	N72-17454 *	NASA-CASE-NPO-11703-1	c 10	N73-32144 *
NASA-CASE-NPO-10539	c 07	N71-11285 *	#	NASA-CASE-NPO-11064	c 07	N72-11150 *	NASA-CASE-NPO-11707	c 07	N73-25161 *
NASA-CASE-NPO-10542	c 09	N72-27228 *	#	NASA-CASE-NPO-11078	c 09	N72-25262 *	NASA-CASE-NPO-11738-1	c 09	N73-30185 *
NASA-CASE-NPO-10548	c 16	N71-24831 *	#	NASA-CASE-NPO-11082	c 08	N72-22167 *	NASA-CASE-NPO-11743-1	c 28	N74-27425 *
NASA-CASE-NPO-10556	c 14	N71-27185 *	#	NASA-CASE-NPO-11087	c 23	N71-29125 *	NASA-CASE-NPO-11749	c 14	N73-28486 *
				NASA-CASE-NPO-11088	c 08	N71-29034 *	NASA-CASE-NPO-11751	c 07	N73-24176 *

NASA-CASE-NPO-11758-1	c 31	N74-23065 *	NASA-CASE-NPO-13321-1	c 32	N75-26195 *	NASA-CASE-NPO-13758-2	c 31	N81-15154 *
NASA-CASE-NPO-11771	c 03	N73-20040	NASA-CASE-NPO-13327-1	c 35	N75-23910 *	NASA-CASE-NPO-13759-1	c 74	N78-17867 *
NASA-CASE-NPO-11775	c 26	N72-28761 *	NASA-CASE-NPO-13342-1	c 37	N76-16446 *	NASA-CASE-NPO-13763-1	c 44	N78-33526 *
NASA-CASE-NPO-11806-1	c 44	N74-19693 *	NASA-CASE-NPO-13342-2	c 44	N76-29700 *	NASA-CASE-NPO-13764-1	c 27	N78-17215 *
NASA-CASE-NPO-11820-1	c 32	N74-19788 *	NASA-CASE-NPO-13345-1	c 37	N75-19684 *	NASA-CASE-NPO-13772-1	c 35	N78-10429 *
NASA-CASE-NPO-11821-1	c 08	N73-26175 *	NASA-CASE-NPO-13346-1	c 36	N76-29575 *	NASA-CASE-NPO-13786-1	c 44	N80-29835 *
NASA-CASE-NPO-11850-1	c 32	N74-12912 *	NASA-CASE-NPO-13348-1	c 33	N75-31332 *	NASA-CASE-NPO-13792-1	c 35	N77-32455 *
NASA-CASE-NPO-11856-1	c 36	N74-15145 *	NASA-CASE-NPO-13360-1	c 37	N75-25185 *	NASA-CASE-NPO-13801-1	c 36	N78-18410 *
NASA-CASE-NPO-11861-1	c 36	N74-20009 *	NASA-CASE-NPO-13374-1	c 33	N75-19524 *	NASA-CASE-NPO-13802-1	c 71	N78-10837 *
NASA-CASE-NPO-11868	c 10	N73-20254 *	NASA-CASE-NPO-13385-1	c 33	N76-18345 *	NASA-CASE-NPO-13804-1	c 33	N80-23559 *
NASA-CASE-NPO-11880	c 28	N73-24783 *	NASA-CASE-NPO-13386-1	c 54	N75-27758 *	NASA-CASE-NPO-13808-1	c 35	N78-15461 *
NASA-CASE-NPO-11905-1	c 33	N74-12887 *	NASA-CASE-NPO-13388-1	c 35	N76-16390 *	NASA-CASE-NPO-13810-1	c 44	N77-32582 *
NASA-CASE-NPO-11919-1	c 35	N74-11284 *	NASA-CASE-NPO-13391-1	c 34	N76-27515 *	NASA-CASE-NPO-13812-1	c 33	N77-30365 *
NASA-CASE-NPO-11921-1	c 32	N74-30523 *	NASA-CASE-NPO-13396-1	c 35	N76-18401 *	NASA-CASE-NPO-13813-1	c 44	N78-31526 *
NASA-CASE-NPO-11932-1	c 35	N74-23040 *	NASA-CASE-NPO-13402-1	c 37	N76-18457 *	NASA-CASE-NPO-13817-1	c 44	N79-11471 *
NASA-CASE-NPO-11941-1	c 10	N73-27171 *	NASA-CASE-NPO-13422-1	c 60	N76-14818 *	NASA-CASE-NPO-13821-1	c 44	N78-28594 *
NASA-CASE-NPO-11942-1	c 33	N73-32818 *	NASA-CASE-NPO-13423-1	c 33	N75-31329 *	NASA-CASE-NPO-13823-1	c 37	N81-25371 *
NASA-CASE-NPO-11945-1	c 36	N76-18427 *	NASA-CASE-NPO-13426-1	c 33	N75-31330 *	NASA-CASE-NPO-13828-1	c 37	N79-11405 *
NASA-CASE-NPO-11948-1	c 33	N74-32712 *	NASA-CASE-NPO-13428-1	c 60	N77-12721 *	NASA-CASE-NPO-13830-1	c 32	N80-14281 *
NASA-CASE-NPO-11951-1	c 37	N74-21065 *	NASA-CASE-NPO-13435-1	c 31	N76-14284 *	NASA-CASE-NPO-13836-1	c 32	N78-15323 *
NASA-CASE-NPO-11954-1	c 35	N78-29421 *	NASA-CASE-NPO-13436-1	c 37	N76-20480 *	NASA-CASE-NPO-13839-1	c 31	N78-25256 *
NASA-CASE-NPO-11961-1	c 44	N76-18643 *	NASA-CASE-NPO-13443-1	c 76	N76-20994 *	NASA-CASE-NPO-13847-2	c 85	N79-17747 *
NASA-CASE-NPO-11962-1	c 33	N74-10194 *	NASA-CASE-NPO-13447-1	c 60	N77-12721 *	NASA-CASE-NPO-13848-2	c 85	N79-17747 *
NASA-CASE-NPO-11966-1	c 33	N74-17928 *	NASA-CASE-NPO-13449-1	c 36	N75-32441 *	NASA-CASE-NPO-13849-1	c 28	N80-10374 *
NASA-CASE-NPO-11975-1	c 28	N74-33209 *	NASA-CASE-NPO-13451-1	c 33	N76-14373 *	NASA-CASE-NPO-13858-1	c 28	N79-11231 *
NASA-CASE-NPO-11978	c 31	N78-17238 *	NASA-CASE-NPO-13459-1	c 31	N77-10229 *	NASA-CASE-NPO-13859-1	c 28	N79-11231 *
NASA-CASE-NPO-12000	c 27	N72-25699 *	NASA-CASE-NPO-13462-1	c 35	N76-24524 *	NASA-CASE-NPO-13862-1	c 35	N79-10391 *
NASA-CASE-NPO-12015	c 27	N73-16764 *	NASA-CASE-NPO-13464-1	c 44	N76-18642 *	NASA-CASE-NPO-13867-1	c 27	N78-14164 *
NASA-CASE-NPO-12061-1	c 27	N76-16228 *	NASA-CASE-NPO-13464-2	c 44	N76-29704 *	NASA-CASE-NPO-13872-1	c 33	N78-10377 *
NASA-CASE-NPO-12070-1	c 28	N73-32606 *	NASA-CASE-NPO-13465-1	c 32	N76-31372 *	NASA-CASE-NPO-13877-1	c 45	N82-11634 *
NASA-CASE-NPO-12072	c 28	N72-22772 *	NASA-CASE-NPO-13474-1	c 45	N76-21742 *	NASA-CASE-NPO-13886-1	c 32	N78-24391 *
NASA-CASE-NPO-12087-1	c 74	N81-19898 *	NASA-CASE-NPO-13479-1	c 35	N77-10492 *	NASA-CASE-NPO-13899-1	c 27	N80-32515 *
NASA-CASE-NPO-12106	c 09	N73-15235 *	NASA-CASE-NPO-13482-1	c 44	N78-13526 *	NASA-CASE-NPO-13904-1	c 25	N79-11152 *
NASA-CASE-NPO-12107	c 08	N71-27255 *	NASA-CASE-NPO-13490-1	c 36	N76-31512 *	NASA-CASE-NPO-13906-1	c 54	N79-24652 *
NASA-CASE-NPO-12109	c 11	N72-22245 *	NASA-CASE-NPO-13497-1	c 44	N76-14602 *	NASA-CASE-NPO-13907-1	c 28	N80-10374 *
NASA-CASE-NPO-12119-1	c 52	N75-15270 *	NASA-CASE-NPO-13504-1	c 33	N75-30430 *	NASA-CASE-NPO-13909-1	c 33	N78-25319 *
NASA-CASE-NPO-12122-1	c 24	N76-14203 *	NASA-CASE-NPO-13506-1	c 35	N76-15435 *	NASA-CASE-NPO-13910-1	c 52	N79-27836 *
NASA-CASE-NPO-12127-1	c 91	N74-13130 *	NASA-CASE-NPO-13510-1	c 44	N77-32581 *	NASA-CASE-NPO-13913-1	c 52	N79-12694 *
NASA-CASE-NPO-12128-1	c 14	N73-32317 *	NASA-CASE-NPO-13512-1	c 33	N77-10428 *	NASA-CASE-NPO-13914-1	c 44	N78-31526 *
NASA-CASE-NPO-12130-1	c 25	N75-14844 *	NASA-CASE-NPO-13519-1	c 33	N76-19338 *	NASA-CASE-NPO-13918-1	c 76	N79-11920 *
NASA-CASE-NPO-12131-3	c 37	N80-18400 *	NASA-CASE-NPO-13528-1	c 09	N77-10071 *	NASA-CASE-NPO-13921-1	c 44	N79-14526 *
NASA-CASE-NPO-12134-1	c 33	N76-31409 *	NASA-CASE-NPO-13530-1	c 25	N81-17187 *	NASA-CASE-NPO-13930-1	c 52	N79-14749 *
NASA-CASE-NPO-12142-1	c 38	N76-28563 *	NASA-CASE-NPO-13531-1	c 36	N76-24553 *	NASA-CASE-NPO-13935-1	c 52	N79-14751 *
NASA-CASE-NPO-12148-1	c 44	N78-27515 *	NASA-CASE-NPO-13535-1	c 37	N76-31524 *	NASA-CASE-NPO-13937-1	c 44	N78-31527 *
NASA-CASE-NPO-13044-1	c 35	N74-15094 *	NASA-CASE-NPO-13540-1	c 35	N77-14409 *	NASA-CASE-NPO-13941-1	c 32	N79-10262 *
NASA-CASE-NPO-13050-1	c 36	N75-15029 *	NASA-CASE-NPO-13541-1	c 37	N79-14383 *	NASA-CASE-NPO-13944-1	c 52	N79-14751 *
NASA-CASE-NPO-13058-1	c 37	N77-22480 *	NASA-CASE-NPO-13543-1	c 32	N77-12240 *	NASA-CASE-NPO-13945-1	c 36	N78-27402 *
NASA-CASE-NPO-13059-1	c 37	N76-20480 *	NASA-CASE-NPO-13544-1	c 36	N76-18428 *	NASA-CASE-NPO-13948-1	c 35	N78-25391 *
NASA-CASE-NPO-13063-1	c 25	N76-18245 *	NASA-CASE-NPO-13545-1	c 32	N77-12240 *	NASA-CASE-NPO-13953-1	c 35	N79-28527 *
NASA-CASE-NPO-13064-1	c 33	N79-11314 *	NASA-CASE-NPO-13550-1	c 36	N77-26477 *	NASA-CASE-NPO-13958-1	c 25	N79-11151 *
NASA-CASE-NPO-13065-1	c 52	N74-26625 *	NASA-CASE-NPO-13553-1	c 33	N76-32457 *	NASA-CASE-NPO-13969-1	c 76	N79-23798 *
NASA-CASE-NPO-13067-1	c 60	N76-18800 *	NASA-CASE-NPO-13556-1	c 35	N84-33766 *	NASA-CASE-NPO-13970-1	c 33	N81-20352 *
NASA-CASE-NPO-13081-1	c 33	N74-22814 *	NASA-CASE-NPO-13560-1	c 44	N77-10636 *	NASA-CASE-NPO-13982-1	c 32	N79-14267 *
NASA-CASE-NPO-13086-1	c 15	N73-12495 *	NASA-CASE-NPO-13561-1	c 44	N77-10636 *	NASA-CASE-NPO-13993-1	c 72	N79-13826 *
NASA-CASE-NPO-13087-2	c 44	N76-31666 *	NASA-CASE-NPO-13566-1	c 25	N77-32255 *	NASA-CASE-NPO-13999-1	c 35	N78-18395 *
NASA-CASE-NPO-13091-1	c 09	N73-12214 *	NASA-CASE-NPO-13567-1	c 44	N76-29701 *	NASA-CASE-NPO-14000-1	c 33	N79-24254 *
NASA-CASE-NPO-13096-1	c 37	N77-22480 *	NASA-CASE-NPO-13568-1	c 32	N76-21365 *	NASA-CASE-NPO-14001-1	c 27	N81-14076 *
NASA-CASE-NPO-13103-1	c 32	N74-20811 *	NASA-CASE-NPO-13569-2	c 35	N79-14348 *	NASA-CASE-NPO-14005-1	c 71	N79-20827 *
NASA-CASE-NPO-13105-1	c 37	N74-21060 *	NASA-CASE-NPO-13579-1	c 44	N78-17460 *	NASA-CASE-NPO-14009-1	c 32	N79-13214 *
NASA-CASE-NPO-13112-1	c 73	N74-26767 *	NASA-CASE-NPO-13579-2	c 44	N79-24433 *	NASA-CASE-NPO-14014-1	c 37	N79-10420 *
NASA-CASE-NPO-13114-2	c 73	N78-28913 *	NASA-CASE-NPO-13579-3	c 44	N79-24432 *	NASA-CASE-NPO-14019-1	c 32	N79-14268 *
NASA-CASE-NPO-13120-1	c 27	N76-15311 *	NASA-CASE-NPO-13579-4	c 44	N79-14529 *	NASA-CASE-NPO-14021-2	c 27	N80-16163 *
NASA-CASE-NPO-13121-1	c 73	N77-18891 *	NASA-CASE-NPO-13581-2	c 44	N78-31525 *	NASA-CASE-NPO-14022-1	c 32	N78-31321 *
NASA-CASE-NPO-13125-1	c 33	N75-19519 *	NASA-CASE-NPO-13587-1	c 32	N77-32342 *	NASA-CASE-NPO-14035-1	c 32	N83-19968 *
NASA-CASE-NPO-13127-1	c 35	N74-23040 *	NASA-CASE-NPO-13604-1	c 35	N76-31490 *	NASA-CASE-NPO-14054-1	c 32	N82-12297 *
NASA-CASE-NPO-13131-1	c 36	N75-19652 *	NASA-CASE-NPO-13606-2	c 35	N80-18364 *	NASA-CASE-NPO-14056-1	c 33	N79-24257 *
NASA-CASE-NPO-13137-1	c 27	N80-32514 *	NASA-CASE-NPO-13613-1	c 37	N76-29590 *	NASA-CASE-NPO-14058-1	c 44	N79-18443 *
NASA-CASE-NPO-13138-1	c 33	N74-17927 *	NASA-CASE-NPO-13619-1	c 37	N78-13669 *	NASA-CASE-NPO-14066-1	c 74	N79-34011 *
NASA-CASE-NPO-13139-1	c 60	N76-21914 *	NASA-CASE-NPO-13620-1	c 27	N77-30236 *	NASA-CASE-NPO-14078-1	c 72	N80-14877 *
NASA-CASE-NPO-13140-1	c 32	N75-24982 *	NASA-CASE-NPO-13641-1	c 32	N79-24210 *	NASA-CASE-NPO-14079-1	c 25	N80-20334 *
NASA-CASE-NPO-13147-1	c 36	N77-25502 *	NASA-CASE-NPO-13643-1	c 52	N76-29896 *	NASA-CASE-NPO-14092-1	c 52	N80-16725 *
NASA-CASE-NPO-13157-1	c 37	N74-32918 *	NASA-CASE-NPO-13644-1	c 52	N76-29895 *	NASA-CASE-NPO-14093-1	c 35	N80-20563 *
NASA-CASE-NPO-13159-1	c 33	N74-17928 *	NASA-CASE-NPO-13650-1	c 25	N79-28253 *	NASA-CASE-NPO-14096-1	c 44	N80-18551 *
NASA-CASE-NPO-13160-1	c 35	N74-18090 *	NASA-CASE-NPO-13652-1	c 44	N79-17314 *	NASA-CASE-NPO-14100-1	c 44	N79-12541 *
NASA-CASE-NPO-13170-1	c 35	N76-14430 *	NASA-CASE-NPO-13652-2	c 44	N79-24431 *	NASA-CASE-NPO-14101-1	c 52	N80-14687 *
NASA-CASE-NPO-13171-1	c 32	N74-11000 *	NASA-CASE-NPO-13652-3	c 44	N80-14474 *	NASA-CASE-NPO-14103-1	c 28	N78-31255 *
NASA-CASE-NPO-13175-1	c 36	N75-31427 *	NASA-CASE-NPO-13663-1	c 35	N77-14406 *	NASA-CASE-NPO-14109-1	c 28	N80-23471 *
NASA-CASE-NPO-13201-1	c 37	N75-15050 *	NASA-CASE-NPO-13666-1	c 27	N77-13217 *	NASA-CASE-NPO-14110-1	c 28	N81-15119 *
NASA-CASE-NPO-13205-1	c 31	N74-32917 *	NASA-CASE-NPO-13671-1	c 37	N77-31497 *	NASA-CASE-NPO-14112-1	c 46	N79-22679 *
NASA-CASE-NPO-13214-1	c 35	N75-25123 *	NASA-CASE-NPO-13673-1	c 71	N77-26919 *	NASA-CASE-NPO-14124-1	c 46	N80-14603 *
NASA-CASE-NPO-13215-1	c 35	N75-25123 *	NASA-CASE-NPO-13675-1	c 44	N77-32580 *	NASA-CASE-NPO-14126-1	c 44	N79-11470 *
NASA-CASE-NPO-13217-1	c 32	N75-26194 *	NASA-CASE-NPO-13676-1	c 60	N79-20751 *	NASA-CASE-NPO-14130-1	c 34	N79-20335 *
NASA-CASE-NPO-13231-1	c 45	N75-27585 *	NASA-CASE-NPO-13683-1	c 35	N77-14411 *	NASA-CASE-NPO-14134-1	c 71	N79-23753 *
NASA-CASE-NPO-13237-1	c 44	N76-18641 *	NASA-CASE-NPO-13687-1	c 35	N78-18391 *	NASA-CASE-NPO-14140-1	c 43	N81-26509 *
NASA-CASE-NPO-13247-1	c 76	N79-16678 *	NASA-CASE-NPO-13689-2	c 44	N81-29525 *	NASA-CASE-NPO-14143-1	c 25	N81-14015 *
NASA-CASE-NPO-13253-1	c 37	N75-18573 *	NASA-CASE-NPO-13689-4	c 44	N82-28780 *	NASA-CASE-NPO-14152-1	c 32	N80-18252 *
NASA-CASE-NPO-13263-1	c 12	N75-24774 *	NASA-CASE-NPO-13690-1	c 27	N78-19302 *	NASA-CASE-NPO-14162-1	c 60	N81-15706 *
NASA-CASE-NPO-13274-1	c 25	N79-10163 *	NASA-CASE-NPO-13690-2	c 27	N79-14213 *	NASA-CASE-NPO-14163-1	c 33	N81-14220 *
NASA-CASE-NPO-13281-1	c 37	N75-13266 *	NASA-CASE-NPO-13691-1	c 43	N79-17288 *	NASA-CASE-NPO-14167-1	c 60	N81-15706 *
NASA-CASE-NPO-13282	c 38	N78-17396 *	NASA-CASE-NPO-13707-1	c 74	N77-28933 *	NASA-CASE-NPO-14169-1	c 60	N81-15706 *
NASA-CASE-NPO-13283	c 38	N78-17395 *	NASA-CASE-NPO-13722-1	c 74	N77-22951 *	NASA-CASE-NPO-14170-1	c 37	N81-15364 *
NASA-CASE-NPO-13292-1	c 32	N75-15854 *	NASA-CASE-NPO-13731-1	c 39	N78-10493 *	NASA-CASE-NPO-14173-1	c 04	N80-32359 *
NASA-CASE-NPO-13303-1	c 20	N75-24837 *	NASA-CASE-NPO-13732-1	c 44	N79-10513 *	NASA-CASE-NPO-14174-1	c 74	N79-20856 *
NASA-CASE-NPO-13308-1	c 36	N75-30524 *	NASA-CASE-NPO-13734-1	c 44	N78-10554 *	NASA-CASE-NPO-14191-1	c 31	N80-32584 *
NASA-CASE-NPO-13309-1	c 25	N81-19244 *	NASA-CASE-NPO-13736-1	c 44	N77-32583 *	NASA-CASE-NPO-14192-1	c 39	N80-10507 *
NASA-CASE-NPO-13313-1	c 54	N75-27761 *	NASA-CASE-NPO-13753-1	c 32	N77-20289 *	NASA-CASE-NPO-14199-1	c 44	N79-25482 *

NASA-CASE-NPO-14200-1	c 44	N79-25482 *	NASA-CASE-NPO-14940-1	c 33	N83-31954 *	NASA-CASE-NPO-15801-1	c 74	N85-23396 *
NASA-CASE-NPO-14205-1	c 44	N79-31752 *	NASA-CASE-NPO-14987-1	c 24	N83-33950 *	NASA-CASE-NPO-15805-1	c 74	N84-28590 *
NASA-CASE-NPO-14212-1	c 52	N80-27072 *	NASA-CASE-NPO-14998-1	c 32	N83-18975 *	NASA-CASE-NPO-15808-1	c 44	N84-34792 *
NASA-CASE-NPO-14219-1	c 74	N81-17886 *	NASA-CASE-NPO-15015-1	c 25	N82-28368 *	NASA-CASE-NPO-15811-1	c 76	N84-12968 *
NASA-CASE-NPO-14220-1	c 37	N81-14318 *	NASA-CASE-NPO-15021-1	c 36	N83-10417 *	NASA-CASE-NPO-15813-1	c 76	N85-30922 *
NASA-CASE-NPO-14221-1	c 37	N81-25370 *	NASA-CASE-NPO-15024-1	c 32	N84-27951 *	NASA-CASE-NPO-15813-2	c 76	N87-15882 *
NASA-CASE-NPO-14224-1	c 33	N80-18287 *	NASA-CASE-NPO-15036-1	c 74	N82-19029 *	NASA-CASE-NPO-15851-1	c 37	N85-21652 *
NASA-CASE-NPO-14229-1	c 33	N80-18285 *	NASA-CASE-NPO-15037-2	c 37	N85-29282 *	NASA-CASE-NPO-15865-1	c 74	N85-34629 *
NASA-CASE-NPO-14231-1	c 46	N80-10709 *	NASA-CASE-NPO-15066-1	c 33	N82-29538 *	NASA-CASE-NPO-15890-1-CU	c 33	N85-29143 *
NASA-CASE-NPO-14237-1	c 44	N80-20808 *	NASA-CASE-NPO-15070-1	c 31	N83-35176 *	NASA-CASE-NPO-15904-1	c 76	N86-28760 *
NASA-CASE-NPO-14253-1	c 32	N80-32605 *	NASA-CASE-NPO-15071-1	c 44	N82-16475 *	NASA-CASE-NPO-15920-1	c 33	N85-21493 *
NASA-CASE-NPO-14254-1	c 36	N80-18372 *	NASA-CASE-NPO-15100-1	c 44	N84-14583 *	NASA-CASE-NPO-15924-1	c 25	N85-35253 *
NASA-CASE-NPO-14255-1	c 46	N79-23555 *	NASA-CASE-NPO-15102-1	c 25	N81-25159 *	NASA-CASE-NPO-15928-1	c 26	N85-29005 *
NASA-CASE-NPO-14258-1	c 35	N81-33448 *	NASA-CASE-NPO-15111-1	c 36	N82-29589 *	NASA-CASE-NPO-15939-1	c 43	N86-19711 *
NASA-CASE-NPO-14260-1	c 28	N79-28342 *	NASA-CASE-NPO-15115-1	c 37	N82-24493 *	NASA-CASE-NPO-15949-1	c 85	N85-34722 *
NASA-CASE-NPO-14272-1	c 25	N81-33246 *	NASA-CASE-NPO-15155-1	c 74	N85-22139 *	NASA-CASE-NPO-15960-1	c 37	N86-19604 *
NASA-CASE-NPO-14273-1	c 25	N82-11144 *	NASA-CASE-NPO-15161-1	c 33	N84-16456 *	NASA-CASE-NPO-15980-1	c 36	N85-30305 *
NASA-CASE-NPO-14295-1	c 76	N80-32245 *	NASA-CASE-NPO-15179-1	c 44	N82-26777 *	NASA-CASE-NPO-15982-1	c 60	N87-21591 *
NASA-CASE-NPO-14297-1	c 33	N81-19389 *	NASA-CASE-NPO-15183-1	c 44	N82-26776 *	NASA-CASE-NPO-16000-1	c 36	N85-29264 *
NASA-CASE-NPO-14298-1	c 76	N80-32244 *	NASA-CASE-NPO-15197-1	c 52	N83-25346 *	NASA-CASE-NPO-16021-1	c 33	N85-30187 *
NASA-CASE-NPO-14303-1	c 44	N80-18550 *	NASA-CASE-NPO-15201-1	c 36	N83-35350 *	NASA-CASE-NPO-16022-1	c 71	N85-22105 *
NASA-CASE-NPO-14305-1	c 44	N80-18550 *	NASA-CASE-NPO-15202-1	c 27	N83-34043 *	NASA-CASE-NPO-16027-1	c 35	N85-21597 *
NASA-CASE-NPO-14311-1	c 33	N82-29539 *	NASA-CASE-NPO-15210-1	c 25	N84-22709 *	NASA-CASE-NPO-16030-1	c 36	N84-25037 *
NASA-CASE-NPO-14315-1	c 27	N81-17261 *	NASA-CASE-NPO-15213-1	c 51	N83-17045 *	NASA-CASE-NPO-16038-1	c 37	N86-19605 *
NASA-CASE-NPO-14316-1	c 33	N81-33404 *	NASA-CASE-NPO-15220-1	c 45	N83-25217 *	NASA-CASE-NPO-16045-1	c 76	N87-13313 *
NASA-CASE-NPO-14324-1	c 72	N80-27163 *	NASA-CASE-NPO-15227-1	c 37	N81-33482 *	NASA-CASE-NPO-16061-1-CU	c 72	N87-21660 *
NASA-CASE-NPO-14328-1	c 32	N80-18253 *	NASA-CASE-NPO-15251-1	c 31	N83-31897 *	NASA-CASE-NPO-16103-1	c 27	N85-29043 *
NASA-CASE-NPO-14329-1	c 52	N81-20703 *	NASA-CASE-NPO-15264-1	c 04	N84-27713 *	NASA-CASE-NPO-16112-1	c 33	N86-19516 *
NASA-CASE-NPO-14340-1	c 45	N80-14579 *	NASA-CASE-NPO-15269-1	c 44	N82-29710 *	NASA-CASE-NPO-16116-2	c 60	N88-29310 *
NASA-CASE-NPO-14350-1	c 33	N80-14332 *	NASA-CASE-NPO-15292-1	c 35	N83-27184 *	NASA-CASE-NPO-16135-1	c 25	N83-24572 *
NASA-CASE-NPO-14361-1	c 32	N82-23376 *	NASA-CASE-NPO-15295-1	c 60	N85-21992 *	NASA-CASE-NPO-16142-1-CU	c 35	N86-20752 *
NASA-CASE-NPO-14362-1	c 32	N80-16261 *	NASA-CASE-NPO-15304-1	c 25	N83-31743 *	NASA-CASE-NPO-16147-1-CU	c 71	N85-29693 *
NASA-CASE-NPO-14363-1	c 39	N81-25400 *	NASA-CASE-NPO-15334-1	c 71	N83-35781 *	NASA-CASE-NPO-16155-1	c 44	N85-30475 *
NASA-CASE-NPO-14369-1	c 44	N83-10501 *	NASA-CASE-NPO-15341-1	c 35	N84-33769 *	NASA-CASE-NPO-16171-1-CU	c 04	N86-27270 *
NASA-CASE-NPO-14372-1	c 35	N80-26635 *	NASA-CASE-NPO-15342-1	c 60	N83-32342 *	NASA-CASE-NPO-16203-1	c 23	N85-35227 *
NASA-CASE-NPO-14382-1	c 31	N80-18231 *	NASA-CASE-NPO-15345-1	c 74	N84-23247 *	NASA-CASE-NPO-16233-1	c 37	N86-20801 *
NASA-CASE-NPO-14384-1	c 37	N80-10494 *	NASA-CASE-NPO-15351-1	c 06	N83-10040 *	NASA-CASE-NPO-16236-1	c 44	N86-27706 *
NASA-CASE-NPO-14387-1	c 43	N81-26509 *	NASA-CASE-NPO-15351-2	c 06	N84-34443 *	NASA-CASE-NPO-16256-1	c 32	N87-21207 *
NASA-CASE-NPO-14388-1	c 37	N81-17432 *	NASA-CASE-NPO-15358-1	c 33	N83-27126 *	NASA-CASE-NPO-16257-1	c 31	N85-29082 *
NASA-CASE-NPO-14395-1	c 37	N82-21587 *	NASA-CASE-NPO-15375-1	c 74	N84-11921 *	NASA-CASE-NPO-16271-1	c 35	N86-25753 *
NASA-CASE-NPO-14402-1	c 52	N81-27783 *	NASA-CASE-NPO-15388-1	c 44	N84-28203 *	NASA-CASE-NPO-16299-1	c 33	N87-14594 *
NASA-CASE-NPO-14406-1	c 37	N80-29703 *	NASA-CASE-NPO-15398-1	c 35	N84-22931 *	NASA-CASE-NPO-16306-1-CU	c 76	N85-30934 *
NASA-CASE-NPO-14416-1	c 44	N81-14389 *	NASA-CASE-NPO-15400-1	c 34	N83-31993 *	NASA-CASE-NPO-16321-1-CU	c 37	N87-17034 *
NASA-CASE-NPO-14424-1	c 33	N80-32650 *	NASA-CASE-NPO-15401-1	c 32	N83-27085 *	NASA-CASE-NPO-16337-1-CU	c 33	N87-22894 *
NASA-CASE-NPO-14426-1	c 33	N81-27396 *	NASA-CASE-NPO-15419-2	c 44	N85-30474 *	NASA-CASE-NPO-16372-1	c 72	N86-33127 *
NASA-CASE-NPO-14430-1	c 33	N80-32650 *	NASA-CASE-NPO-15423-1	c 35	N84-28016 *	NASA-CASE-NPO-16392-1	c 25	N86-25428 *
NASA-CASE-NPO-14435-1	c 33	N81-33405 *	NASA-CASE-NPO-15426-1	c 35	N84-17555 *	NASA-CASE-NPO-16393-1-CU	c 31	N87-21159 *
NASA-CASE-NPO-14444-1	c 33	N81-15192 *	NASA-CASE-NPO-15430-1	c 46	N85-21846 *	NASA-CASE-NPO-16402-2	c 33	N88-24862 *
NASA-CASE-NPO-14448-1	c 74	N81-29963 *	NASA-CASE-NPO-15432-1	c 32	N85-29117 *	NASA-CASE-NPO-16414-1-CU	c 32	N87-25511 *
NASA-CASE-NPO-14467-1	c 44	N79-31753 *	NASA-CASE-NPO-15433-1	c 32	N85-21428 *	NASA-CASE-NPO-16420-1	c 33	N86-20681 *
NASA-CASE-NPO-14473-1	c 37	N80-23654 *	NASA-CASE-NPO-15435-1	c 71	N83-36846 *	NASA-CASE-NPO-16423-1-CU	c 37	N87-21334 *
NASA-CASE-NPO-14474-1	c 26	N80-14229 *	NASA-CASE-NPO-15453-1	c 71	N83-32515 *	NASA-CASE-NPO-16433-1	c 36	N87-23961 *
NASA-CASE-NPO-14477-1	c 28	N80-28536 *	NASA-CASE-NPO-15458-1	c 25	N84-12262 *	NASA-CASE-NPO-16461-1-CU	c 60	N89-26400 *
NASA-CASE-NPO-14480-1	c 32	N80-20448 *	NASA-CASE-NPO-15464-1	c 74	N85-29749 *	NASA-CASE-NPO-16462-1-CU	c 60	N88-24169 *
NASA-CASE-NPO-14501-1	c 35	N80-18357 *	NASA-CASE-NPO-15465-1	c 34	N84-22903 *	NASA-CASE-NPO-16464-1-CU	c 60	N86-24224 *
NASA-CASE-NPO-14502-1	c 74	N81-17888 *	NASA-CASE-NPO-15466-1	c 71	N85-22104 *	NASA-CASE-NPO-16467-1-CU	c 33	N87-23879 *
NASA-CASE-NPO-14505-1	c 33	N81-19393 *	NASA-CASE-NPO-15482-1	c 37	N87-23970 *	NASA-CASE-NPO-16479-1-CU	c 35	N86-32695 *
NASA-CASE-NPO-14513-1	c 35	N81-14287 *	NASA-CASE-NPO-15483-1	c 37	N85-21650 *	NASA-CASE-NPO-16494-1-CU	c 34	N85-29182 *
NASA-CASE-NPO-14519-1	c 32	N80-23524 *	NASA-CASE-NPO-15494-1	c 35	N82-25484 *	NASA-CASE-NPO-16497-1-CU	c 36	N87-25567 *
NASA-CASE-NPO-14521-1	c 37	N81-27519 *	NASA-CASE-NPO-15496-1	c 44	N84-23018 *	NASA-CASE-NPO-16526-1-CU	c 44	N87-17399 *
NASA-CASE-NPO-14524-1	c 32	N80-24510 *	NASA-CASE-NPO-15516-1	c 36	N84-22943 *	NASA-CASE-NPO-16542-1-CU	c 36	N87-23960 *
NASA-CASE-NPO-14525-1	c 32	N79-19195 *	NASA-CASE-NPO-15519-1	c 32	N84-34651 *	NASA-CASE-NPO-16544-1-CU	c 35	N87-22953 *
NASA-CASE-NPO-14525-2	c 32	N83-31918 *	NASA-CASE-NPO-15522-1	c 71	N83-32516 *	NASA-CASE-NPO-16558-1-CU	c 74	N87-23259 *
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NASA-CASE-NPO-14542-1	c 25	N82-23282 *	NASA-CASE-NPO-15547-1	c 72	N84-16959 *	NASA-CASE-NPO-16607-1-CU	c 76	N88-14836 *
NASA-CASE-NPO-14544-1	c 46	N82-12685 *	NASA-CASE-NPO-15553-1	c 33	N85-29142 *	NASA-CASE-NPO-16632-1-CU	c 32	N87-15390 *
NASA-CASE-NPO-14549-2	c 52	N82-33996 *	NASA-CASE-NPO-15558-1	c 35	N84-34705 *	NASA-CASE-NPO-16640-1-CU	c 72	N87-21661 *
NASA-CASE-NPO-14554-1	c 60	N81-27814 *	NASA-CASE-NPO-15559-1	c 71	N85-30765 *	NASA-CASE-NPO-16675-1-CU	c 71	N88-24241 *
NASA-CASE-NPO-14556-1	c 33	N82-24418 *	NASA-CASE-NPO-15560-1	c 33	N85-21491 *	NASA-CASE-NPO-16681-1-CU	c 76	N88-24543 *
NASA-CASE-NPO-14558-1	c 46	N80-24906 *	NASA-CASE-NPO-15562-1	c 71	N82-27086 *	NASA-CASE-NPO-16734-1-CU	c 31	N88-14223 *
NASA-CASE-NPO-14567-1	c 33	N83-18996 *	NASA-CASE-NPO-15592-1	c 71	N84-16940 *	NASA-CASE-NPO-16750-1-CU	c 74	N89-14078 *
NASA-CASE-NPO-14579-1	c 32	N80-18253 *	NASA-CASE-NPO-15609-2	c 25	N88-23846 *	NASA-CASE-NPO-16764-1-CU	c 33	N88-14270 *
NASA-CASE-NPO-14588-1	c 32	N81-25278 *	NASA-CASE-NPO-15617-1	c 35	N87-21304 *	NASA-CASE-NPO-16766-1-CU	c 37	N89-13785 *
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NASA-CASE-NPO-14596-1	c 31	N81-33319 *	NASA-CASE-NPO-15629-1	c 76	N84-35113 *	NASA-CASE-NPO-16789-1-CU	c 72	N89-29169 *
NASA-CASE-NPO-14596-3	c 31	N83-31896 *	NASA-CASE-NPO-15640-1	c 27	N84-22748 *	NASA-CASE-NPO-16808-1-CU	c 76	N87-25868 *
NASA-CASE-NPO-14597-2	c 37	N84-28081 *	NASA-CASE-NPO-15644-1	c 35	N84-33767 *	NASA-CASE-NPO-16869-1-CU	c 74	N86-33138 *
NASA-CASE-NPO-14617-1	c 33	N81-24338 *	NASA-CASE-NPO-15651-1	c 43	N85-21723 *	NASA-CASE-NPO-16882-1-CU	c 33	N88-24863 *
NASA-CASE-NPO-14619-1	c 44	N81-17518 *	NASA-CASE-NPO-15656-1	c 43	N84-23012 *	NASA-CASE-NPO-16888-1-CU	c 33	N89-29681 *
NASA-CASE-NPO-14632-1	c 32	N82-18443 *	NASA-CASE-NPO-15658-1	c 26	N86-32551 *	NASA-CASE-NPO-16892-1-CU	c 37	N87-14704 *
NASA-CASE-NPO-14635-1	c 44	N80-24741 *	NASA-CASE-NPO-15662-1	c 44	N84-28204 *	NASA-CASE-NPO-16896-1-CU	c 71	N89-13236 *
NASA-CASE-NPO-14640-1	c 32	N80-32605 *	NASA-CASE-NPO-15689-1	c 71	N84-23233 *	NASA-CASE-NPO-16901-1-CU	c 31	N87-15327 *
NASA-CASE-NPO-14641-1	c 32	N81-29308 *	NASA-CASE-NPO-15696-1	c 33	N85-34333 *	NASA-CASE-NPO-16907-1-CU	c 25	N88-24732 *
NASA-CASE-NPO-14657-1	c 74	N81-17887 *	NASA-CASE-NPO-15704-1	c 32	N85-34327 *	NASA-CASE-NPO-16932-1-CU	c 33	N87-15413 *
NASA-CASE-NPO-14670-1	c 44	N81-19558 *	NASA-CASE-NPO-15706-1	c 35	N84-28017 *	NASA-CASE-NPO-16949-1-CU	c 62	N87-19021 *
NASA-CASE-NPO-14749-1	c 32	N81-14186 *	NASA-CASE-NPO-15722-1	c 35	N85-29212 *	NASA-CASE-NPO-16985-1-CU	c 31	N88-24814 *
NASA-CASE-NPO-14782-1	c 36	N82-28616 *	NASA-CASE-NPO-15743-1	c 32	N85-29118 *	NASA-CASE-NPO-16987-1-CU	c 32	N88-30001 *
NASA-CASE-NPO-14813-1	c 74	N82-24072 *	NASA-CASE-NPO-15753-1	c 27	N84-33589 *	NASA-CASE-NPO-16989-1-CU	c 35	N89-28794 *
NASA-CASE-NPO-14831-1	c 76	N82-30105 *	NASA-CASE-NPO-15759-1	c 35	N85-21596 *	NASA-CASE-NPO-17022-1-CU	c 29	N87-25489 *
NASA-CASE-NPO-14839-1	c 35	N82-15381 *	NASA-CASE-NPO-15767-1	c 23	N84-16255 *	NASA-CASE-NPO-17024-1-CU	c 35	N88-24943 *
NASA-CASE-NPO-14845-1	c 27	N82-28442 *	NASA-CASE-NPO-15772-1	c 76	N85-29800 *	NASA-CASE-NPO-17058-1-CU	c 62	N87-25803 *
NASA-CASE-NPO-14857-1	c 27	N83-19900 *	NASA-CASE-NPO-15786-1	c 76	N84-35112 *	NASA-CASE-NPO-17068-1-CU	c 35	N88-29151 *
NASA-CASE-NPO-14864-1	c 74	N83-19597 *	NASA-CASE-NPO-15789-1	c 31	N83-19947 *	NASA-CASE-NPO-17085-1-CU	c 31	N89-12785 *
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NASA-CASE-NPO-14936-1	c 47	N83-32232 *	NASA-CASE-NPO-15800-2	c 76	N87-23286 *	NASA-CASE-NPO-17108-1-CU	c 33	N89-28713 *

NASA-CASE-NPO-17134-1-CU	c 33	N88-24864 *	#	NASA-CASE-XAC-05506-1	c 24	N71-16095 *	NASA-CASE-XGS-01419	c 03	N70-41864 *
NASA-CASE-NPO-17139-1-CU	c 74	N88-25301 *	#	NASA-CASE-XAC-05632	c 32	N71-23971 *	NASA-CASE-XGS-01451	c 09	N71-10677 *
NASA-CASE-NPO-17140-1-CU	c 74	N89-14077 *		NASA-CASE-XAC-05695	c 25	N71-16073 *	NASA-CASE-XGS-01473	c 09	N71-10673 *
NASA-CASE-NPO-17143-1-CU	c 31	N89-14351 *		NASA-CASE-XAC-05706	c 05	N71-12342 *	NASA-CASE-XGS-01475	c 03	N71-11058 *
NASA-CASE-NPO-17144-1-CU	c 74	N88-25305 *	#	NASA-CASE-XAC-05902	c 11	N71-18578 *	NASA-CASE-XGS-01504	c 16	N70-41578 *
NASA-CASE-NPO-17157-1-CU	c 33	N88-26596 *		NASA-CASE-XAC-06029-1	c 31	N71-24813 *	NASA-CASE-XGS-01513	c 03	N71-23336 *
NASA-CASE-NPO-17184-1-CU	c 32	N88-26541 *	#	NASA-CASE-XAC-06302	c 08	N71-19763 *	NASA-CASE-XGS-01537	c 07	N71-23405 *
NASA-CASE-NPO-17196-1-CU	c 32	N88-29076 *		NASA-CASE-XAC-06956	c 15	N71-21177 *	NASA-CASE-XGS-01587	c 14	N71-15962 *
NASA-CASE-NPO-17197-1-CU	c 62	N89-29976 *	#	NASA-CASE-XAC-07043	c 05	N71-23161 *	NASA-CASE-XGS-01590	c 07	N71-12392 *
NASA-CASE-NPO-17203-1-CU	c 34	N89-13728 *		NASA-CASE-XAC-08494	c 30	N71-15990 *	NASA-CASE-XGS-01593	c 03	N70-35408 *
NASA-CASE-NPO-17207-1-CU	c 74	N88-25304 *	#	NASA-CASE-XAC-08972	c 02	N71-20570 *	NASA-CASE-XGS-01654	c 31	N71-24750 *
NASA-CASE-NPO-17233-1-CU	c 33	N88-29095 *	#	NASA-CASE-XAC-08981	c 09	N69-39897 *	NASA-CASE-XGS-01674	c 03	N71-29129 *
NASA-CASE-NPO-17249-1-CU	c 32	N89-28676 *		NASA-CASE-XAC-09489-1	c 15	N71-26673 *	NASA-CASE-XGS-01725	c 14	N69-39982 *
NASA-CASE-NPO-17259-1-CU	c 76	N88-25358 *	#	NASA-CASE-XAC-10019	c 15	N71-23809 *	NASA-CASE-XGS-01784	c 10	N71-20782 *
NASA-CASE-NPO-17275-1-CU	c 37	N89-29750 *		NASA-CASE-XAC-10607	c 10	N71-23669 *	NASA-CASE-XGS-01812	c 07	N71-23001 *
NASA-CASE-NPO-17278-1-CU	c 31	N88-24818 *	#	NASA-CASE-XAC-10608-1	c 09	N71-12517 *	NASA-CASE-XGS-01881	c 09	N70-40123 *
NASA-CASE-NPO-17280-1-CU	c 17	N88-27220 *	#	NASA-CASE-XAC-10768	c 09	N71-18830 *	NASA-CASE-XGS-01971	c 15	N71-15922 *
NASA-CASE-NPO-17282-1-CU	c 36	N89-12856 *	#	NASA-CASE-XAC-10770-1	c 16	N71-24828 *	NASA-CASE-XGS-01983	c 10	N70-41964 *
NASA-CASE-NPO-17291-1-CU	c 34	N88-23946 *	#	NASA-CASE-XAC-11225	c 14	N69-27486 *	NASA-CASE-XGS-02011	c 15	N71-20739 *
NASA-CASE-NPO-17310-1-CU	c 17	N88-28946 *	#				NASA-CASE-XGS-02171	c 09	N69-24324 *
NASA-CASE-NPO-17325-1-CU	c 32	N88-24846 *	#	NASA-CASE-XAR-01547	c 05	N69-21473 *	NASA-CASE-XGS-02290	c 07	N71-28809 *
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NASA-CASE-NPO-17354-1-CU	c 37	N88-24973 *	#				NASA-CASE-XGS-02319	c 14	N71-22965 *
NASA-CASE-NPO-17390-1-CU	c 35	N88-24944 *	#	NASA-CASE-XER-07894	c 09	N71-18721 *	NASA-CASE-XGS-02401	c 14	N69-27485 *
NASA-CASE-NPO-17393-1-CU	c 33	N89-29679 *	#	NASA-CASE-XER-07895	c 26	N72-25679 *	NASA-CASE-XGS-02422	c 15	N71-21529 *
NASA-CASE-NPO-17399-1-CU	c 76	N89-14120 *	#	NASA-CASE-XER-07896-2	c 23	N72-22673 *	NASA-CASE-XGS-02435	c 18	N71-22998 *
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NASA-CASE-NPO-17525-1-CU	c 60	N89-29955 *	#	NASA-CASE-XER-09519	c 14	N71-18483 *	NASA-CASE-XGS-02440	c 08	N71-19432 *
NASA-CASE-NPO-17526-1-CU	c 35	N89-28796 *	#	NASA-CASE-XER-09521	c 09	N72-12136 *	NASA-CASE-XGS-02441	c 15	N70-41629 *
NASA-CASE-NPO-17534-1-CU	c 76	N89-30076 *	#	NASA-CASE-XER-11019	c 09	N71-23598 *	NASA-CASE-XGS-02554	c 31	N71-21064 *
NASA-CASE-NPO-17543-1-CU	c 74	N89-30044 *	#	NASA-CASE-XER-11046-2	c 33	N74-22864 *	NASA-CASE-XGS-02607	c 31	N71-23009 *
NASA-CASE-NPO-17562-1-CU	c 74	N89-24153 *	#	NASA-CASE-XER-11046	c 09	N72-22203 *	NASA-CASE-XGS-02608	c 07	N70-41678 *
NASA-CASE-NPO-17596-1-CU	c 35	N89-28795 *	#	NASA-CASE-XER-11203	c 14	N71-28994 *	NASA-CASE-XGS-02610	c 14	N71-23174 *
NASA-CASE-NPO-17628-1-CU	c 32	N89-28684 *	#				NASA-CASE-XGS-02612	c 08	N71-19435 *
NASA-CASE-NPO-17630-1-CU	c 31	N89-29577 *	#	NASA-CASE-XFR-00181	c 21	N70-33279 *	NASA-CASE-XGS-02629	c 14	N71-21082 *
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NASA-CASE-XAC-00001	c 15	N71-28952 *		NASA-CASE-XGS-00131	c 09	N70-38995 *	NASA-CASE-XGS-03429	c 03	N69-21330 *
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NASA-CASE-XAC-00060	c 09	N70-39915 *		NASA-CASE-XGS-00373	c 23	N71-15978 *	NASA-CASE-XGS-03505	c 03	N71-10608 *
NASA-CASE-XAC-00073	c 14	N70-34813 *		NASA-CASE-XGS-00381	c 09	N70-34819 *	NASA-CASE-XGS-03532	c 14	N71-17627 *
NASA-CASE-XAC-00074	c 15	N70-34817 *		NASA-CASE-XGS-00458	c 09	N70-38604 *	NASA-CASE-XGS-03556	c 27	N70-35534 *
NASA-CASE-XAC-00086	c 09	N70-33182 *		NASA-CASE-XGS-00466	c 21	N70-34297 *	NASA-CASE-XGS-03632	c 09	N71-23311 *
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NASA-CASE-XAC-00319	c 25	N70-41628 *		NASA-CASE-XGS-00587	c 15	N70-35087 *	NASA-CASE-XGS-03736	c 14	N72-22443 *
NASA-CASE-XAC-00399	c 11	N70-34815 *		NASA-CASE-XGS-00619	c 30	N70-40016 *	NASA-CASE-XGS-03864	c 15	N69-24320 *
NASA-CASE-XAC-00404	c 08	N70-40125 *		NASA-CASE-XGS-00689	c 08	N70-34787 *	NASA-CASE-XGS-03865	c 14	N69-21363 *
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NASA-CASE-XAC-00648	c 14	N70-40400 *		NASA-CASE-XGS-00809	c 21	N70-35427 *	NASA-CASE-XGS-04175	c 15	N71-18579 *
NASA-CASE-XAC-00731	c 11	N71-15980 *		NASA-CASE-XGS-00823	c 10	N71-15910 *	NASA-CASE-XGS-04224	c 10	N71-26418 *
NASA-CASE-XAC-00812	c 14	N71-15598 *		NASA-CASE-XGS-00824	c 15	N71-16078 *	NASA-CASE-XGS-04227	c 15	N71-21744 *
NASA-CASE-XAC-00942	c 10	N71-16042 *		NASA-CASE-XGS-00829-1	c 44	N79-19447 *	NASA-CASE-XGS-04393	c 21	N71-14159 *
NASA-CASE-XAC-01101	c 14	N70-41957 *		NASA-CASE-XGS-00886	c 03	N71-11053 *	NASA-CASE-XGS-04478	c 14	N71-24233 *
NASA-CASE-XAC-01158	c 15	N71-23051 *		NASA-CASE-XGS-00938	c 32	N70-41367 *	NASA-CASE-XGS-04480	c 16	N69-27491 *
NASA-CASE-XAC-01404	c 05	N70-41581 *		NASA-CASE-XGS-00963	c 15	N69-39735 *	NASA-CASE-XGS-04531	c 03	N69-24267 *
NASA-CASE-XAC-01591	c 31	N71-17729 *		NASA-CASE-XGS-01013	c 14	N71-23725 *	NASA-CASE-XGS-04548	c 15	N71-24045 *
NASA-CASE-XAC-01662	c 14	N71-23037 *		NASA-CASE-XGS-01021	c 08	N71-21042 *	NASA-CASE-XGS-04554	c 15	N69-39786 *
NASA-CASE-XAC-01677	c 09	N71-20816 *		NASA-CASE-XGS-01022	c 07	N71-16088 *	NASA-CASE-XGS-04765	c 08	N71-18693 *
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NASA-CASE-XAC-02405	c 09	N71-16089 *		NASA-CASE-XGS-01036	c 14	N70-40003 *	NASA-CASE-XGS-04767	c 08	N71-12494 *
NASA-CASE-XAC-02407	c 14	N69-27423 *	#	NASA-CASE-XGS-01052	c 14	N71-15992 *	NASA-CASE-XGS-04768	c 08	N71-19437 *
NASA-CASE-XAC-02807	c 09	N71-23021 *		NASA-CASE-XGS-01110	c 07	N69-24334 *	NASA-CASE-XGS-04799	c 18	N71-24183 *
NASA-CASE-XAC-02877	c 14	N70-41681 *		NASA-CASE-XGS-01118	c 10	N71-23662 *	NASA-CASE-XGS-04808	c 03	N69-25146 *
NASA-CASE-XAC-02970	c 14	N69-39896 *	#	NASA-CASE-XGS-01143	c 31	N71-15647 *	NASA-CASE-XGS-04879	c 14	N71-20428 *
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NASA-CASE-XAC-03107	c 23	N71-16098 *		NASA-CASE-XGS-01159	c 21	N71-10678 *	NASA-CASE-XGS-04993	c 14	N71-17574 *
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NASA-CASE-XAC-03777	c 10	N71-15909 *		NASA-CASE-XGS-01230	c 08	N71-19544 *	NASA-CASE-XGS-05010	c 09	N69-24318 *
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NASA-CASE-XAC-04885	c 14	N71-23790 *		NASA-CASE-XGS-01331	c 14	N71-22996 *	NASA-CASE-XGS-05291	c 23	N71-16341 *
NASA-CASE-XAC-04886-1	c 14	N71-20439 *		NASA-CASE-XGS-01395	c 03	N69-21539 *	NASA-CASE-XGS-05432	c 03	N71-19438 *
NASA-CASE-XAC-05333	c 11	N71-22875 *		NASA-CASE-XGS-01418	c 09	N71-23573 *	NASA-CASE-XGS-05434	c 03	N71-20491 *
NASA-CASE-XAC-05422	c 04	N71-23185 *							
NASA-CASE-XAC-05462-2	c 10	N72-17171 *							



NASA-CASE-XGS-05441	c 10	N71-22962 *	NASA-CASE-XLA-00258	c 31	N70-38676 *	NASA-CASE-XLA-02057	c 26	N70-40015 *
NASA-CASE-XGS-05532	c 06	N71-17705 *	NASA-CASE-XLA-00281	c 21	N70-36943 *	NASA-CASE-XLA-02059	c 33	N71-24276 *
NASA-CASE-XGS-05533	c 04	N69-27487 *	NASA-CASE-XLA-00284	c 15	N71-16075 *	NASA-CASE-XLA-02079	c 12	N71-16894 *
NASA-CASE-XGS-05534	c 23	N71-16355 *	NASA-CASE-XLA-00302	c 15	N71-16077 *	NASA-CASE-XLA-02081	c 20	N71-16281 *
NASA-CASE-XGS-05579	c 31	N71-15676 *	NASA-CASE-XLA-00304	c 27	N70-34783 *	NASA-CASE-XLA-02131	c 32	N70-42003 *
NASA-CASE-XGS-05582	c 07	N69-27460 *	NASA-CASE-XLA-00326	c 03	N70-34667 *	NASA-CASE-XLA-02132	c 31	N71-10582 *
NASA-CASE-XGS-05584-1	c 25	N82-29370 *	NASA-CASE-XLA-00327	c 25	N71-29184 *	NASA-CASE-XLA-02332	c 32	N71-17609 *
NASA-CASE-XGS-05680	c 14	N71-17585 *	NASA-CASE-XLA-00330	c 33	N70-34540 *	NASA-CASE-XLA-02551	c 21	N71-21708 *
NASA-CASE-XGS-05715	c 23	N71-16100 *	NASA-CASE-XLA-00349	c 33	N70-37979 *	NASA-CASE-XLA-02605	c 14	N71-10773 *
NASA-CASE-XGS-05718	c 26	N71-16037 *	NASA-CASE-XLA-00350	c 02	N70-38011 *	NASA-CASE-XLA-02609	c 09	N72-25256 *
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NASA-CASE-XGS-06226	c 10	N71-25950 *	NASA-CASE-XLA-00378	c 11	N71-15925 *	NASA-CASE-XLA-02651	c 28	N70-41967 *
NASA-CASE-XGS-06306	c 17	N71-16044 *	NASA-CASE-XLA-00414	c 07	N70-38200 *	NASA-CASE-XLA-02704	c 11	N69-21540 *
NASA-CASE-XGS-06628	c 24	N71-16213 *	NASA-CASE-XLA-00415	c 15	N71-16079 *	NASA-CASE-XLA-02705	c 08	N71-15908 *
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NASA-CASE-XGS-07397-1	c 25	N82-29370 *	NASA-CASE-XLA-00481	c 14	N70-36824 *	NASA-CASE-XLA-02809	c 15	N71-22982 *
NASA-CASE-XGS-07514	c 23	N71-16099 *	NASA-CASE-XLA-00482	c 15	N70-36409 *	NASA-CASE-XLA-02810	c 14	N71-25901 *
NASA-CASE-XGS-07752	c 14	N73-30390 *	NASA-CASE-XLA-00487	c 14	N70-40157 *	NASA-CASE-XLA-02850	c 09	N71-20447 *
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NASA-CASE-XGS-08259	c 14	N71-23698 *	NASA-CASE-XLA-00495	c 14	N70-41332 *	NASA-CASE-XLA-02898	c 05	N71-20268 *
NASA-CASE-XGS-08266	c 14	N69-27432 *	NASA-CASE-XLA-00670	c 08	N71-12501 *	NASA-CASE-XLA-03076	c 07	N71-11266 *
NASA-CASE-XGS-08269	c 23	N71-26206 *	NASA-CASE-XLA-00675	c 25	N70-33267 *	NASA-CASE-XLA-03102	c 14	N71-21079 *
NASA-CASE-XGS-08679	c 10	N71-21473 *	NASA-CASE-XLA-00678	c 31	N70-34296 *	NASA-CASE-XLA-03103	c 25	N71-21693 *
NASA-CASE-XGS-08718	c 15	N71-24600 *	NASA-CASE-XLA-00679	c 15	N70-38601 *	NASA-CASE-XLA-03104	c 06	N71-11235 *
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NASA-CASE-XGS-09190	c 31	N71-16102 *	NASA-CASE-XLA-00754	c 15	N70-34850 *	NASA-CASE-XLA-03127	c 11	N71-10776 *
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NASA-CASE-XGS-11177	c 09	N71-27001 *	NASA-CASE-XLA-00791	c 03	N70-39930 *	NASA-CASE-XLA-03213	c 05	N71-11207 *
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NASA-CASE-XHQ-03673	c 33	N71-29046 *	NASA-CASE-XLA-00838	c 03	N70-36778 *	NASA-CASE-XLA-03374	c 25	N71-15562 *
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NASA-CASE-XHQ-04106	c 14	N70-40240 *	NASA-CASE-XLA-00898	c 02	N70-36804 *	NASA-CASE-XLA-03410	c 16	N71-25914 *
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NASA-CASE-XKS-03338	c 15	N71-24043 *	NASA-CASE-XLA-00937	c 31	N71-17691 *	NASA-CASE-XLA-03645	c 14	N71-20430 *
NASA-CASE-XKS-03381	c 09	N71-22796 *	NASA-CASE-XLA-00939	c 11	N71-15926 *	NASA-CASE-XLA-03659	c 02	N71-11041 *
NASA-CASE-XKS-03495	c 14	N69-39785 *	NASA-CASE-XLA-00941	c 14	N71-23240 *	NASA-CASE-XLA-03660	c 15	N71-21060 *
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NASA-CASE-XKS-06167	c 08	N71-24890 *	NASA-CASE-XLA-01091	c 15	N71-10672 *	NASA-CASE-XLA-04063	c 31	N71-33160 *
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NASA-CASE-XKS-10804	c 05	N71-24606 *	NASA-CASE-XLA-01288	c 09	N69-21470 *	NASA-CASE-XLA-04622	c 03	N70-41580 *
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NASA-CASE-XLA-00062	c 14	N70-33254 *	NASA-CASE-XLA-01291	c 33	N70-36617 *	NASA-CASE-XLA-04897	c 15	N72-22482 *
NASA-CASE-XLA-00087	c 02	N70-33332 *	NASA-CASE-XLA-01326	c 11	N71-21481 *	NASA-CASE-XLA-04901	c 31	N71-24315 *
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NASA-CASE-XLA-08493	c 10	N71-19421 *	NASA-CASE-XLE-00720	c 14	N70-40201 *	NASA-CASE-XLE-06094	c 33	N78-17293 *
NASA-CASE-XLA-08507	c 09	N69-39984 * #	NASA-CASE-XLE-00726	c 17	N71-15644 *	NASA-CASE-XLE-06461-2	c 17	N72-28535 *
NASA-CASE-XLA-08530	c 32	N71-25360 *	NASA-CASE-XLE-00785	c 33	N71-16104 *	NASA-CASE-XLE-06461	c 17	N72-22530 *
NASA-CASE-XLA-08645	c 15	N69-21465 * #	NASA-CASE-XLE-00787	c 14	N71-21090 *	NASA-CASE-XLE-06773	c 15	N71-23817 *
NASA-CASE-XLA-08646	c 14	N71-17586 *	NASA-CASE-XLE-00808	c 24	N71-10560 *	NASA-CASE-XLE-06774-2	c 06	N72-25150 *
NASA-CASE-XLA-08799	c 10	N71-27272 *	NASA-CASE-XLE-00810	c 15	N70-34861 *	NASA-CASE-XLE-06969	c 17	N71-24142 *
NASA-CASE-XLA-08801-1	c 02	N71-11043 *	NASA-CASE-XLE-00815	c 15	N70-35407 *	NASA-CASE-XLE-07087	c 06	N69-39889 * #
NASA-CASE-XLA-08802	c 06	N71-11238 *	NASA-CASE-XLE-00817	c 28	N70-33265 *	NASA-CASE-XLE-08511-2	c 18	N71-16105 *
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NASA-CASE-XLA-08914	c 15	N73-12492 * #	NASA-CASE-XLE-01092	c 15	N71-22797 *	NASA-CASE-XLE-08917-2	c 15	N71-24836 *
NASA-CASE-XLA-08916-2	c 14	N73-28487 *	NASA-CASE-XLE-01124	c 28	N71-14043 *	NASA-CASE-XLE-08917	c 15	N71-15597 *
NASA-CASE-XLA-08916	c 15	N71-29018 *	NASA-CASE-XLE-01182	c 27	N71-15635 *	NASA-CASE-XLE-09341	c 12	N71-28741 *
NASA-CASE-XLA-08966-1	c 17	N71-25903 *	NASA-CASE-XLE-01246	c 14	N71-10797 *	NASA-CASE-XLE-09475-1	c 33	N71-15568 *
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NASA-CASE-XLA-09371	c 10	N71-18724 *	NASA-CASE-XLE-01481	c 14	N71-10781 *	NASA-CASE-XLE-10326-4	c 37	N74-15125 *
NASA-CASE-XLA-09480	c 11	N71-33612 *	NASA-CASE-XLE-01512	c 12	N70-40124 *	NASA-CASE-XLE-10337	c 15	N71-24046 *
NASA-CASE-XLA-09843	c 15	N72-27485 *	NASA-CASE-XLE-01533	c 11	N71-10777 *	NASA-CASE-XLE-103477-1	c 28	N71-20330 *
NASA-CASE-XLA-09881	c 31	N71-16085 *	NASA-CASE-XLE-01604-2	c 15	N71-15610 *	NASA-CASE-XLE-10453-2	c 28	N72-27699 *
NASA-CASE-XLA-10322	c 15	N72-17452 *	NASA-CASE-XLE-01609	c 14	N71-10500 *	NASA-CASE-XLE-10466	c 17	N69-25147 * #
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NASA-CASE-XLA-10450	c 28	N71-21493 *	NASA-CASE-XLE-01645	c 03	N71-20904 *	NASA-CASE-XLE-10715	c 26	N71-23292 *
NASA-CASE-XLA-10470	c 15	N72-21489 * #	NASA-CASE-XLE-01716	c 09	N70-40234 *	NASA-CASE-XLE-10717	c 37	N75-29426 *
NASA-CASE-XLA-10772	c 07	N71-28980 *	NASA-CASE-XLE-01765	c 18	N71-10772 *	NASA-CASE-XLE-10910	c 18	N71-29040 *
NASA-CASE-XLA-11028-1	c 24	N74-27035 *	NASA-CASE-XLE-01783	c 28	N70-34175 *	NASA-CASE-XLE-2529-2	c 36	N75-27364 *
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NASA-CASE-XLA-11189	c 10	N72-20222 *	NASA-CASE-XLE-01903	c 22	N71-23599 *			
			NASA-CASE-XLE-01988	c 27	N71-15634 *	NASA-CASE-XMF-00148	c 28	N70-38710 *
NASA-CASE-XLE-00005	c 28	N70-39899 *	NASA-CASE-XLE-01997	c 06	N71-23527 *	NASA-CASE-XMF-00185	c 21	N70-34539 *
NASA-CASE-XLE-00010	c 15	N70-33382 *	NASA-CASE-XLE-02008	c 09	N71-21583 *	NASA-CASE-XMF-00324	c 09	N70-34596 *
NASA-CASE-XLE-00011	c 14	N70-41946 *	NASA-CASE-XLE-02024	c 14	N71-22964 *	NASA-CASE-XMF-00339	c 15	N70-39898 *
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NASA-CASE-XLE-00023	c 15	N70-33330 *	NASA-CASE-XLE-02062-1	c 20	N80-14188 *	NASA-CASE-XMF-00369	c 09	N70-36494 *
NASA-CASE-XLE-00027	c 33	N71-29152 *	NASA-CASE-XLE-02066	c 28	N71-15661 *	NASA-CASE-XMF-00375	c 15	N70-34249 *
NASA-CASE-XLE-00035	c 33	N71-29151 *	NASA-CASE-XLE-02082	c 17	N71-16026 *	NASA-CASE-XMF-00389	c 31	N70-34176 *
NASA-CASE-XLE-00037	c 28	N70-33372 *	NASA-CASE-XLE-02083	c 03	N69-39983 * #	NASA-CASE-XMF-00392	c 15	N70-34814 *
NASA-CASE-XLE-00046	c 15	N70-33311 *	NASA-CASE-XLE-02367-1	c 31	N79-21225 *	NASA-CASE-XMF-00411	c 11	N70-36913 *
NASA-CASE-XLE-00057	c 28	N70-38711 *	NASA-CASE-XLE-02428	c 17	N70-33288 *	NASA-CASE-XMF-00421	c 09	N70-34502 *
NASA-CASE-XLE-00078	c 28	N70-33284 *	NASA-CASE-XLE-02531	c 05	N71-23080 *	NASA-CASE-XMF-00424	c 11	N70-38196 *
NASA-CASE-XLE-00085	c 28	N70-39895 *	NASA-CASE-XLE-02545-1	c 76	N79-21910 *	NASA-CASE-XMF-00437	c 07	N70-40202 *
NASA-CASE-XLE-00092	c 15	N70-33264 *	NASA-CASE-XLE-02578	c 25	N71-20747 *	NASA-CASE-XMF-00442	c 31	N71-10747 *
NASA-CASE-XLE-00101	c 15	N70-33376 *	NASA-CASE-XLE-02624	c 12	N69-39988 * #	NASA-CASE-XMF-00447	c 14	N70-33179 *
NASA-CASE-XLE-00103	c 28	N70-33241 *	NASA-CASE-XLE-02647	c 18	N71-23658 *	NASA-CASE-XMF-00456	c 14	N70-34705 *
NASA-CASE-XLE-00106	c 15	N71-16076 *	NASA-CASE-XLE-02792	c 26	N71-10607 *	NASA-CASE-XMF-00462	c 14	N70-34298 *
NASA-CASE-XLE-00111	c 28	N70-38199 *	NASA-CASE-XLE-02798	c 26	N71-23654 *	NASA-CASE-XMF-00479	c 14	N70-34794 *
NASA-CASE-XLE-00143	c 14	N70-36618 *	NASA-CASE-XLE-02823	c 09	N71-23443 *	NASA-CASE-XMF-00480	c 14	N70-39898 *
NASA-CASE-XLE-00144	c 28	N70-34860 *	NASA-CASE-XLE-02824	c 03	N69-39890 * #	NASA-CASE-XMF-00515	c 15	N70-34664 *
NASA-CASE-XLE-00145	c 28	N70-36806 *	NASA-CASE-XLE-02902	c 25	N71-21694 *	NASA-CASE-XMF-00517	c 03	N70-34157 *
NASA-CASE-XLE-00150	c 28	N70-41818 *	NASA-CASE-XLE-02991	c 17	N71-16025 *	NASA-CASE-XMF-00580	c 11	N70-35383 *
NASA-CASE-XLE-00151	c 17	N70-33283 *	NASA-CASE-XLE-02998	c 14	N70-42074 *	NASA-CASE-XMF-00640	c 15	N70-39924 *
NASA-CASE-XLE-00155	c 28	N71-29154 *	NASA-CASE-XLE-02999	c 15	N71-16052 *	NASA-CASE-XMF-00641	c 31	N70-36410 *
NASA-CASE-XLE-00164	c 15	N70-36411 *	NASA-CASE-XLE-03061-1	c 10	N71-24798 *	NASA-CASE-XMF-00658	c 12	N70-38997 *
NASA-CASE-XLE-00168	c 11	N70-33278 *	NASA-CASE-XLE-03157	c 28	N71-24736 *	NASA-CASE-XMF-00663	c 08	N71-18752 *
NASA-CASE-XLE-00170	c 15	N70-36412 *	NASA-CASE-XLE-03186-1	c 09	N79-21084 *	NASA-CASE-XMF-00684	c 21	N71-21688 *
NASA-CASE-XLE-00177	c 28	N70-40367 *	NASA-CASE-XLE-03280	c 14	N71-23093 *	NASA-CASE-XMF-00701	c 09	N70-40272 *
NASA-CASE-XLE-00207	c 28	N70-33375 *	NASA-CASE-XLE-03307	c 33	N71-14035 *	NASA-CASE-XMF-00722	c 15	N70-40204 *
NASA-CASE-XLE-00208	c 28	N70-34294 *	NASA-CASE-XLE-03432	c 33	N71-24145 *	NASA-CASE-XMF-00906	c 09	N70-41655 *
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NASA-CASE-XLE-00212	c 03	N70-34134 *	NASA-CASE-XLE-03512	c 12	N69-21466 * #	NASA-CASE-XMF-00923	c 28	N70-36802 *
NASA-CASE-XLE-00222	c 02	N70-37939 *	NASA-CASE-XLE-03583	c 31	N71-17629 *	NASA-CASE-XMF-00968	c 28	N71-15660 *
NASA-CASE-XLE-00228	c 17	N70-38490 *	NASA-CASE-XLE-03629	c 17	N71-23248 *	NASA-CASE-XMF-01016	c 26	N71-17818 *
NASA-CASE-XLE-00231	c 17	N70-38198 *	NASA-CASE-XLE-03778	c 09	N69-21542 * #	NASA-CASE-XMF-01030	c 18	N70-41583 *
NASA-CASE-XLE-00231	c 17	N70-38198 *	NASA-CASE-XLE-03778	c 09	N69-21542 * #	NASA-CASE-XMF-01045	c 15	N70-40354 *
NASA-CASE-XLE-00243	c 14	N70-38602 *	NASA-CASE-XLE-03803-2	c 15	N71-17651 *	NASA-CASE-XMF-01049	c 15	N71-23049 *
NASA-CASE-XLE-00252	c 11	N70-34844 *	NASA-CASE-XLE-03803	c 15	N71-23816 *	NASA-CASE-XMF-01083	c 15	N71-22723 *
NASA-CASE-XLE-00266	c 14	N70-34156 *	NASA-CASE-XLE-03804	c 10	N71-19471 *	NASA-CASE-XMF-01096	c 10	N71-16030 *
NASA-CASE-XLE-00267	c 28	N70-33356 *	NASA-CASE-XLE-03925	c 18	N71-22894 *	NASA-CASE-XMF-01097	c 10	N71-16058 *
NASA-CASE-XLE-00283	c 17	N70-36616 *	NASA-CASE-XLE-03940-2	c 17	N72-28536 *	NASA-CASE-XMF-01099	c 14	N71-15969 *
NASA-CASE-XLE-00288	c 15	N70-34247 *	NASA-CASE-XLE-03940	c 18	N71-26153 *	NASA-CASE-XMF-01129	c 09	N70-38712 *
NASA-CASE-XLE-00303	c 15	N70-36535 *	NASA-CASE-XLE-04026	c 14	N71-23267 *	NASA-CASE-XMF-01174	c 07	N71-11298 *
NASA-CASE-XLE-00323	c 28	N70-38505 *	NASA-CASE-XLE-04222	c 23	N71-22881 *	NASA-CASE-XMF-01371	c 02	N70-41589 *
NASA-CASE-XLE-00335	c 14	N70-35368 *	NASA-CASE-XLE-04250	c 09	N71-20446 *	NASA-CASE-XMF-01402	c 15	N70-41829 *
NASA-CASE-XLE-00342	c 28	N70-37980 *	NASA-CASE-XLE-04501	c 09	N71-23190 *	NASA-CASE-XMF-01452	c 18	N71-21651 *
NASA-CASE-XLE-00345	c 15	N70-38020 *	NASA-CASE-XLE-04503	c 14	N71-24864 *	NASA-CASE-XMF-01483	c 15	N70-41371 *
NASA-CASE-XLE-00353	c 18	N70-39897 *	NASA-CASE-XLE-04526	c 03	N71-11052 *	NASA-CASE-XMF-01543	c 14	N69-27431 * #
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NASA-CASE-XLE-00387	c 33	N70-34812 *	NASA-CASE-XLE-04599	c 22	N72-20597 *	NASA-CASE-XMF-01598	c 28	N70-34162 *
NASA-CASE-XLE-00388	c 28	N70-34788 *	NASA-CASE-XLE-04603	c 33	N71-21507 *	NASA-CASE-XMF-01599	c 21	N71-15583 *
NASA-CASE-XLE-00397	c 15	N70-36492 *	NASA-CASE-XLE-04677	c 15	N71-10577 *	NASA-CASE-XMF-01667	c 09	N71-20705 *
NASA-CASE-XLE-00409	c 28	N71-15658 *	NASA-CASE-XLE-04787	c 03	N71-20492 *	NASA-CASE-XMF-01669	c 15	N71-17647 *
NASA-CASE-XLE-00454	c 23	N71-17802 *	NASA-CASE-XLE-04788	c 09	N71-22987 *	NASA-CASE-XMF-01730	c 21	N71-23289 *
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NASA-CASE-XLE-00490	c 33	N70-34545 *	NASA-CASE-XLE-04857	c 28	N71-23968 *	NASA-CASE-XMF-01779	c 11	N70-41677 *
NASA-CASE-XLE-00503	c 14	N70-34818 *	NASA-CASE-XLE-04946	c 17	N71-24911 *	NASA-CASE-XMF-01813	c 12	N71-20815 *
NASA-CASE-XLE-00519	c 28	N70-41576 *	NASA-CASE-XLE-05033	c 15	N71-23810 *	NASA-CASE-XMF-01887	c 28	N70-41582 *
NASA-CASE-XLE-00586	c 15	N71-15968 *	NASA-CASE-XLE-05079	c 15	N71-17652 *	NASA-CASE-XMF-01892	c 15	N71-10617 *
NASA-CASE-XLE-00620	c 32	N70-41579 *	NASA-CASE-XLE-05130-2	c 15	N71-19570 *	NASA-CASE-XMF-01899	c 10	N71-22986 *
NASA-CASE-XLE-00660	c 28	N70-39925 *	NASA-CASE-XLE-05130	c 15	N69-21362 * #	NASA-CASE-XMF-01973	c 31	N70-41948 *
NASA-CASE-XLE-00685	c 28	N70-41992 *	NASA-CASE-XLE-05230-2	c 14	N73-13417 *	NASA-CASE-XMF-01974	c 31	N70-41588 *
NASA-CASE-XLE-00688	c 14	N70-41330 *	NASA-CASE-XLE-05230	c 14	N72-27410 *		c 14	N71-22752 *
NASA-CASE-XLE-00690	c 25	N69-39884 * #	NASA-CASE-XLE-05260	c 14	N71-20429 *			
NASA-CASE-XLE-00702	c 14	N70-40203 *	NASA-CASE-XLE-05641-1	c 15	N71-26346 *	NASA-CASE-XMF-02039	c 15	N71-15871 *

NASA-CASE-XMF-02107	c 15	N71-10809 *	NASA-CASE-XMF-08674	c 06	N71-28807 *	NASA-CASE-XMS-04928	c 54	N78-17679 *
NASA-CASE-XMF-02108	c 31	N70-36845 *	NASA-CASE-XMF-08804	c 09	N71-24717 *	NASA-CASE-XMS-04935	c 05	N71-11190 *
NASA-CASE-XMF-02221	c 18	N71-27170 *	NASA-CASE-XMF-09422	c 07	N71-19436 *	NASA-CASE-XMS-05303	c 07	N69-27462 *
NASA-CASE-XMF-02263	c 05	N74-10907 *	NASA-CASE-XMF-09902	c 15	N72-11387 *	NASA-CASE-XMS-05304	c 05	N71-12336 *
NASA-CASE-XMF-02303	c 17	N71-23828 *	NASA-CASE-XMF-10040	c 15	N71-22877 *	NASA-CASE-XMS-05307	c 09	N69-24330 *
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NASA-CASE-XMF-02392	c 32	N71-24285 *	NASA-CASE-XMF-10968	c 14	N71-24234 *	NASA-CASE-XMS-05516	c 15	N71-17803 *
NASA-CASE-XMF-02433	c 14	N71-10616 *	NASA-CASE-XMF-14032	c 20	N71-16340 *	NASA-CASE-XMS-05562-1	c 09	N69-39986 *
NASA-CASE-XMF-02526-1	c 27	N79-21190 *	NASA-CASE-XMF-14301	c 09	N71-23188 *	NASA-CASE-XMS-05605-1	c 10	N71-19468 *
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NASA-CASE-XMF-02853	c 31	N70-36654 *	NASA-CASE-XMS-00863	c 05	N70-34857 *	NASA-CASE-XMS-06056-1	c 23	N71-24857 *
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NASA-CASE-XMF-02966	c 10	N71-24863 *	NASA-CASE-XMS-00893	c 07	N70-40063 *	NASA-CASE-XMS-06064	c 05	N71-23096 *
NASA-CASE-XMF-03074	c 06	N71-24740 *	NASA-CASE-XMS-00907	c 02	N70-41630 *	NASA-CASE-XMS-06162	c 31	N71-28851 *
NASA-CASE-XMF-03169	c 31	N71-15675 *	NASA-CASE-XMS-00913	c 10	N71-23543 *	NASA-CASE-XMS-06236	c 14	N71-21007 *
NASA-CASE-XMF-03198	c 30	N70-40353 *	NASA-CASE-XMS-00945	c 09	N71-10798 *	NASA-CASE-XMS-06329-1	c 15	N71-20441 *
NASA-CASE-XMF-03212	c 15	N71-22721 *	NASA-CASE-XMS-01077-1	c 37	N79-33467 *	NASA-CASE-XMS-06497	c 14	N71-26244 *
NASA-CASE-XMF-03248	c 11	N71-10604 *	NASA-CASE-XMS-01108	c 15	N69-24322 *	NASA-CASE-XMS-06740-1	c 07	N71-26579 *
NASA-CASE-XMF-03287	c 15	N71-15607 *	NASA-CASE-XMS-01115	c 05	N70-39922 *	NASA-CASE-XMS-06761	c 05	N69-23192 *
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NASA-CASE-XMF-03498	c 15	N71-15986 *	NASA-CASE-XMS-01240	c 05	N70-35152 *	NASA-CASE-XMS-06782	c 32	N71-15974 *
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NASA-CASE-XMF-03873	c 06	N69-39733 *	NASA-CASE-XMS-01445	c 12	N71-16031 *	NASA-CASE-XMS-07846-1	c 09	N69-21927 *
NASA-CASE-XMF-03934	c 09	N71-22985 *	NASA-CASE-XMS-01492	c 05	N70-41297 *	NASA-CASE-XMS-08589-1	c 09	N71-20569 *
NASA-CASE-XMF-03968	c 14	N71-27186 *	NASA-CASE-XMS-01546	c 14	N70-40233 *	NASA-CASE-XMS-09310	c 15	N71-22706 *
NASA-CASE-XMF-03988	c 15	N71-21403 *	NASA-CASE-XMS-01554	c 10	N71-10578 *	NASA-CASE-XMS-09352	c 09	N71-23316 *
NASA-CASE-XMF-04042	c 15	N71-23023 *	NASA-CASE-XMS-01615	c 05	N70-41329 *	NASA-CASE-XMS-09571	c 05	N71-19439 *
NASA-CASE-XMF-04132	c 15	N69-27502 *	NASA-CASE-XMS-01618	c 14	N71-20741 *	NASA-CASE-XMS-09610	c 07	N71-24625 *
NASA-CASE-XMF-04133	c 06	N70-20177 *	NASA-CASE-XMS-01620	c 23	N71-15673 *	NASA-CASE-XMS-09632-1	c 05	N71-11203 *
NASA-CASE-XMF-04134	c 14	N71-23755 *	NASA-CASE-XMS-01624	c 15	N70-40062 *	NASA-CASE-XMS-09635	c 05	N71-24623 *
NASA-CASE-XMF-04163	c 02	N71-23007 *	NASA-CASE-XMS-01625	c 15	N71-23022 *	NASA-CASE-XMS-09636	c 05	N71-12344 *
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NASA-CASE-XMF-04238	c 09	N69-39734 *	NASA-CASE-XMS-01906	c 31	N70-41373 *	NASA-CASE-XMS-09653	c 54	N78-17680 *
NASA-CASE-XMF-04367	c 09	N71-23545 *	NASA-CASE-XMS-01991	c 09	N71-21449 *	NASA-CASE-XMS-09690	c 33	N72-25913 *
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NASA-CASE-XMF-04966	c 14	N71-17658 *	NASA-CASE-XMS-02383	c 15	N71-15918 *			
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NASA-CASE-XMF-06053	c 26	N75-27126 *	NASA-CASE-XMS-03792	c 14	N70-41812 *	NASA-CASE-XNP-00477	c 08	N73-28045 *
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NASA-CASE-XMF-06515	c 14	N71-23227 *	NASA-CASE-XMS-04178	c 05	N71-22748 *	NASA-CASE-XNP-00610	c 28	N70-36910 *
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NASA-CASE-XMF-07587	c 15	N71-18701 *	NASA-CASE-XMS-04393	c 31	N70-41871 *	NASA-CASE-XNP-00732	c 28	N70-41447 *
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NASA-CASE-XMF-07808	c 15	N71-23812 *	NASA-CASE-XMS-04545	c 15	N71-22878 *	NASA-CASE-XNP-00738	c 09	N70-38201 *
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NASA-CASE-XMF-08652	c 06	N71-11243 *	NASA-CASE-XMS-04843	c 03	N69-21469 *	NASA-CASE-XNP-00816	c 28	N71-28928 *
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NASA-CASE-XNP-01187	c 15	N73-28516 *	NASA-CASE-XNP-04167-2	c 25	N72-24753 *	NASA-CASE-XNP-09744	c 27	N71-16392 *	*
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NASA-CASE-XNP-02278	c 15	N71-28951 *	NASA-CASE-XNP-06506	c 03	N71-11050 *	US-PATENT-APPL-SN-009887	c 28	N81-14103 *	*
NASA-CASE-XNP-02340	c 23	N69-24332 *	NASA-CASE-XNP-06507	c 09	N71-23548 *	US-PATENT-APPL-SN-009888	c 37	N81-14320 *	*
NASA-CASE-XNP-02341	c 15	N71-21531 *	NASA-CASE-XNP-06508	c 18	N69-39895 *	US-PATENT-APPL-SN-009889	c 33	N81-27396 *	*
NASA-CASE-XNP-02389	c 07	N71-28900 *	NASA-CASE-XNP-06509	c 14	N71-23226 *	US-PATENT-APPL-SN-010942	c 37	N88-14362 *	*
NASA-CASE-XNP-02500	c 18	N71-27397 *	NASA-CASE-XNP-06510	c 14	N71-23797 *	US-PATENT-APPL-SN-010943	c 35	N89-12841 *	*
NASA-CASE-XNP-02507	c 31	N71-17679 *	NASA-CASE-XNP-06611	c 07	N71-26102 *	US-PATENT-APPL-SN-010950	c 37	N88-14361 *	*
NASA-CASE-XNP-02588	c 15	N71-18613 *	NASA-CASE-XNP-06914	c 15	N71-21489 *	US-PATENT-APPL-SN-011693	c 27	N87-24575 *	#
NASA-CASE-XNP-02592	c 24	N71-20518 *	NASA-CASE-XNP-06933	c 14	N73-32321 *	US-PATENT-APPL-SN-011737	c 27	N81-14078 *	*
NASA-CASE-XNP-02595	c 31	N71-21881 *	NASA-CASE-XNP-06936	c 15	N71-24695 *	US-PATENT-APPL-SN-013801	c 05	N88-23765 *	*
NASA-CASE-XNP-02654	c 10	N70-42032 *	NASA-CASE-XNP-06937	c 09	N71-19516 *	US-PATENT-APPL-SN-013802	c 35	N88-23967 *	*
NASA-CASE-XNP-02713	c 10	N69-39888 *	NASA-CASE-XNP-06942	c 28	N71-23293 *	US-PATENT-APPL-SN-013803	c 33	N88-24862 *	*
NASA-CASE-XNP-02723	c 07	N70-41680 *	NASA-CASE-XNP-06957	c 14	N71-21088 *	US-PATENT-APPL-SN-014663	c 31	N81-25259 *	*
NASA-CASE-XNP-02748	c 08	N71-22749 *	NASA-CASE-XNP-07040	c 08	N71-12500 *	US-PATENT-APPL-SN-014664	c 44	N81-14389 *	*
NASA-CASE-XNP-02778	c 08	N71-22710 *	NASA-CASE-XNP-07169	c 15	N73-32362 *	US-PATENT-APPL-SN-015983	c 02	N80-28300 *	*
NASA-CASE-XNP-02791	c 07	N71-23026 *	NASA-CASE-XNP-07477	c 09	N71-26092 *	US-PATENT-APPL-SN-015995	c 08	N81-26152 *	*
NASA-CASE-XNP-02792	c 14	N71-28958 *	NASA-CASE-XNP-07478	c 14	N69-21923 *	US-PATENT-APPL-SN-015996	c 08	N81-24106 *	*
NASA-CASE-XNP-02839	c 28	N70-41922 *	NASA-CASE-XNP-07481	c 25	N69-21929 *	US-PATENT-APPL-SN-017885	c 32	N79-19195 *	#
NASA-CASE-XNP-02862-1	c 15	N71-26294 *	NASA-CASE-XNP-07659	c 06	N71-22975 *	US-PATENT-APPL-SN-017886	c 33	N81-33405 *	*
NASA-CASE-XNP-02888	c 18	N71-21068 *	NASA-CASE-XNP-08124-2	c 06	N73-13129 *	US-PATENT-APPL-SN-017887	c 33	N81-26358 *	*
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NASA-CASE-XNP-02983	c 14	N71-21091 *	NASA-CASE-XNP-08680	c 14	N71-22995 *	US-PATENT-APPL-SN-019541	c 02	N81-14968 *	*
NASA-CASE-XNP-03063	c 17	N71-23365 *	NASA-CASE-XNP-08832	c 08	N71-12506 *	US-PATENT-APPL-SN-021100	c 72	N88-24253 *	*
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NASA-CASE-XNP-03134	c 07	N71-10676 *	NASA-CASE-XNP-08836	c 09	N71-12515 *	US-PATENT-APPL-SN-022298	c 31	N89-12786 *	*
NASA-CASE-XNP-03250	c 06	N71-23500 *	NASA-CASE-XNP-08837	c 18	N71-16210 *	US-PATENT-APPL-SN-023436	c 07	N80-32392 *	*
NASA-CASE-XNP-03263	c 09	N71-18843 *	NASA-CASE-XNP-08840	c 23	N71-16365 *	US-PATENT-APPL-SN-023437	c 62	N81-24779 *	*
NASA-CASE-XNP-03282	c 28	N72-20758 *	NASA-CASE-XNP-08875	c 10	N71-23099 *	US-PATENT-APPL-SN-023439	c 37	N81-27519 *	*
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NASA-CASE-XNP-03413	c 03	N71-26726 *	NASA-CASE-XNP-08880	c 09	N71-24808 *	US-PATENT-APPL-SN-023501	c 26	N80-28492 *	*
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NASA-CASE-XNP-03623	c 09	N73-28084 *	NASA-CASE-XNP-08897	c 15	N71-17694 *	US-PATENT-APPL-SN-025301	c 07	N82-26293 *	*
NASA-CASE-XNP-03637	c 15	N71-21311 *	NASA-CASE-XNP-08907	c 23	N71-29123 *	US-PATENT-APPL-SN-027557	c 27	N81-19296 *	*
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US-PATENT-APPL-SN-041145	c 25	N82-12166 *		US-PATENT-APPL-SN-100637	c 37	N75-18574 *	US-PATENT-APPL-SN-118992	c 37	N88-29181 *
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US-PATENT-APPL-SN-043941	c 44	N81-19558 *		US-PATENT-APPL-SN-101029	c 31	N70-38676 *	US-PATENT-APPL-SN-119336	c 33	N82-24421 *
US-PATENT-APPL-SN-043942	c 06	N82-16075 *		US-PATENT-APPL-SN-101214	c 14	N73-26430 *	US-PATENT-APPL-SN-119337	c 24	N81-33235 *
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US-PATENT-APPL-SN-044180	c 35	N87-25558 *	#	US-PATENT-APPL-SN-102002	c 18	N81-29152 *	US-PATENT-APPL-SN-120795	c 07	N70-40202 *
US-PATENT-APPL-SN-044181	c 37	N89-23980 *		US-PATENT-APPL-SN-102003	c 26	N82-29415 *	US-PATENT-APPL-SN-120797	c 14	N70-36824 *
US-PATENT-APPL-SN-044183	c 27	N89-29539 *		US-PATENT-APPL-SN-102003	c 26	N82-30371 *	US-PATENT-APPL-SN-120803	c 08	N70-34743 *
US-PATENT-APPL-SN-044431	c 33	N81-27395 *		US-PATENT-APPL-SN-102004	c 37	N81-26447 *	US-PATENT-APPL-SN-121328	c 23	N72-11568 *
US-PATENT-APPL-SN-044432	c 52	N81-20703 *		US-PATENT-APPL-SN-102412	c 25	N72-33696 *	US-PATENT-APPL-SN-122740	c 35	N88-23959 *
US-PATENT-APPL-SN-045743	c 35	N88-24927 *		US-PATENT-APPL-SN-102593	c 37	N82-16408 *	US-PATENT-APPL-SN-122965	c 35	N81-26431 *
US-PATENT-APPL-SN-045984	c 36	N88-24958 *		US-PATENT-APPL-SN-102705	c 35	N88-29150 *	US-PATENT-APPL-SN-122966	c 33	N82-26568 *
US-PATENT-APPL-SN-046341	c 20	N89-25279 *		US-PATENT-APPL-SN-103077	c 25	N72-32688 *	US-PATENT-APPL-SN-122967	c 24	N81-26179 *
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US-PATENT-APPL-SN-057465	c 37	N81-17433 *		US-PATENT-APPL-SN-106118	c 32	N80-16261 *	US-PATENT-APPL-SN-127647	c 15	N73-27405 *
US-PATENT-APPL-SN-057466	c 71	N81-15767 *		US-PATENT-APPL-SN-106119	c 35	N82-15381 *	US-PATENT-APPL-SN-127915	c 02	N73-26004 *
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US-PATENT-APPL-SN-060449	c 07	N82-32366 *		US-PATENT-APPL-SN-107298	c 32	N73-13921 *	US-PATENT-APPL-SN-129073	c 15	N73-13464 *
US-PATENT-APPL-SN-061327	c 32	N83-13323 *		US-PATENT-APPL-SN-107376	c 15	N73-25513 *	US-PATENT-APPL-SN-129379	c 37	N79-33468 *
US-PATENT-APPL-SN-061555	c 44	N81-29524 *		US-PATENT-APPL-SN-107379	c 10	N72-33230 *	US-PATENT-APPL-SN-129579	c 28	N70-35381 *
US-PATENT-APPL-SN-061556	c 35	N81-19427 *		US-PATENT-APPL-SN-107380	c 28	N73-13773 *	US-PATENT-APPL-SN-129778	c 60	N82-24839 *
US-PATENT-APPL-SN-061822	c 74	N83-19597 *		US-PATENT-APPL-SN-107659	c 23	N73-20741 *	US-PATENT-APPL-SN-129779	c 60	N82-16747 *
US-PATENT-APPL-SN-065676	c 35	N80-18364 *	#	US-PATENT-APPL-SN-107866	c 17	N70-36616 *	US-PATENT-APPL-SN-129780	c 44	N82-24639 *
US-PATENT-APPL-SN-065677	c 44	N81-12542 *		US-PATENT-APPL-SN-107870	c 15	N70-36411 *	US-PATENT-APPL-SN-129783	c 04	N82-23231 *
US-PATENT-APPL-SN-066450	c 29	N87-25489 *	#	US-PATENT-APPL-SN-108107	c 37	N82-18601 *	US-PATENT-APPL-SN-129793	c 33	N82-16340 *
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US-PATENT-APPL-SN-067596	c 51	N81-28698 *		US-PATENT-APPL-SN-10827	c 14	N72-28436 *	US-PATENT-APPL-SN-129799	c 27	N82-18389 *
US-PATENT-APPL-SN-067844	c 34	N89-14392 *		US-PATENT-APPL-SN-108331	c 26	N89-14303 *	US-PATENT-APPL-SN-130058	c 33	N88-23936 *
US-PATENT-APPL-SN-069485	c 33	N82-24420 *		US-PATENT-APPL-SN-108810	c 33	N77-22386 *	US-PATENT-APPL-SN-130353	c 31	N73-14853 *
US-PATENT-APPL-SN-070366	c 35	N82-11431 *		US-PATENT-APPL-SN-108824	c 31	N73-13898 *	US-PATENT-APPL-SN-130496	c 36	N83-10417 *
US-PATENT-APPL-SN-070771	c 27	N81-17260 *		US-PATENT-APPL-SN-109789	c 09	N70-34596 *	US-PATENT-APPL-SN-132364	c 07	N83-36029 *
US-PATENT-APPL-SN-070774	c 33	N82-26571 *		US-PATENT-APPL-SN-110402	c 09	N72-27226 *	US-PATENT-APPL-SN-13266	c 05	N72-23085 *
US-PATENT-APPL-SN-072857	c 24	N82-32417 *		US-PATENT-APPL-SN-110591	c 15	N70-39896 *	US-PATENT-APPL-SN-133412	c 33	N89-29681 *
US-PATENT-APPL-SN-073477	c 36	N82-32712 *		US-PATENT-APPL-SN-111436	c 33	N82-26569 *	US-PATENT-APPL-SN-134479	c 14	N73-33179 *
US-PATENT-APPL-SN-073539	c 18	N8							

US-PATENT-APPL-SN-134658	c 15	N73-28515 *	US-PATENT-APPL-SN-151114	c 31	N70-34176 *	US-PATENT-APPL-SN-172098	c 33	N80-29583 *
US-PATENT-APPL-SN-134782	c 09	N70-36494 *	US-PATENT-APPL-SN-151411	c 07	N73-26118 *	US-PATENT-APPL-SN-172099	c 32	N82-27558 *
US-PATENT-APPL-SN-134855	c 44	N81-24521 *	US-PATENT-APPL-SN-151412	c 09	N73-32112 *	US-PATENT-APPL-SN-172100	c 27	N82-33520 *
US-PATENT-APPL-SN-135038	c 33	N83-31954 *	US-PATENT-APPL-SN-151413	c 14	N73-12447 *	US-PATENT-APPL-SN-172101	c 31	N88-24818 *
US-PATENT-APPL-SN-135039	c 33	N82-24416 *	US-PATENT-APPL-SN-151598	c 03	N70-34134 *	US-PATENT-APPL-SN-172102	c 76	N88-25356 *
US-PATENT-APPL-SN-135040	c 09	N82-11088 *	US-PATENT-APPL-SN-152222	c 18	N72-25539 *	US-PATENT-APPL-SN-172103	c 26	N89-28621 *
US-PATENT-APPL-SN-135056	c 37	N81-33483 *	US-PATENT-APPL-SN-152328	c 02	N74-20646 *	US-PATENT-APPL-SN-172105	c 33	N88-24864 *
US-PATENT-APPL-SN-135057	c 08	N82-32373 *	US-PATENT-APPL-SN-152849	c 15	N73-30457 *	US-PATENT-APPL-SN-172459	c 06	N73-16106 *
US-PATENT-APPL-SN-135058	c 25	N82-26396 *	US-PATENT-APPL-SN-153240	c 33	N86-19515 *	US-PATENT-APPL-SN-172727	c 33	N81-26360 *
US-PATENT-APPL-SN-135120	c 37	N88-23973 *	US-PATENT-APPL-SN-153245	c 74	N83-29032 *	US-PATENT-APPL-SN-172807	c 07	N73-28012 *
US-PATENT-APPL-SN-136006	c 09	N72-28225 *	US-PATENT-APPL-SN-153246	c 52	N82-29863 *	US-PATENT-APPL-SN-173081	c 28	N70-36806 *
US-PATENT-APPL-SN-136007	c 09	N71-34212 *	US-PATENT-APPL-SN-153266	c 02	N70-38011 *	US-PATENT-APPL-SN-173178	c 33	N77-21315 *
US-PATENT-APPL-SN-136008	c 27	N74-13270 *	US-PATENT-APPL-SN-153542	c 28	N73-32606 *	US-PATENT-APPL-SN-173185	c 23	N73-13660 *
US-PATENT-APPL-SN-136085	c 17	N73-12547 *	US-PATENT-APPL-SN-153543	c 08	N73-26176 *	US-PATENT-APPL-SN-173190	c 05	N73-32015 *
US-PATENT-APPL-SN-136086	c 15	N73-19457 *	US-PATENT-APPL-SN-153624	c 37	N75-27376 *	US-PATENT-APPL-SN-173518	c 60	N82-29013 *
US-PATENT-APPL-SN-136253	c 27	N74-12814 *	US-PATENT-APPL-SN-154094	c 33	N72-27959 *	US-PATENT-APPL-SN-173519	c 44	N82-26776 *
US-PATENT-APPL-SN-136652	c 07	N84-24577 *	US-PATENT-APPL-SN-154663	c 02	N81-26073 *	US-PATENT-APPL-SN-173520	c 31	N83-27058 *
US-PATENT-APPL-SN-136660	c 31	N83-34073 *	US-PATENT-APPL-SN-154663	c 09	N82-29330 *	US-PATENT-APPL-SN-173524	c 35	N82-32659 *
US-PATENT-APPL-SN-137391	c 36	N75-31426 *	US-PATENT-APPL-SN-154711	c 33	N82-24863 *	US-PATENT-APPL-SN-173981	c 14	N70-35666 *
US-PATENT-APPL-SN-137912	c 06	N72-21105 *	US-PATENT-APPL-SN-154712	c 37	N88-24969 *	US-PATENT-APPL-SN-174684	c 33	N75-31331 *
US-PATENT-APPL-SN-138227	c 25	N72-27784 *	US-PATENT-APPL-SN-154713	c 72	N89-29169 *	US-PATENT-APPL-SN-175267	c 14	N73-28486 *
US-PATENT-APPL-SN-138229	c 15	N72-32487 *	US-PATENT-APPL-SN-154716	c 74	N88-25302 *	US-PATENT-APPL-SN-175452	c 27	N81-27272 *
US-PATENT-APPL-SN-138230	c 32	N73-20740 *	US-PATENT-APPL-SN-154718	c 74	N88-25301 *	US-PATENT-APPL-SN-175452	c 27	N85-21347 *
US-PATENT-APPL-SN-138944	c 37	N82-26672 *	US-PATENT-APPL-SN-154725	c 37	N82-24493 *	US-PATENT-APPL-SN-175453	c 85	N82-33288 *
US-PATENT-APPL-SN-139006	c 09	N70-38604 *	US-PATENT-APPL-SN-154726	c 25	N81-25159 *	US-PATENT-APPL-SN-175497	c 08	N73-28045 *
US-PATENT-APPL-SN-139007	c 28	N70-37245 *	US-PATENT-APPL-SN-154930	c 44	N76-14600 *	US-PATENT-APPL-SN-175852	c 25	N73-25760 *
US-PATENT-APPL-SN-139012	c 03	N70-38713 *	US-PATENT-APPL-SN-154933	c 14	N73-25463 *	US-PATENT-APPL-SN-175881	c 09	N73-15235 *
US-PATENT-APPL-SN-139094	c 05	N73-32011 *	US-PATENT-APPL-SN-154935	c 11	N72-27262 *	US-PATENT-APPL-SN-175981	c 16	N73-30476 *
US-PATENT-APPL-SN-139250	c 04	N73-27052 *	US-PATENT-APPL-SN-155565	c 08	N73-25206 *	US-PATENT-APPL-SN-175983	c 31	N73-32750 *
US-PATENT-APPL-SN-139528	c 03	N72-25020 *	US-PATENT-APPL-SN-155584	c 09	N70-40123 *	US-PATENT-APPL-SN-176545	c 31	N88-24817 *
US-PATENT-APPL-SN-139596	c 33	N77-13315 *	US-PATENT-APPL-SN-155595	c 26	N73-28710 *	US-PATENT-APPL-SN-176547	c 76	N88-25355 *
US-PATENT-APPL-SN-140439	c 33	N75-19518 *	US-PATENT-APPL-SN-155596	c 15	N73-32361 *	US-PATENT-APPL-SN-176587	c 20	N88-24684 *
US-PATENT-APPL-SN-140443	c 09	N70-35219 *	US-PATENT-APPL-SN-155598	c 15	N73-28516 *	US-PATENT-APPL-SN-177684	c 28	N70-34860 *
US-PATENT-APPL-SN-140509	c 09	N70-35382 *	US-PATENT-APPL-SN-156059	c 37	N88-24972 *	US-PATENT-APPL-SN-177753	c 07	N72-20154 *
US-PATENT-APPL-SN-140946	c 18	N73-26572 *	US-PATENT-APPL-SN-156393	c 35	N88-24941 *	US-PATENT-APPL-SN-177985	c 35	N74-15831 *
US-PATENT-APPL-SN-140946	c 27	N74-27037 *	US-PATENT-APPL-SN-156518	c 74	N89-25689 *	US-PATENT-APPL-SN-178192	c 25	N83-33977 *
US-PATENT-APPL-SN-141220	c 33	N70-37979 *	US-PATENT-APPL-SN-156724	c 21	N73-13643 *	US-PATENT-APPL-SN-178193	c 52	N82-29862 *
US-PATENT-APPL-SN-142583	c 37	N79-33469 *	US-PATENT-APPL-SN-156725	c 14	N73-27377 *	US-PATENT-APPL-SN-178195	c 35	N82-24470 *
US-PATENT-APPL-SN-142662	c 23	N73-13661 *	US-PATENT-APPL-SN-156778	c 17	N72-28535 *	US-PATENT-APPL-SN-178213	c 25	N70-33267 *
US-PATENT-APPL-SN-142719	c 14	N73-14429 *	US-PATENT-APPL-SN-156790	c 25	N82-29371 *	US-PATENT-APPL-SN-178215	c 25	N70-34661 *
US-PATENT-APPL-SN-143078	c 08	N72-33172 *	US-PATENT-APPL-SN-157150	c 37	N84-33808 *	US-PATENT-APPL-SN-178721	c 03	N70-35408 *
US-PATENT-APPL-SN-143436	c 35	N89-14423 *	US-PATENT-APPL-SN-158530	c 27	N83-19900 *	US-PATENT-APPL-SN-178771	c 23	N75-14834 *
US-PATENT-APPL-SN-143508	c 33	N74-12913 *	US-PATENT-APPL-SN-158914	c 11	N70-36913 *	US-PATENT-APPL-SN-180230	c 33	N83-18996 *
US-PATENT-APPL-SN-144139	c 11	N73-26238 *	US-PATENT-APPL-SN-158916	c 05	N70-41819 *	US-PATENT-APPL-SN-180370	c 28	N70-33375 *
US-PATENT-APPL-SN-144803	c 11	N70-34844 *	US-PATENT-APPL-SN-159072	c 18	N89-25266 *	US-PATENT-APPL-SN-180374	c 28	N70-38181 *
US-PATENT-APPL-SN-144804	c 14	N70-39898 *	US-PATENT-APPL-SN-159613	c 35	N88-24943 *	US-PATENT-APPL-SN-180377	c 15	N70-36908 *
US-PATENT-APPL-SN-14488	c 09	N70-38995 *	US-PATENT-APPL-SN-159804	c 11	N70-38196 *	US-PATENT-APPL-SN-180379	c 21	N70-35395 *
US-PATENT-APPL-SN-144958	c 09	N72-20206 *	US-PATENT-APPL-SN-159857	c 05	N73-26072 *	US-PATENT-APPL-SN-180380	c 09	N70-38998 *
US-PATENT-APPL-SN-145007	c 18	N70-36400 *	US-PATENT-APPL-SN-159966	c 31	N73-26876 *	US-PATENT-APPL-SN-180381	c 21	N70-35089 *
US-PATENT-APPL-SN-145026	c 06	N72-25152 *	US-PATENT-APPL-SN-160093	c 04	N78-17031 *	US-PATENT-APPL-SN-180382	c 28	N70-38645 *
US-PATENT-APPL-SN-145027	c 06	N73-32029 *	US-PATENT-APPL-SN-160859	c 32	N73-26910 *	US-PATENT-APPL-SN-180384	c 11	N70-38675 *
US-PATENT-APPL-SN-145107	c 27	N82-16238 *	US-PATENT-APPL-SN-160860	c 18	N73-32437 *	US-PATENT-APPL-SN-180391	c 28	N70-38249 *
US-PATENT-APPL-SN-145206	c 32	N82-11336 *	US-PATENT-APPL-SN-161028	c 14	N73-19420 *	US-PATENT-APPL-SN-180392	c 09	N71-13530 *
US-PATENT-APPL-SN-145207	c 25	N82-28368 *	US-PATENT-APPL-SN-161254	c 27	N82-28441 *	US-PATENT-APPL-SN-180394	c 15	N70-38603 *
US-PATENT-APPL-SN-145208	c 34	N83-34221 *	US-PATENT-APPL-SN-161255	c 28	N81-24280 *	US-PATENT-APPL-SN-180395	c 15	N70-36947 *
US-PATENT-APPL-SN-145209	c 27	N82-29453 *	US-PATENT-APPL-SN-161256	c 44	N82-32841 *	US-PATENT-APPL-SN-180396	c 11	N70-38202 *
US-PATENT-APPL-SN-145210	c 09	N82-23254 *	US-PATENT-APPL-SN-161257	c 37	N85-29282 *	US-PATENT-APPL-SN-180473	c 28	N73-27699 *
US-PATENT-APPL-SN-145271	c 23	N81-29160 *	US-PATENT-APPL-SN-161681	c 76	N88-25357 *	US-PATENT-APPL-SN-180683	c 10	N73-25241 *
US-PATENT-APPL-SN-145272	c 33	N82-28545 *	US-PATENT-APPL-SN-162100	c 33	N74-14939 *	US-PATENT-APPL-SN-180693	c 14	N73-27378 *
US-PATENT-APPL-SN-145273	c 51	N81-32829 *	US-PATENT-APPL-SN-162101	c 14	N73-24473 *	US-PATENT-APPL-SN-181023	c 15	N73-26472 *
US-PATENT-APPL-SN-145282	c 74	N82-24072 *	US-PATENT-APPL-SN-162230	c 26	N72-28761 *	US-PATENT-APPL-SN-181024	c 07	N73-26117 *
US-PATENT-APPL-SN-145283	c 27	N81-24256 *	US-PATENT-APPL-SN-162380	c 36	N74-21091 *	US-PATENT-APPL-SN-181828	c 02	N70-34858 *
US-PATENT-APPL-SN-145284	c 27	N82-24338 *	US-PATENT-APPL-SN-163122	c 07	N83-31603 *	US-PATENT-APPL-SN-181829	c 31	N70-38010 *
US-PATENT-APPL-SN-146217	c 14	N71-34389 *	US-PATENT-APPL-SN-163151	c 74	N75-25706 *	US-PATENT-APPL-SN-182000	c 16	N88-24660 *
US-PATENT-APPL-SN-146935	c 14	N73-20475 *	US-PATENT-APPL-SN-163152	c 17	N73-27446 *	US-PATENT-APPL-SN-182033	c 33	N73-27796 *
US-PATENT-APPL-SN-146938	c 35	N88-23963 *	US-PATENT-APPL-SN-163837	c 47	N83-32232 *	US-PATENT-APPL-SN-182266	c 17	N88-24662 *
US-PATENT-APPL-SN-146939	c 73	N75-30876 *	US-PATENT-APPL-SN-163838	c 23	N82-28353 *	US-PATENT-APPL-SN-182399	c 07	N88-28613 *
US-PATENT-APPL-SN-146939	c 35	N88-23962 *	US-PATENT-APPL-SN-163840	c 37	N81-33482 *	US-PATENT-APPL-SN-182692	c 15	N70-36353 *
US-PATENT-APPL-SN-146940	c 05	N73-32014 *	US-PATENT-APPL-SN-164-584	c 24	N83-33950 *	US-PATENT-APPL-SN-182696	c 21	N70-36938 *
US-PATENT-APPL-SN-147099	c 14	N73-13417 *	US-PATENT-APPL-SN-164428	c 09	N70-35440 *	US-PATENT-APPL-SN-182698	c 15	N70-38620 *
US-PATENT-APPL-SN-147103	c 10	N73-20253 *	US-PATENT-APPL-SN-164617	c 06	N81-17057 *	US-PATENT-APPL-SN-182699	c 28	N70-38504 *
US-PATENT-APPL-SN-147695	c 32	N84-27952 *	US-PATENT-APPL-SN-165910	c 32	N83-31918 *	US-PATENT-APPL-SN-182879	c 37	N82-32730 *
US-PATENT-APPL-SN-147700	c 27	N82-24339 *	US-PATENT-APPL-SN-165943	c 37	N89-28831 *	US-PATENT-APPL-SN-182880	c 37	N83-19091 *
US-PATENT-APPL-SN-147922	c 28	N73-19793 *	US-PATENT-APPL-SN-165946	c 20	N88-24685 *	US-PATENT-APPL-SN-182881	c 18	N88-28064 *
US-PATENT-APPL-SN-147940	c 14	N72-10375 *	US-PATENT-APPL-SN-165956	c 18	N88-24671 *	US-PATENT-APPL-SN-182977	c 39	N74-13131 *
US-PATENT-APPL-SN-147996	c 28	N73-24784 *	US-PATENT-APPL-SN-166487	c 11	N73-32152 *	US-PATENT-APPL-SN-182978	c 16	N73-13489 *
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US-PATENT-APPL-SN-148001	c 14	N70-34298 *	US-PATENT-APPL-SN-166969	c 15	N70-34249 *	US-PATENT-APPL-SN-183707	c 23	N85-33187 *
US-PATENT-APPL-SN-148756	c 15	N73-13466 *	US-PATENT-APPL-SN-166970	c 15	N70-36409 *	US-PATENT-APPL-SN-183977	c 28	N70-38505 *
US-PATENT-APPL-SN-149283	c 35	N74-17153 *	US-PATENT-APPL-SN-167719	c 16	N73-33397 *	US-PATENT-APPL-SN-183978	c 15	N70-38020 *
US-PATENT-APPL-SN-149526	c 52	N82-33996 *	US-PATENT-APPL-SN-16808	c 14	N72-22445 *	US-PATENT-APPL-SN-184090	c 14	N73-32327 *
US-PATENT-APPL-SN-149821	c 31	N88-23917 *	US-PATENT-APPL-SN-168560	c 02	N70-34856 *	US-PATENT-APPL-SN-184233	c 18	N89-28554 *
US-PATENT-APPL-SN-149822	c 35	N89-26202 *	US-PATENT-APPL-SN-168650	c 14	N73-13416 *	US-PATENT-APPL-SN-184234	c 76	N88-25358 *
US-PATENT-APPL-SN-149830	c 37	N88-23974 *	US-PATENT-APPL-SN-168943	c 54	N82-26987 *	US-PATENT-APPL-SN-184235	c 32	N88-24664 *
US-PATENT-APPL-SN-149983	c 31	N72-21893 *	US-PATENT-APPL-SN-168944	c 37	N82-32731 *	US-PATENT-APPL-SN-184236	c 37	N88-24973 *
US-PATENT-APPL-SN-150040	c 36	N82-29589 *	US-PATENT-APPL-SN-169671	c 10	N73-30205 *	US-PATENT-APPL-SN-18427	c 09	N72-23172 *
US-PATENT-APPL-SN-150115	c 44	N82-16475 *	US-PATENT-APPL-SN-169962	c 34	N74-30608 *	US-PATENT-APPL-SN-184649	c 07	N70-36911 *
US-PATENT-APPL-SN-15019	c 15	N72-17455 *	US-PATENT-APPL-SN-169977	c 14	N70-34794 *	US-PATENT-APPL-SN-184960	c 06	N73-27980 *
US-PATENT-APPL-SN-15020	c 14	N70-34697 *	US-PATENT-APPL-SN-170440	c 15	N73-13462 *	US-PATENT-APPL-SN-185865	c 52	N80-33081 *
US-PATENT-APPL-SN-150215	c 33	N73-25952 *	US-PATENT-APPL-SN-170544	c 36	N77-19416 *	US-PATENT-APPL-SN-185867	c 44	N82-26777 *
US-PATENT-APPL-SN-15022	c 15	N72-21465 *	US-PATENT-APPL-SN-170680	c 34	N74-15652 *	US-PATENT-APPL-SN-185868	c 24	N84-16262 *
US-PATENT-APPL-SN-15023	c 15	N70-34699 *	US-PATENT-APPL-SN-170681	c 10	N73-25240 *	US-PATENT-APPL-SN-185869	c 71	N82-16800 *
US-PATENT-APPL-SN-15024	c 09	N72-21245 *	US-PATENT-APPL-SN-17101	c 28	N72-18766 *	US-PATENT-APPL-SN-186700	c 32	N74-12912 *
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US-PATENT-APPL-SN-187262	c 15	N73-27406 *	US-PATENT-APPL-SN-201904	c 37	N74-21064 *	US-PATENT-APPL-SN-219678	c 44	N82-29709 *
US-PATENT-APPL-SN-187365	c 35	N74-15127 *	US-PATENT-APPL-SN-202024	c 14	N70-34156 *	US-PATENT-APPL-SN-219680	c 27	N82-28442 *
US-PATENT-APPL-SN-187446	c 31	N70-37924 *	US-PATENT-APPL-SN-202029	c 11	N70-34786 *	US-PATENT-APPL-SN-219681	c 24	N82-29362 *
US-PATENT-APPL-SN-187716	c 74	N88-25305 *	US-PATENT-APPL-SN-202030	c 31	N71-10747 *	US-PATENT-APPL-SN-219681	c 54	N84-11758 *
US-PATENT-APPL-SN-18776	c 28	N70-33284 *	US-PATENT-APPL-SN-202228	c 34	N82-11399 *	US-PATENT-APPL-SN-219722	c 03	N75-30132 *
US-PATENT-APPL-SN-18780	c 12	N70-33305 *	US-PATENT-APPL-SN-202228	c 34	N85-29179 *	US-PATENT-APPL-SN-219806	c 07	N74-28226 *
US-PATENT-APPL-SN-188160	c 74	N82-19029 *	US-PATENT-APPL-SN-202750	c 19	N74-21015 *	US-PATENT-APPL-SN-219968	c 33	N83-27126 *
US-PATENT-APPL-SN-188594	c 15	N70-34967 *	US-PATENT-APPL-SN-202769	c 05	N73-27941 *	US-PATENT-APPL-SN-220212	c 33	N83-31952 *
US-PATENT-APPL-SN-188836	c 35	N74-34857 *	US-PATENT-APPL-SN-203177	c 39	N88-25011 *	US-PATENT-APPL-SN-220213	c 37	N85-20337 *
US-PATENT-APPL-SN-188927	c 08	N73-32081 *	US-PATENT-APPL-SN-203178	c 34	N88-24910 *	US-PATENT-APPL-SN-220214	c 44	N82-29710 *
US-PATENT-APPL-SN-188928	c 37	N74-13178 *	US-PATENT-APPL-SN-203271	c 51	N74-15778 *	US-PATENT-APPL-SN-220251	c 37	N74-15125 *
US-PATENT-APPL-SN-189290	c 14	N73-27379 *	US-PATENT-APPL-SN-203376	c 32	N88-30001 *	US-PATENT-APPL-SN-220274	c 31	N72-20840 *
US-PATENT-APPL-SN-189375	c 18	N73-14584 *	US-PATENT-APPL-SN-203405	c 02	N73-26006 *	US-PATENT-APPL-SN-220274	c 18	N74-22136 *
US-PATENT-APPL-SN-189438	c 35	N76-15431 *	US-PATENT-APPL-SN-203409	c 28	N70-38197 *	US-PATENT-APPL-SN-220785	c 85	N74-34672 *
US-PATENT-APPL-SN-189648	c 32	N70-36536 *	US-PATENT-APPL-SN-203411	c 33	N70-34812 *	US-PATENT-APPL-SN-221093	c 17	N73-32415 *
US-PATENT-APPL-SN-18982	c 28	N72-11708 *	US-PATENT-APPL-SN-20370	c 33	N79-33393 *	US-PATENT-APPL-SN-221276	c 14	N70-41955 *
US-PATENT-APPL-SN-190185	c 74	N88-25304 *	US-PATENT-APPL-SN-204015	c 09	N70-38201 *	US-PATENT-APPL-SN-221387	c 36	N89-14428 *
US-PATENT-APPL-SN-190316	c 17	N73-32414 *	US-PATENT-APPL-SN-205047	c 15	N73-32360 *	US-PATENT-APPL-SN-221388	c 37	N89-12865 *
US-PATENT-APPL-SN-191301	c 25	N74-12813 *	US-PATENT-APPL-SN-205470	c 08	N71-18752 *	US-PATENT-APPL-SN-221472	c 54	N89-13889 *
US-PATENT-APPL-SN-191744	c 33	N82-29538 *	US-PATENT-APPL-SN-205675	c 14	N73-30386 *	US-PATENT-APPL-SN-221634	c 05	N70-34857 *
US-PATENT-APPL-SN-191746	c 26	N81-16209 *	US-PATENT-APPL-SN-205771	c 31	N89-29578 *	US-PATENT-APPL-SN-221637	c 26	N70-36805 *
US-PATENT-APPL-SN-191746	c 26	N82-30371 *	US-PATENT-APPL-SN-205898	c 09	N88-28938 *	US-PATENT-APPL-SN-221670	c 35	N77-14408 *
US-PATENT-APPL-SN-191748	c 35	N82-31659 *	US-PATENT-APPL-SN-205899	c 35	N88-24944 *	US-PATENT-APPL-SN-221685	c 35	N74-21062 *
US-PATENT-APPL-SN-191748	c 03	N70-36778 *	US-PATENT-APPL-SN-205900	c 35	N88-30105 *	US-PATENT-APPL-SN-221714	c 09	N73-32110 *
US-PATENT-APPL-SN-192016	c 10	N73-20254 *	US-PATENT-APPL-SN-206266	c 76	N74-20329 *	US-PATENT-APPL-SN-221833	c 09	N73-27150 *
US-PATENT-APPL-SN-192101	c 10	N73-20254 *	US-PATENT-APPL-SN-206266	c 76	N75-25730 *	US-PATENT-APPL-SN-221945	c 31	N70-36410 *
US-PATENT-APPL-SN-192141	c 07	N73-24176 *	US-PATENT-APPL-SN-206279	c 02	N73-26005 *	US-PATENT-APPL-SN-222265	c 14	N72-21405 *
US-PATENT-APPL-SN-192562	c 04	N88-24621 *	US-PATENT-APPL-SN-206279	c 05	N76-29217 *	US-PATENT-APPL-SN-223003	c 33	N70-36846 *
US-PATENT-APPL-SN-192563	c 05	N88-24628 *	US-PATENT-APPL-SN-206506	c 33	N82-24422 *	US-PATENT-APPL-SN-223124	c 31	N88-29051 *
US-PATENT-APPL-SN-192803	c 07	N73-22076 *	US-PATENT-APPL-SN-206598	c 15	N73-30459 *	US-PATENT-APPL-SN-223230	c 14	N72-11365 *
US-PATENT-APPL-SN-192803	c 35	N76-16391 *	US-PATENT-APPL-SN-207135	c 35	N83-27184 *	US-PATENT-APPL-SN-223560	c 10	N73-32144 *
US-PATENT-APPL-SN-192970	c 23	N73-30665 *	US-PATENT-APPL-SN-207211	c 07	N73-30113 *	US-PATENT-APPL-SN-224231	c 06	N83-10040 *
US-PATENT-APPL-SN-193456	c 10	N73-25243 *	US-PATENT-APPL-SN-2079478	c 07	N70-38200 *	US-PATENT-APPL-SN-224231	c 06	N84-34443 *
US-PATENT-APPL-SN-193671	c 15	N73-12488 *	US-PATENT-APPL-SN-209479	c 15	N70-34850 *	US-PATENT-APPL-SN-224232	c 36	N83-29680 *
US-PATENT-APPL-SN-193672	c 54	N74-14845 *	US-PATENT-APPL-SN-209535	c 28	N73-24783 *	US-PATENT-APPL-SN-224489	c 31	N74-18089 *
US-PATENT-APPL-SN-193814	c 14	N73-30393 *	US-PATENT-APPL-SN-20960	c 15	N72-17453 *	US-PATENT-APPL-SN-225427	c 37	N88-30130 *
US-PATENT-APPL-SN-193947	c 14	N73-13420 *	US-PATENT-APPL-SN-209618	c 33	N75-19520 *	US-PATENT-APPL-SN-225499	c 37	N84-12491 *
US-PATENT-APPL-SN-193980	c 31	N74-13177 *	US-PATENT-APPL-SN-209618	c 33	N75-25041 *	US-PATENT-APPL-SN-225501	c 44	N82-28780 *
US-PATENT-APPL-SN-195061	c 05	N73-25125 *	US-PATENT-APPL-SN-209801	c 08	N70-40125 *	US-PATENT-APPL-SN-226476	c 10	N73-32143 *
US-PATENT-APPL-SN-195222	c 31	N88-24814 *	US-PATENT-APPL-SN-210277	c 39	N88-30160 *	US-PATENT-APPL-SN-226477	c 74	N74-27866 *
US-PATENT-APPL-SN-195223	c 35	N82-21311 *	US-PATENT-APPL-SN-210405	c 74	N84-11921 *	US-PATENT-APPL-SN-226551	c 06	N73-26100 *
US-PATENT-APPL-SN-195225	c 32	N88-26541 *	US-PATENT-APPL-SN-210445	c 29	N88-29048 *	US-PATENT-APPL-SN-227682	c 14	N70-34161 *
US-PATENT-APPL-SN-195226	c 31	N83-31895 *	US-PATENT-APPL-SN-210480	c 05	N88-29789 *	US-PATENT-APPL-SN-227683	c 02	N70-36804 *
US-PATENT-APPL-SN-195226	c 17	N88-27220 *	US-PATENT-APPL-SN-210486	c 26	N88-29012 *	US-PATENT-APPL-SN-227692	c 14	N70-40003 *
US-PATENT-APPL-SN-195227	c 74	N83-32577 *	US-PATENT-APPL-SN-210487	c 35	N88-29145 *	US-PATENT-APPL-SN-227977	c 25	N76-18245 *
US-PATENT-APPL-SN-195228	c 74	N83-10900 *	US-PATENT-APPL-SN-210498	c 35	N84-12444 *	US-PATENT-APPL-SN-228049	c 37	N79-33467 *
US-PATENT-APPL-SN-195346	c 15	N70-36492 *	US-PATENT-APPL-SN-210506	c 39	N83-32081 *	US-PATENT-APPL-SN-228150	c 05	N73-32013 *
US-PATENT-APPL-SN-195347	c 31	N70-34135 *	US-PATENT-APPL-SN-210632	c 26	N83-10170 *	US-PATENT-APPL-SN-228163	c 44	N74-19693 *
US-PATENT-APPL-SN-195547	c 32	N83-18975 *	US-PATENT-APPL-SN-211332	c 02	N74-10034 *	US-PATENT-APPL-SN-228189	c 35	N74-11283 *
US-PATENT-APPL-SN-19572	c 35	N77-27368 *	US-PATENT-APPL-SN-211411	c 11	N73-20267 *	US-PATENT-APPL-SN-228190	c 23	N73-30666 *
US-PATENT-APPL-SN-19585	c 15	N72-25455 *	US-PATENT-APPL-SN-211464	c 28	N70-36910 *	US-PATENT-APPL-SN-228229	c 27	N77-31308 *
US-PATENT-APPL-SN-196399	c 07	N73-25161 *	US-PATENT-APPL-SN-212028	c 09	N73-14214 *	US-PATENT-APPL-SN-228507	c 11	N70-38182 *
US-PATENT-APPL-SN-196877	c 35	N84-17555 *	US-PATENT-APPL-SN-212165	c 14	N73-25460 *	US-PATENT-APPL-SN-228569	c 14	N71-16014 *
US-PATENT-APPL-SN-196898	c 38	N74-15130 *	US-PATENT-APPL-SN-212173	c 02	N71-13421 *	US-PATENT-APPL-SN-229128	c 14	N73-28490 *
US-PATENT-APPL-SN-196931	c 35	N74-17885 *	US-PATENT-APPL-SN-212174	c 15	N70-34859 *	US-PATENT-APPL-SN-229143	c 09	N72-21248 *
US-PATENT-APPL-SN-196970	c 15	N73-33383 *	US-PATENT-APPL-SN-212496	c 03	N70-36803 *	US-PATENT-APPL-SN-229143	c 33	N72-26387 *
US-PATENT-APPL-SN-197183	c 02	N76-22154 *	US-PATENT-APPL-SN-212497	c 11	N71-28779 *	US-PATENT-APPL-SN-229231	c 35	N83-34272 *
US-PATENT-APPL-SN-197191	c 32	N89-28672 *	US-PATENT-APPL-SN-21263	c 01	N71-12217 *	US-PATENT-APPL-SN-229233	c 27	N83-31855 *
US-PATENT-APPL-SN-197548	c 09	N70-34502 *	US-PATENT-APPL-SN-212900	c 14	N73-25462 *	US-PATENT-APPL-SN-229239	c 31	N83-31897 *
US-PATENT-APPL-SN-197551	c 31	N70-34296 *	US-PATENT-APPL-SN-212921	c 07	N73-20176 *	US-PATENT-APPL-SN-229286	c 33	N71-29052 *
US-PATENT-APPL-SN-197553	c 08	N70-34778 *	US-PATENT-APPL-SN-212949	c 35	N83-35338 *	US-PATENT-APPL-SN-229287	c 35	N78-29421 *
US-PATENT-APPL-SN-197554	c 14	N70-35368 *	US-PATENT-APPL-SN-212977	c 15	N73-30460 *	US-PATENT-APPL-SN-229354	c 62	N74-14920 *
US-PATENT-APPL-SN-197689	c 31	N74-14133 *	US-PATENT-APPL-SN-213004	c 14	N73-19421 *	US-PATENT-APPL-SN-229413	c 14	N73-32323 *
US-PATENT-APPL-SN-197689	c 31	N75-13111 *	US-PATENT-APPL-SN-213392	c 27	N89-13620 *	US-PATENT-APPL-SN-229693	c 37	N84-22958 *
US-PATENT-APPL-SN-197870	c 14	N73-32322 *	US-PATENT-APPL-SN-213558	c 51	N89-13131 *	US-PATENT-APPL-SN-229916	c 46	N74-13011 *
US-PATENT-APPL-SN-198093	c 39	N83-20280 *	US-PATENT-APPL-SN-213559	c 51	N89-14666 *	US-PATENT-APPL-SN-230613	c 05	N83-27975 *
US-PATENT-APPL-SN-198285	c 09	N73-13208 *	US-PATENT-APPL-SN-213836	c 15	N70-38601 *	US-PATENT-APPL-SN-231025	c 33	N88-29095 *
US-PATENT-APPL-SN-198289	c 14	N73-32322 *	US-PATENT-APPL-SN-213836	c 15	N89-12206 *	US-PATENT-APPL-SN-231026	c 27	N88-29984 *
US-PATENT-APPL-SN-198355	c 05	N72-15098 *	US-PATENT-APPL-SN-213949	c 07	N73-20175 *	US-PATENT-APPL-SN-23132	c 08	N72-22163 *
US-PATENT-APPL-SN-198362	c 14	N73-28489 *	US-PATENT-APPL-SN-214006	c 37	N74-18126 *	US-PATENT-APPL-SN-231520	c 27	N71-29155 *
US-PATENT-APPL-SN-198379	c 15	N73-32359 *	US-PATENT-APPL-SN-214084	c 37	N74-18123 *	US-PATENT-APPL-SN-231543	c 07	N83-20944 *
US-PATENT-APPL-SN-198472	c 27	N74-12812 *	US-PATENT-APPL-SN-214086	c 14	N73-30395 *	US-PATENT-APPL-SN-231604	c 28	N70-39925 *
US-PATENT-APPL-SN-198763	c 31	N74-18124 *	US-PATENT-APPL-SN-214089	c 35	N74-21018 *	US-PATENT-APPL-SN-231662	c 14	N73-30392 *
US-PATENT-APPL-SN-198763	c 31	N74-32920 *	US-PATENT-APPL-SN-214361	c 37	N83-32067 *	US-PATENT-APPL-SN-232021	c 04	N74-13420 *
US-PATENT-APPL-SN-198885	c 05	N73-27062 *	US-PATENT-APPL-SN-21508	c 08	N72-20176 *	US-PATENT-APPL-SN-232318	c 11	N71-15960 *
US-PATENT-APPL-SN-199199	c 25	N71-29184 *	US-PATENT-APPL-SN-21644	c 05	N72-22092 *	US-PATENT-APPL-SN-232735	c 76	N89-14119 *
US-PATENT-APPL-SN-199202	c 14	N70-40239 *	US-PATENT-APPL-SN-216710	c 12	N70-38997 *	US-PATENT-APPL-SN-232914	c 15	N70-36412 *
US-PATENT-APPL-SN-19971	c 09	N70-33312 *	US-PATENT-APPL-SN-216711	c 03	N70-34157 *	US-PATENT-APPL-SN-233098	c 12	N73-25262 *
US-PATENT-APPL-SN-199765	c 33	N81-12330 *	US-PATENT-APPL-SN-216939	c 14	N70-40400 *	US-PATENT-APPL-SN-233173	c 12	N73-28144 *
US-PATENT-APPL-SN-199766	c 36	N84-28065 *	US-PATENT-APPL-SN-217213	c 37	N74-11301 *	US-PATENT-APPL-SN-233269	c 76	N82-30105 *
US-PATENT-APPL-SN-199767	c 33	N83-16626 *	US-PATENT-APPL-SN-21732	c 15	N70-26819 *	US-PATENT-APPL-SN-233270	c 52	N83-27578 *
US-PATENT-APPL-SN-199768	c 27	N84-22746 *	US-PATENT-APPL-SN-217336	c 27	N82-29456 *	US-PATENT-APPL-SN-233271	c 27	N83-34043 *
US-PATENT-APPL-SN-199768	c 27	N85-20123 *	US-PATENT-APPL-SN-217533	c 76	N88-29602 *	US-PATENT-APPL-SN-233519	c 20	N74-13502 *
US-PATENT-APPL-SN-199769	c 26	N82-31505 *	US-PATENT-APPL-SN-217725	c 35	N89-12843 *	US-PATENT-APPL-SN-233587	c 16	N72-22520 *
US-PATENT-APPL-SN-199957	c 10	N73-26229 *	US-PATENT-APPL-SN-218585	c 27	N82-24340 *	US-PATENT-APPL-SN-233743	c 37	N74-13179 *
US-PATENT-APPL-SN-200040	c 52	N74-10975 *	US-PATENT-APPL-SN-218586	c 36	N81-22344 *	US-PATENT-APPL-SN-234222	c 34	N85-21568 *
US-PATENT-APPL-SN-200085	c 26	N73-26751 *	US-PATENT-APPL-SN-218587	c 27	N82-28440 *	US-PATENT-APPL-SN-234223	c 35	N83-21312 *
US-PATENT-APPL-SN-200634	c 34	N83-27144 *	US-PATENT-APPL-SN-218588	c 27	N82-33521 *	US-PATENT-APPL-SN-234224	c 36	N83-34304 *
US-PATENT-APPL-SN-200682	c 07	N73-14130 *	US-PATENT-APPL-SN-218965	c 10	N73-32145 *	US-PATENT-APPL-SN-234225	c 33	N83-36357 *
US-PATENT-APPL-SN-200717	c 09	N73-19234 *	US-PATENT-APPL-SN-219016	c 24	N88-29888 *	US-PATENT-APPL-SN-234568	c 28	N70-34788 *
US-PATENT-APPL-SN-200762	c 03	N73-20040 *	US-PATENT-APPL-SN-21906	c 09	N72-17157 *	US-PATENT-APPL-SN-235150	c 36	N89-12856 *
US-PATENT-APPL-SN-200770	c 09	N79-21084 *	US-PATENT-APPL-SN-219435	c 24	N72-17035 *	US-PATENT-APPL-SN-235162	c 08	N71-12501 *
US-PATENT-APPL-SN-200874	c 17	N88-28946 *	US-PATENT-APPL-SN-219436	c 15	N72-21489 *	US-PATENT-APPL-SN-235266	c 26	N73-32571 *
US-PATENT-APPL-SN-201700	c 33	N74-17930 *	US-PATENT-APPL-SN-219590	c 06	N73-20330 *	US-PATENT-AP		



US-PATENT-APPL-SN-23532	c 07	N72-21117 *	US-PATENT-APPL-SN-247481	c 05	N73-26071 *	US-PATENT-APPL-SN-264735	c 28	N70-33265 *
US-PATENT-APPL-SN-235338	c 71	N74-31148 *	US-PATENT-APPL-SN-248009	c 23	N89-13496 *	US-PATENT-APPL-SN-264736	c 28	N70-36802 *
US-PATENT-APPL-SN-235472	c 60	N84-28492 *	US-PATENT-APPL-SN-248010	c 37	N89-12866 #	US-PATENT-APPL-SN-26573	c 31	N72-22874 *
US-PATENT-APPL-SN-235588	c 28	N71-28928 *	US-PATENT-APPL-SN-248018	c 24	N89-14258 *	US-PATENT-APPL-SN-266045	c 27	N89-23692 *
US-PATENT-APPL-SN-235796	c 35	N82-28604 *	US-PATENT-APPL-SN-248019	c 76	N89-14120 #	US-PATENT-APPL-SN-266107	c 11	N71-15925 *
US-PATENT-APPL-SN-235797	c 44	N83-32175 *	US-PATENT-APPL-SN-248020	c 35	N89-14408 #	US-PATENT-APPL-SN-266253	c 04	N84-22546 *
US-PATENT-APPL-SN-235868	c 34	N83-29625 *	US-PATENT-APPL-SN-248469	c 14	N73-32318 *	US-PATENT-APPL-SN-266254	c 24	N83-13172 *
US-PATENT-APPL-SN-235957	c 14	N73-27376 #	US-PATENT-APPL-SN-248471	c 31	N74-27902 *	US-PATENT-APPL-SN-266255	c 44	N83-27344 *
US-PATENT-APPL-SN-235962	c 36	N74-11313 *	US-PATENT-APPL-SN-248501	c 37	N89-13787 #	US-PATENT-APPL-SN-266256	c 24	N83-13171 *
US-PATENT-APPL-SN-236052	c 14	N72-25428 #	US-PATENT-APPL-SN-248744	c 05	N83-19737 *	US-PATENT-APPL-SN-266687	c 32	N84-22820 *
US-PATENT-APPL-SN-236281	c 09	N73-20232 *	US-PATENT-APPL-SN-248745	c 18	N83-29303 *	US-PATENT-APPL-SN-266688	c 37	N83-36483 *
US-PATENT-APPL-SN-236285	c 08	N73-26175 *	US-PATENT-APPL-SN-248746	c 37	N83-36482 *	US-PATENT-APPL-SN-266771	c 37	N74-18127 *
US-PATENT-APPL-SN-236748	c 14	N70-40157 *	US-PATENT-APPL-SN-248761	c 15	N74-27360 *	US-PATENT-APPL-SN-266820	c 07	N74-31270 *
US-PATENT-APPL-SN-236749	c 15	N70-40180 *	US-PATENT-APPL-SN-248985	c 03	N71-29129 *	US-PATENT-APPL-SN-266822	c 32	N74-10132 *
US-PATENT-APPL-SN-236985	c 44	N74-19692 *	US-PATENT-APPL-SN-249304	c 35	N84-14491 *	US-PATENT-APPL-SN-266832	c 33	N74-10195 *
US-PATENT-APPL-SN-237029	c 09	N73-32108 *	US-PATENT-APPL-SN-249537	c 14	N71-10797 *	US-PATENT-APPL-SN-266866	c 33	N73-32818 *
US-PATENT-APPL-SN-237035	c 35	N89-13764 #	US-PATENT-APPL-SN-249539	c 28	N71-15658 *	US-PATENT-APPL-SN-266899	c 60	N74-12888 *
US-PATENT-APPL-SN-237491	c 05	N75-12930 *	US-PATENT-APPL-SN-249540	c 15	N70-34861 *	US-PATENT-APPL-SN-266911	c 36	N74-20009 *
US-PATENT-APPL-SN-237694	c 35	N74-11284 *	US-PATENT-APPL-SN-249542	c 28	N70-41576 *	US-PATENT-APPL-SN-266912	c 32	N74-19888 *
US-PATENT-APPL-SN-238047	c 33	N74-12951 *	US-PATENT-APPL-SN-250195	c 34	N89-13728 #	US-PATENT-APPL-SN-266913	c 31	N74-23065 *
US-PATENT-APPL-SN-238257	c 07	N84-33410 *	US-PATENT-APPL-SN-250196	c 37	N89-12868 #	US-PATENT-APPL-SN-266925	c 54	N74-17853 *
US-PATENT-APPL-SN-238263	c 35	N74-10415 *	US-PATENT-APPL-SN-250451	c 08	N70-34787 *	US-PATENT-APPL-SN-266928	c 26	N74-10521 *
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US-PATENT-APPL-SN-289048	c 37	N74-21057 *	US-PATENT-APPL-SN-307270	c 10	N71-16030 *	US-PATENT-APPL-SN-325784	c 24	N76-14204 *
US-PATENT-APPL-SN-289049	c 19	N74-15089 *	US-PATENT-APPL-SN-307271	c 09	N71-22999 *	US-PATENT-APPL-SN-325885	c 35	N82-25484 *
US-PATENT-APPL-SN-289050	c 20	N74-32919 *	US-PATENT-APPL-SN-307714	c 03	N76-32140 *	US-PATENT-APPL-SN-325886	c 33	N83-34190 *
US-PATENT-APPL-SN-290021	c 37	N74-23064 *	US-PATENT-APPL-SN-307727	c 32	N74-20813 *	US-PATENT-APPL-SN-325931	c 37	N82-26674 *
US-PATENT-APPL-SN-290022	c 09	N73-12214 *	US-PATENT-APPL-SN-307728	c 34	N74-27861 *	US-PATENT-APPL-SN-325932	c 33	N84-16455 *
US-PATENT-APPL-SN-290030	c 33	N74-12887 *	US-PATENT-APPL-SN-307729	c 31	N74-27900 *	US-PATENT-APPL-SN-325933	c 76	N83-20789 *
US-PATENT-APPL-SN-290043	c 18	N75-27040 *	US-PATENT-APPL-SN-308007	c 44	N83-34448 *	US-PATENT-APPL-SN-326198	c 35	N75-12272 *
US-PATENT-APPL-SN-290067	c 28	N70-39931 *	US-PATENT-APPL-SN-308009	c 33	N83-36355 *	US-PATENT-APPL-SN-326298	c 14	N71-22765 *
US-PATENT-APPL-SN-290868	c 31	N70-34966 *	US-PATENT-APPL-SN-308201	c 27	N83-28240 *	US-PATENT-APPL-SN-326299	c 26	N71-17818 *
US-PATENT-APPL-SN-290870	c 15	N70-38996 *	US-PATENT-APPL-SN-308201	c 27	N85-21349 *	US-PATENT-APPL-SN-326326	c 35	N74-32879 *
US-PATENT-APPL-SN-290873	c 10	N71-16058 *	US-PATENT-APPL-SN-308203	c 34	N84-12406 *	US-PATENT-APPL-SN-326327	c 44	N74-27519 *
US-PATENT-APPL-SN-290915	c 32	N74-11000 *	US-PATENT-APPL-SN-308204	c 44	N83-28574 *	US-PATENT-APPL-SN-326364	c 51	N75-13502 *
US-PATENT-APPL-SN-291131	c 33	N83-31953 *	US-PATENT-APPL-SN-308918	c 27	N71-15634 *	US-PATENT-APPL-SN-32664	c 11	N72-25287 *
US-PATENT-APPL-SN-291132	c 33	N83-35227 *	US-PATENT-APPL-SN-309291	c 37	N88-23982 *	US-PATENT-APPL-SN-32665	c 14	N72-22444 *
US-PATENT-APPL-SN-291645	c 60	N85-21992 *	US-PATENT-APPL-SN-309292	c 37	N84-28085 *	US-PATENT-APPL-SN-327163	c 03	N71-20895 *
US-PATENT-APPL-SN-291845	c 52	N74-27566 *	US-PATENT-APPL-SN-309293	c 25	N83-13187 *	US-PATENT-APPL-SN-327565	c 02	N70-36825 *
US-PATENT-APPL-SN-292047	c 37	N89-29750 *	US-PATENT-APPL-SN-309354	c 11	N71-15926 *	US-PATENT-APPL-SN-327921	c 54	N75-13531 *
US-PATENT-APPL-SN-292123	c 18	N89-28552 *	US-PATENT-APPL-SN-310034	c 32	N74-30524 *	US-PATENT-APPL-SN-327969	c 35	N75-13213 *
US-PATENT-APPL-SN-292124	c 62	N89-29976 *	US-PATENT-APPL-SN-310193	c 33	N74-27682 *	US-PATENT-APPL-SN-328140	c 18	N71-21651 *
US-PATENT-APPL-SN-292130	c 32	N89-25360 *	US-PATENT-APPL-SN-310506	c 10	N71-16042 *	US-PATENT-APPL-SN-328760	c 31	N83-35177 *
US-PATENT-APPL-SN-292131	c 18	N89-25263 *	US-PATENT-APPL-SN-310507	c 07	N71-11298 *	US-PATENT-APPL-SN-328792	c 35	N75-12273 *
US-PATENT-APPL-SN-292141	c 76	N89-30076 *	US-PATENT-APPL-SN-310615	c 37	N74-27901 *	US-PATENT-APPL-SN-329237	c 33	N74-34638 *
US-PATENT-APPL-SN-292146	c 37	N89-28830 *	US-PATENT-APPL-SN-310616	c 35	N74-21017 *	US-PATENT-APPL-SN-329243	c 28	N74-33209 *
US-PATENT-APPL-SN-292340	c 52	N79-21750 *	US-PATENT-APPL-SN-310624	c 33	N74-17929 *	US-PATENT-APPL-SN-329331	c 15	N71-15906 *
US-PATENT-APPL-SN-292382	c 27	N74-17283 *	US-PATENT-APPL-SN-310714	c 33	N82-11360 *	US-PATENT-APPL-SN-329595	c 05	N70-41329 *
US-PATENT-APPL-SN-292477	c 15	N73-12495 *	US-PATENT-APPL-SN-311175	c 52	N74-22771 *	US-PATENT-APPL-SN-329958	c 33	N74-22885 *
US-PATENT-APPL-SN-292596	c 10	N71-29135 *	US-PATENT-APPL-SN-311176	c 35	N74-23040 *	US-PATENT-APPL-SN-330209	c 15	N70-41646 *
US-PATENT-APPL-SN-292681	c 33	N74-10194 *	US-PATENT-APPL-SN-311387	c 23	N71-30027 *	US-PATENT-APPL-SN-330210	c 14	N71-21090 *
US-PATENT-APPL-SN-292682	c 14	N73-32319 *	US-PATENT-APPL-SN-312269	c 28	N71-14043 *	US-PATENT-APPL-SN-331323	c 07	N71-16088 *
US-PATENT-APPL-SN-292685	c 32	N74-20864 *	US-PATENT-APPL-SN-31242	c 28	N70-33374 *	US-PATENT-APPL-SN-331324	c 05	N70-35152 *
US-PATENT-APPL-SN-292686	c 20	N74-31269 *	US-PATENT-APPL-SN-312443	c 10	N71-21473 *	US-PATENT-APPL-SN-33159	c 10	N72-11256 *
US-PATENT-APPL-SN-292698	c 09	N73-32109 *	US-PATENT-APPL-SN-313132	c 28	N70-34175 *	US-PATENT-APPL-SN-331759	c 07	N76-18117 *
US-PATENT-APPL-SN-293412	c 27	N83-34039 *	US-PATENT-APPL-SN-313135	c 15	N70-35087 *	US-PATENT-APPL-SN-331760	c 35	N74-27860 *
US-PATENT-APPL-SN-293414	c 37	N84-16560 *	US-PATENT-APPL-SN-313136	c 09	N71-12540 *	US-PATENT-APPL-SN-332123	c 27	N80-32514 *
US-PATENT-APPL-SN-293417	c 37	N82-26673 *	US-PATENT-APPL-SN-313381	c 35	N74-15091 *	US-PATENT-APPL-SN-332313	c 21	N71-10678 *
US-PATENT-APPL-SN-293418	c 26	N83-31795 *	US-PATENT-APPL-SN-314074	c 15	N71-16079 *	US-PATENT-APPL-SN-332339	c 07	N71-11284 *
US-PATENT-APPL-SN-293419	c 33	N82-24427 *	US-PATENT-APPL-SN-314570	c 10	N71-28960 *	US-PATENT-APPL-SN-333535	c 74	N83-36898 *
US-PATENT-APPL-SN-293725	c 89	N74-30886 *	US-PATENT-APPL-SN-314572	c 14	N71-15992 *	US-PATENT-APPL-SN-333537	c 44	N83-32176 *
US-PATENT-APPL-SN-293726	c 37	N74-21055 *	US-PATENT-APPL-SN-314656	c 51	N77-25769 *	US-PATENT-APPL-SN-333766	c 31	N71-15663 *
US-PATENT-APPL-SN-293727	c 33	N74-14956 *	US-PATENT-APPL-SN-314702	c 71	N84-16940 *	US-PATENT-APPL-SN-333770	c 21	N71-15583 *
US-PATENT-APPL-SN-293739	c 35	N74-28097 *	US-PATENT-APPL-SN-314928	c 32	N84-34651 *	US-PATENT-APPL-SN-333912	c 32	N74-19790 *
US-PATENT-APPL-SN-294727	c 73	N77-18891 *	US-PATENT-APPL-SN-314929	c 71	N83-32515 *	US-PATENT-APPL-SN-33398	c 14	N70-35587 *
US-PATENT-APPL-SN-294738	c 73	N78-28913 *	US-PATENT-APPL-SN-315048	c 34	N74-27730 *	US-PATENT-APPL-SN-334349	c 35	N75-19611 *
US-PATENT-APPL-SN-295855	c 23	N71-17802 *	US-PATENT-APPL-SN-315069	c 33	N74-20862 *	US-PATENT-APPL-SN-334672	c 14	N70-41330 *
US-PATENT-APPL-SN-296137	c 74	N84-28590 *	US-PATENT-APPL-SN-315070	c 60	N76-23850 *	US-PATENT-APPL-SN-334678	c 11	N71-10777 *
US-PATENT-APPL-SN-296622	c 44	N76-31666 *	US-PATENT-APPL-SN-315096	c 12	N70-40124 *	US-PATENT-APPL-SN-335036	c 45	N84-12654 *
US-PATENT-APPL-SN-296879	c 26	N71-18064 *	US-PATENT-APPL-SN-3151	c 05	N72-27102 *	US-PATENT-APPL-SN-335201	c 33	N74-17927 *
US-PATENT-APPL-SN-297127	c 33	N74-27705 *	US-PATENT-APPL-SN-315278	c 51	N83-28849 *	US-PATENT-APPL-SN-335353	c 06	N72-17093 *
US-PATENT-APPL-SN-297128	c 32	N74-26654 *	US-PATENT-APPL-SN-315583	c 35	N84-33769 *	US-PATENT-APPL-SN-335441	c 14	N71-23268 *
US-PATENT-APPL-SN-297436	c 33	N79-11314 *	US-PATENT-APPL-SN-315584	c 23	N84-16255 *	US-PATENT-APPL-SN-336103	c 16	N71-15550 *
US-PATENT-APPL-SN-297486	c 35	N83-24828 *	US-PATENT-APPL-SN-315587	c 25	N83-31743 *	US-PATENT-APPL-SN-336319	c 44	N74-33379 *
US-PATENT-APPL-SN-297488	c 37	N84-16561 *	US-PATENT-APPL-SN-315688	c 05	N84-22551 *	US-PATENT-APPL-SN-336320	c 15	N71-15966 *
US-PATENT-APPL-SN-297524	c 33	N84-14424 *	US-PATENT-APPL-SN-316477	c 18	N71-10772 *	US-PATENT-APPL-SN-336607	c 10	N71-15910 *
US-PATENT-APPL-SN-297								

US-PATENT-APPL-SN-338386	c 15	N84-16231 *	US-PATENT-APPL-SN-357312	c 27	N76-16229 *	US-PATENT-APPL-SN-370872	c 37	N74-32918 *
US-PATENT-APPL-SN-338484	c 32	N74-20811 *	US-PATENT-APPL-SN-357334	c 03	N71-12258 *	US-PATENT-APPL-SN-370989	c 23	N71-29049 *
US-PATENT-APPL-SN-339040	c 31	N70-41373 *	US-PATENT-APPL-SN-357336	c 03	N71-12259 *	US-PATENT-APPL-SN-370999	c 74	N78-15879 *
US-PATENT-APPL-SN-339806	c 07	N74-27490 *	US-PATENT-APPL-SN-357337	c 15	N71-10782 *	US-PATENT-APPL-SN-371322	c 44	N76-14600 *
US-PATENT-APPL-SN-339821	c 17	N70-33288 *	US-PATENT-APPL-SN-357340	c 23	N71-15673 *	US-PATENT-APPL-SN-371351	c 76	N84-35113 *
US-PATENT-APPL-SN-339825	c 28	N71-15660 *	US-PATENT-APPL-SN-357757	c 14	N89-28547 *	US-PATENT-APPL-SN-371352	c 52	N84-11744 *
US-PATENT-APPL-SN-340113	c 16	N70-41578 *	US-PATENT-APPL-SN-357938	c 45	N89-28967 *	US-PATENT-APPL-SN-371856	c 15	N70-42033 *
US-PATENT-APPL-SN-340791	c 35	N74-26945 *	US-PATENT-APPL-SN-358027	c 35	N89-28794 *	US-PATENT-APPL-SN-371857	c 07	N70-41680 *
US-PATENT-APPL-SN-340862	c 33	N77-26387 *	US-PATENT-APPL-SN-358028	c 37	N89-28842 *	US-PATENT-APPL-SN-372148	c 35	N74-26949 *
US-PATENT-APPL-SN-340863	c 25	N76-27383 *	US-PATENT-APPL-SN-358088	c 35	N84-33767 *	US-PATENT-APPL-SN-372149	c 37	N75-15050 *
US-PATENT-APPL-SN-340864	c 31	N74-21059 *	US-PATENT-APPL-SN-358089	c 71	N84-23233 *	US-PATENT-APPL-SN-372279	c 35	N84-28019 *
US-PATENT-APPL-SN-340871	c 44	N74-19870 *	US-PATENT-APPL-SN-358127	c 05	N71-12335 *	US-PATENT-APPL-SN-372438	c 30	N71-17788 *
US-PATENT-APPL-SN-341406	c 71	N83-35781 *	US-PATENT-APPL-SN-358398	c 36	N84-22944 *	US-PATENT-APPL-SN-372648	c 27	N71-16348 *
US-PATENT-APPL-SN-341467	c 15	N70-39924 *	US-PATENT-APPL-SN-359039	c 32	N74-30523 *	US-PATENT-APPL-SN-372727	c 31	N70-36845 *
US-PATENT-APPL-SN-341621	c 54	N74-20725 *	US-PATENT-APPL-SN-359156	c 14	N75-24794 *	US-PATENT-APPL-SN-372730	c 28	N71-28850 *
US-PATENT-APPL-SN-341662	c 08	N74-10942 *	US-PATENT-APPL-SN-359157	c 35	N74-18090 *	US-PATENT-APPL-SN-373587	c 33	N74-32711 *
US-PATENT-APPL-SN-3417	c 15	N72-22490 *	US-PATENT-APPL-SN-359382	c 32	N85-34327 *	US-PATENT-APPL-SN-373588	c 33	N75-19515 *
US-PATENT-APPL-SN-3418	c 15	N72-20446 *	US-PATENT-APPL-SN-359388	c 44	N83-32177 *	US-PATENT-APPL-SN-373591	c 31	N71-15692 *
US-PATENT-APPL-SN-3418	c 15	N73-19457 *	US-PATENT-APPL-SN-359459	c 36	N89-28817 *	US-PATENT-APPL-SN-373770	c 35	N84-34705 *
US-PATENT-APPL-SN-342572	c 02	N71-16087 *	US-PATENT-APPL-SN-359460	c 36	N89-28816 *	US-PATENT-APPL-SN-373771	c 35	N84-22934 *
US-PATENT-APPL-SN-342574	c 03	N71-20904 *	US-PATENT-APPL-SN-359532	c 15	N71-28959 *	US-PATENT-APPL-SN-373839	c 33	N84-22887 *
US-PATENT-APPL-SN-342828	c 74	N85-29749 *	US-PATENT-APPL-SN-359626	c 35	N84-28018 *	US-PATENT-APPL-SN-374421	c 27	N76-24405 *
US-PATENT-APPL-SN-342857	c 72	N84-28575 *	US-PATENT-APPL-SN-359627	c 35	N82-26631 *	US-PATENT-APPL-SN-374422	c 32	N75-24982 *
US-PATENT-APPL-SN-342871	c 27	N84-33589 *	US-PATENT-APPL-SN-359627	c 35	N85-29214 *	US-PATENT-APPL-SN-374423	c 36	N75-31427 *
US-PATENT-APPL-SN-343308	c 19	N74-29410 *	US-PATENT-APPL-SN-359801	c 74	N89-29191 *	US-PATENT-APPL-SN-374424	c 74	N75-12732 *
US-PATENT-APPL-SN-343425	c 11	N70-35383 *	US-PATENT-APPL-SN-359857	c 07	N74-32418 *	US-PATENT-APPL-SN-374441	c 35	N75-19616 *
US-PATENT-APPL-SN-343426	c 07	N71-20814 *	US-PATENT-APPL-SN-359958	c 37	N74-26976 *	US-PATENT-APPL-SN-374583	c 33	N74-29556 *
US-PATENT-APPL-SN-343607	c 18	N74-27397 *	US-PATENT-APPL-SN-360180	c 17	N71-16026 *	US-PATENT-APPL-SN-374810	c 27	N80-32514 *
US-PATENT-APPL-SN-343760	c 07	N71-28979 *	US-PATENT-APPL-SN-360182	c 31	N70-36654 *	US-PATENT-APPL-SN-375401	c 17	N71-16025 *
US-PATENT-APPL-SN-344410	c 07	N74-33218 *	US-PATENT-APPL-SN-360878	c 03	N71-11051 *	US-PATENT-APPL-SN-375405	c 31	N71-15675 *
US-PATENT-APPL-SN-344793	c 03	N71-11058 *	US-PATENT-APPL-SN-361200	c 18	N89-28556 *	US-PATENT-APPL-SN-375620	c 43	N85-21723 *
US-PATENT-APPL-SN-345372	c 33	N74-22814 *	US-PATENT-APPL-SN-361215	c 27	N84-14323 *	US-PATENT-APPL-SN-375674	c 28	N70-41582 *
US-PATENT-APPL-SN-346356	c 14	N70-41676 *	US-PATENT-APPL-SN-361216	c 35	N84-28016 *	US-PATENT-APPL-SN-375680	c 10	N71-28739 *
US-PATENT-APPL-SN-346361	c 37	N74-21064 *	US-PATENT-APPL-SN-361217	c 71	N85-22104 *	US-PATENT-APPL-SN-375682	c 31	N70-41588 *
US-PATENT-APPL-SN-346372	c 35	N75-12270 *	US-PATENT-APPL-SN-361479	c 14	N89-28546 *	US-PATENT-APPL-SN-375684	c 44	N85-21769 *
US-PATENT-APPL-SN-346483	c 37	N74-32921 *	US-PATENT-APPL-SN-361531	c 35	N89-28795 *	US-PATENT-APPL-SN-375784	c 24	N85-21266 *
US-PATENT-APPL-SN-346483	c 37	N76-15461 *	US-PATENT-APPL-SN-361666	c 33	N75-30428 *	US-PATENT-APPL-SN-375784	c 24	N85-35233 *
US-PATENT-APPL-SN-347101	c 09	N70-41675 *	US-PATENT-APPL-SN-361711	c 24	N82-26387 *	US-PATENT-APPL-SN-376306	c 25	N84-12262 *
US-PATENT-APPL-SN-347626	c 15	N70-40204 *	US-PATENT-APPL-SN-361711	c 24	N84-16262 *	US-PATENT-APPL-SN-376487	c 25	N89-28603 *
US-PATENT-APPL-SN-347952	c 37	N75-13265 *	US-PATENT-APPL-SN-361906	c 33	N74-20861 *	US-PATENT-APPL-SN-377146	c 14	N71-23041 *
US-PATENT-APPL-SN-347953	c 05	N75-24716 *	US-PATENT-APPL-SN-361907	c 35	N74-27865 *	US-PATENT-APPL-SN-377777	c 32	N70-42003 *
US-PATENT-APPL-SN-347960	c 03	N70-39930 *	US-PATENT-APPL-SN-362145	c 32	N75-26194 *	US-PATENT-APPL-SN-377780	c 11	N71-10804 *
US-PATENT-APPL-SN-348422	c 27	N76-15311 *	US-PATENT-APPL-SN-362146	c 33	N75-18479 *	US-PATENT-APPL-SN-377784	c 28	N70-41311 *
US-PATENT-APPL-SN-348600	c 28	N71-29154 *	US-PATENT-APPL-SN-362226	c 14	N73-32325 *	US-PATENT-APPL-SN-377891	c 52	N84-34913 *
US-PATENT-APPL-SN-348787	c 33	N75-19521 *	US-PATENT-APPL-SN-362278	c 37	N78-17385 *	US-PATENT-APPL-SN-377892	c 33	N83-24763 *
US-PATENT-APPL-SN-349778	c 09	N70-40234 *	US-PATENT-APPL-SN-363130	c 25	N81-19244 *	US-PATENT-APPL-SN-378080	c 12	N71-24692 *
US-PATENT-APPL-SN-349781	c 31	N71-15647 *	US-PATENT-APPL-SN-363348	c 05	N70-41581 *	US-PATENT-APPL-SN-378126	c 44	N76-18643 *
US-PATENT-APPL-SN-349782	c 09	N71-16086 *	US-PATENT-APPL-SN-363653	c 07	N70-41331 *	US-PATENT-APPL-SN-378127	c 44	N76-18641 *
US-PATENT-APPL-SN-34989	c 36	N74-13205 *	US-PATENT-APPL-SN-363654	c 07	N70-41372 *	US-PATENT-APPL-SN-378533	c 37	N84-11497 *
US-PATENT-APPL-SN-350249	c 36	N75-15028 *	US-PATENT-APPL-SN-363681	c 20	N76-14190 *	US-PATENT-APPL-SN-378535	c 74	N84-23248 *
US-PATENT-APPL-SN-350250	c 27	N75-27160 *	US-PATENT-APPL-SN-364041	c 76	N85-30923 *	US-PATENT-APPL-SN-378548	c 54	N89-29027 *
US-PATENT-APPL-SN-350300	c 31	N74-32920 *	US-PATENT-APPL-SN-364072	c 70	N84-28565 *	US-PATENT-APPL-SN-379019	c 09	N75-12969 *
US-PATENT-APPL-SN-350471	c 35	N85-29213 *	US-PATENT-APPL-SN-364092	c 76	N83-35888 *	US-PATENT-APPL-SN-379049	c 31	N75-13111 *
US-PATENT-APPL-SN-350472	c 33	N84-14424 *	US-PATENT-APPL-SN-364093	c 37	N83-34323 *	US-PATENT-APPL-SN-379072	c 15	N71-16078 *
US-PATENT-APPL-SN-350473	c 07	N84-22559 *	US-PATENT-APPL-SN-364094	c 37	N84-28083 *	US-PATENT-APPL-SN-379417	c 02	N70-41863 *
US-PATENT-APPL-SN-350474	c 35	N84-22928 *	US-PATENT-APPL-SN-364097	c 71	N82-27086 *	US-PATENT-APPL-SN-379601	c 71	N85-30765 *
US-PATENT-APPL-SN-350475	c 35	N84-28017 *	US-PATENT-APPL-SN-364126	c 36	N84-22943 *	US-PATENT-APPL-SN-379602	c 44	N84-23018 *
US-PATENT-APPL-SN-350476	c 26	N84-22734 *	US-PATENT-APPL-SN-364743	c 37	N89-28841 *	US-PATENT-APPL-SN-379768	c 28	N71-10780 *
US-PATENT-APPL-SN-350477	c 35	N84-33765 *	US-PATENT-APPL-SN-364867	c 09	N71-10673 *	US-PATENT-APPL-SN-379771	c 33	N71-28852 *
US-PATENT-APPL-SN-350813	c 32	N89-28684 *	US-PATENT-APPL-SN-365244	c 37	N78-17386 *	US-PATENT-APPL-SN-380046	c 25	N76-29379 *
US-PATENT-APPL-SN-351259	c 15	N71-10672 *	US-PATENT-APPL-SN-365331	c 07	N72-25174 *	US-PATENT-APPL-SN-380630	c 37	N75-21631 *
US-PATENT-APPL-SN-351929	c 33	N75-14957 *	US-PATENT-APPL-SN-365534	c 21	N73-14692 *	US-PATENT-APPL-SN-380960	c 15	N70-41993 *
US-PATENT-APPL-SN-351950	c 33	N75-27249 *	US-PATENT-APPL-SN-36554	c 35	N77-27367 *	US-PATENT-APPL-SN-380965	c 10	N71-23033 *
US-PATENT-APPL-SN-352381	c 20	N75-18310 *	US-PATENT-APPL-SN-365644	c 35	N74-26946 *	US-PATENT-APPL-SN-381240	c 27	N89-28651 *
US-PATENT-APPL-SN-352381	c 37	N76-14461 *	US-PATENT-APPL-SN-365950	c 27	N83-18908 *	US-PATENT-APPL-SN-381940	c 09	N71-20705 *
US-PATENT-APPL-SN-352382	c 60	N75-13539 *	US-PATENT-APPL-SN-366025	c 27	N84-22744 *	US-PATENT-APPL-SN-382261	c 35	N76-14430 *
US-PATENT-APPL-SN-352383	c 35	N75-16783 *	US-PATENT-APPL-SN-366103	c 76	N84-35112 *	US-PATENT-APPL-SN-382262	c 37	N74-21058 *
US-PATENT-APPL-SN-352400	c 26	N71-10607 *	US-PATENT-APPL-SN-366226	c 10	N71-16057 *	US-PATENT-APPL-SN-38262	c 28	N70-35422 *
US-PATENT-APPL-SN-352821	c 44	N84-28205 *	US-PATENT-APPL-SN-367132	c 32	N85-21427 *	US-PATENT-APPL-SN-382885	c 14	N89-28549 *
US-PATENT-APPL-SN-352827	c 35	N84-28015 *	US-PATENT-APPL-SN-367134	c 44	N83-34449 *	US-PATENT-APPL-SN-382976	c 17	N71-21179 *
US-PATENT-APPL-SN-352827	c 35	N85-21598 *	US-PATENT-APPL-SN-367136	c 35	N85-21596 *	US-PATENT-APPL-SN-383063	c 35	N84-12493 *
US-PATENT-APPL-SN-352831	c 35	N84-16523 *	US-PATENT-APPL-SN-367187	c 04	N84-14132 *	US-PATENT-APPL-SN-383068	c 44	N84-34792 *
US-PATENT-APPL-SN-353162	c 33	N75-26243 *	US-PATENT-APPL-SN-367268	c 05	N75-25914 *	US-PATENT-APPL-SN-383083	c 33	N84-16453 *
US-PATENT-APPL-SN-353411	c 37	N89-28846 *	US-PATENT-APPL-SN-367293	c 36	N75-19655 *	US-PATENT-APPL-SN-383086	c 36	N85-21639 *
US-PATENT-APPL-SN-353632	c 15	N71-13789 *	US-PATENT-APPL-SN-367294	c 76	N75-12810 *	US-PATENT-APPL-SN-383384	c 06	N84-27733 *
US-PATENT-APPL-SN-353634	c 15	N70-41829 *	US-PATENT-APPL-SN-367606	c 75	N75-13625 *	US-PATENT-APPL-SN-384010	c 10	N71-28859 *
US-PATENT-APPL-SN-353637	c 02	N70-34160 *	US-PATENT-APPL-SN-367606	c 75	N76-17951 *	US-PATENT-APPL-SN-384547	c 36	N85-29264 *
US-PATENT-APPL-SN-353644	c 07	N71-23098 *	US-PATENT-APPL-SN-368123	c 09	N71-10618 *	US-PATENT-APPL-SN-384773	c 15	N76-14158 *
US-PATENT-APPL-SN-353645	c 15	N71-15922 *	US-PATENT-APPL-SN-368187	c 54	N84-11758 *	US-PATENT-APPL-SN-384811	c 15	N71-10809 *
US-PATENT-APPL-SN-354060	c 74	N76-19935 *	US-PATENT-APPL-SN-368188	c 33	N84-33663 *	US-PATENT-APPL-SN-385013	c 35	N75-19613 *
US-PATENT-APPL-SN-354126	c 37	N82-22496 *	US-PATENT-APPL-SN-368189	c 18	N84-22605 *	US-PATENT-APPL-SN-385059	c 33	N77-21315 *
US-PATENT-APPL-SN-354182	c 10	N71-20841 *	US-PATENT-APPL-SN-36819	c 23	N72-22673 *	US-PATENT-APPL-SN-385220	c 36	N85-30305 *
US-PATENT-APPL-SN-354406	c 52	N76-14757 *	US-PATENT-APPL-SN-36926	c 28	N72-23810 *	US-PATENT-APPL-SN-385520	c 14	N71-23037 *
US-PATENT-APPL-SN-354407	c 33	N74-22865 *	US-PATENT-APPL-SN-369334	c 21	N71-22880 *	US-PATENT-APPL-SN-385522	c 34	N75-33342 *
US-PATENT-APPL-SN-354408	c 35	N75-19614 *	US-PATENT-APPL-SN-369336	c 09	N71-10659 *	US-PATENT-APPL-SN-385526	c 12	N71-16031 *
US-PATENT-APPL-SN-354611	c 25	N74-26947 *	US-PATENT-APPL-SN-369337	c 15	N70-41811 *	US-PATENT-APPL-SN-385527	c 31	N71-17729 *
US-PATENT-APPL-SN-354612	c 35	N75-30504 *	US-PATENT-APPL-SN-369338	c 08	N71-28925 *	US-PATENT-APPL-SN-385530	c 09	N71-10798 *
US-PATENT-APPL-SN-355126	c 17	N71-15644 *	US-PATENT-APPL-SN-369403	c 35	N89-28796 *	US-PATENT-APPL-SN-386172	c 24	N89-28586 *
US-PATENT-APPL-SN-355129	c 14	N70-41957 *	US-PATENT-APPL-SN-369640	c 32	N70-41370 *	US-PATENT-APPL-SN-386175	c 35	N89-28793 *
US-PATENT-APPL-SN-355130	c 15	N70-40354 *	US-PATENT-APPL-SN-3696	c 10	N72-20224 *	US-PATENT-APPL-SN-386467	c 14	N70-40233 *
US-PATENT-APPL-SN-356488	c 08	N71-19544 *	US-PATENT-APPL-SN-370134	c 30	N70-40353 *	US-PATENT-APPL-SN-386789	c 35	N75-12271 *
US-PATENT-APPL-SN-356554	c 24	N75-33181 *	US-PATENT-APPL-SN-370135	c 11	N70-41677 *	US-PATENT-APPL-SN-386790	c 09	N75-12968 *
US-PATENT-APPL-SN-356555	c 37	N75-19685 *	US-PATENT-APPL-SN-370255	c 33	N75-18477 *	US-PATENT-APPL-SN-386793	c 35	N75-21524 *
US-PATENT-APPL-S								

US-PATENT-APPL-SN-387266	c 35	N75-27328 *	US-PATENT-APPL-SN-401920	c 37	N75-25185 *	US-PATENT-APPL-SN-418933	c 15	N71-23022 *
US-PATENT-APPL-SN-387332	c 15	N70-33226 *	US-PATENT-APPL-SN-401921	c 24	N76-14203 *	US-PATENT-APPL-SN-419319	c 34	N76-17317 *
US-PATENT-APPL-SN-387342	c 37	N76-18457 *	US-PATENT-APPL-SN-402205	c 33	N85-30187 *	US-PATENT-APPL-SN-419747	c 17	N76-21250 *
US-PATENT-APPL-SN-387646	c 37	N85-30336 *	US-PATENT-APPL-SN-402365	c 31	N71-17730 *	US-PATENT-APPL-SN-419748	c 27	N76-14264 *
US-PATENT-APPL-SN-387647	c 33	N85-34333 *	US-PATENT-APPL-SN-402865	c 33	N74-32660 *	US-PATENT-APPL-SN-419831	c 35	N75-21582 *
US-PATENT-APPL-SN-387648	c 37	N85-21650 *	US-PATENT-APPL-SN-402867	c 35	N75-33367 *	US-PATENT-APPL-SN-419831	c 35	N77-17426 *
US-PATENT-APPL-SN-387649	c 09	N85-19990 *	US-PATENT-APPL-SN-402868	c 35	N75-19612 *	US-PATENT-APPL-SN-420022	c 15	N70-35409 *
US-PATENT-APPL-SN-387728	c 37	N84-28084 *	US-PATENT-APPL-SN-402978	c 10	N71-23084 *	US-PATENT-APPL-SN-420245	c 08	N71-22749 *
US-PATENT-APPL-SN-388023	c 10	N70-41964 *	US-PATENT-APPL-SN-403154	c 37	N77-22480 *	US-PATENT-APPL-SN-420250	c 15	N71-23051 *
US-PATENT-APPL-SN-388024	c 32	N71-17609 *	US-PATENT-APPL-SN-403371	c 27	N82-33523 *	US-PATENT-APPL-SN-420424	c 34	N75-26282 *
US-PATENT-APPL-SN-38814	c 15	N72-11385 *	US-PATENT-APPL-SN-403378	c 26	N84-33555 *	US-PATENT-APPL-SN-420466	c 14	N71-23092 *
US-PATENT-APPL-SN-38816	c 70	N74-13436 *	US-PATENT-APPL-SN-403694	c 54	N75-12616 *	US-PATENT-APPL-SN-420813	c 36	N75-32441 *
US-PATENT-APPL-SN-38816	c 74	N78-15879 *	US-PATENT-APPL-SN-403695	c 35	N77-20399 *	US-PATENT-APPL-SN-42088	c 34	N78-17336 *
US-PATENT-APPL-SN-388966	c 31	N70-41855 *	US-PATENT-APPL-SN-403847	c 31	N83-35176 *	US-PATENT-APPL-SN-421702	c 44	N75-32581 *
US-PATENT-APPL-SN-388967	c 10	N71-23271 *	US-PATENT-APPL-SN-403848	c 33	N85-21493 *	US-PATENT-APPL-SN-421702	c 44	N76-23675 *
US-PATENT-APPL-SN-389916	c 18	N75-27041 *	US-PATENT-APPL-SN-403849	c 35	N87-21304 *	US-PATENT-APPL-SN-422092	c 14	N71-22989 *
US-PATENT-APPL-SN-389929	c 33	N75-25040 *	US-PATENT-APPL-SN-403959	c 14	N70-41994 *	US-PATENT-APPL-SN-422095	c 07	N71-10676 *
US-PATENT-APPL-SN-390049	c 37	N76-16446 *	US-PATENT-APPL-SN-403960	c 14	N70-41366 *	US-PATENT-APPL-SN-422096	c 03	N71-29044 *
US-PATENT-APPL-SN-390049	c 44	N76-29700 *	US-PATENT-APPL-SN-404212	c 14	N73-32324 *	US-PATENT-APPL-SN-422097	c 11	N71-21481 *
US-PATENT-APPL-SN-390250	c 21	N70-41856 *	US-PATENT-APPL-SN-404809	c 27	N84-27885 *	US-PATENT-APPL-SN-422098	c 15	N71-22797 *
US-PATENT-APPL-SN-390251	c 07	N71-23026 *	US-PATENT-APPL-SN-404809	c 25	N85-28982 *	US-PATENT-APPL-SN-422099	c 14	N71-22964 *
US-PATENT-APPL-SN-390466	c 24	N75-13032 *	US-PATENT-APPL-SN-405341	c 37	N76-15460 *	US-PATENT-APPL-SN-422864	c 05	N69-21925 *
US-PATENT-APPL-SN-390468	c 36	N75-19652 *	US-PATENT-APPL-SN-405342	c 35	N75-19615 *	US-PATENT-APPL-SN-422865	c 31	N70-41631 *
US-PATENT-APPL-SN-391343	c 05	N69-21473 *	US-PATENT-APPL-SN-405346	c 37	N75-10662 *	US-PATENT-APPL-SN-422867	c 15	N70-40062 *
US-PATENT-APPL-SN-39185	c 16	N72-25485 *	US-PATENT-APPL-SN-405629	c 09	N71-10577 *	US-PATENT-APPL-SN-422868	c 15	N71-10617 *
US-PATENT-APPL-SN-392092	c 51	N84-28361 *	US-PATENT-APPL-SN-405630	c 14	N71-10616 *	US-PATENT-APPL-SN-422869	c 14	N71-10779 *
US-PATENT-APPL-SN-392093	c 33	N88-23941 *	US-PATENT-APPL-SN-405632	c 21	N71-15582 *	US-PATENT-APPL-SN-423016	c 36	N85-21631 *
US-PATENT-APPL-SN-392094	c 37	N85-29283 *	US-PATENT-APPL-SN-406097	c 14	N71-21088 *	US-PATENT-APPL-SN-423412	c 08	N71-22897 *
US-PATENT-APPL-SN-392096	c 02	N84-11136 *	US-PATENT-APPL-SN-406296	c 25	N79-10163 *	US-PATENT-APPL-SN-424013	c 34	N76-27517 *
US-PATENT-APPL-SN-392103	c 44	N84-28204 *	US-PATENT-APPL-SN-406715	c 35	N75-15014 *	US-PATENT-APPL-SN-424038	c 24	N75-30260 *
US-PATENT-APPL-SN-392104	c 37	N85-20338 *	US-PATENT-APPL-SN-406820	c 74	N86-32266 *	US-PATENT-APPL-SN-424153	c 15	N71-21234 *
US-PATENT-APPL-SN-392823	c 25	N74-33378 *	US-PATENT-APPL-SN-407240	c 27	N83-34041 *	US-PATENT-APPL-SN-424156	c 02	N71-23007 *
US-PATENT-APPL-SN-392944	c 76	N85-29800 *	US-PATENT-APPL-SN-407240	c 27	N85-20124 *	US-PATENT-APPL-SN-424157	c 28	N70-41275 *
US-PATENT-APPL-SN-392965	c 18	N71-22998 *	US-PATENT-APPL-SN-407323	c 32	N75-21485 *	US-PATENT-APPL-SN-425096	c 05	N71-23080 *
US-PATENT-APPL-SN-392969	c 09	N71-23573 *	US-PATENT-APPL-SN-407595	c 28	N70-41992 *	US-PATENT-APPL-SN-425201	c 04	N86-19304 *
US-PATENT-APPL-SN-392970	c 32	N70-41367 *	US-PATENT-APPL-SN-407599	c 14	N71-21091 *	US-PATENT-APPL-SN-425202	c 74	N85-34629 *
US-PATENT-APPL-SN-392973	c 07	N71-23001 *	US-PATENT-APPL-SN-407603	c 05	N71-11199 *	US-PATENT-APPL-SN-425203	c 35	N84-22930 *
US-PATENT-APPL-SN-392992	c 15	N71-23052 *	US-PATENT-APPL-SN-408435	c 15	N71-28937 *	US-PATENT-APPL-SN-425204	c 32	N85-29117 *
US-PATENT-APPL-SN-39342	c 09	N72-25252 *	US-PATENT-APPL-SN-408438	c 07	N71-22750 *	US-PATENT-APPL-SN-425205	c 35	N85-21595 *
US-PATENT-APPL-SN-39343	c 34	N74-18552 *	US-PATENT-APPL-SN-408442	c 10	N71-23662 *	US-PATENT-APPL-SN-425362	c 15	N71-10658 *
US-PATENT-APPL-SN-39344	c 14	N72-25409 *	US-PATENT-APPL-SN-408575	c 35	N83-32026 *	US-PATENT-APPL-SN-425363	c 09	N71-20658 *
US-PATENT-APPL-SN-393451	c 02	N70-42016 *	US-PATENT-APPL-SN-409126	c 18	N71-21068 *	US-PATENT-APPL-SN-425364	c 33	N71-15623 *
US-PATENT-APPL-SN-393456	c 33	N83-16633 *	US-PATENT-APPL-SN-409678	c 09	N84-27749 *	US-PATENT-APPL-SN-425365	c 32	N71-21045 *
US-PATENT-APPL-SN-393461	c 31	N71-17691 *	US-PATENT-APPL-SN-409679	c 33	N82-33634 *	US-PATENT-APPL-SN-425972	c 03	N71-23006 *
US-PATENT-APPL-SN-393464	c 23	N71-21821 *	US-PATENT-APPL-SN-409679	c 33	N84-22884 *	US-PATENT-APPL-SN-426155	c 33	N75-15874 *
US-PATENT-APPL-SN-393523	c 12	N75-24774 *	US-PATENT-APPL-SN-409680	c 35	N85-20294 *	US-PATENT-APPL-SN-426405	c 25	N75-26043 *
US-PATENT-APPL-SN-393524	c 60	N76-21914 *	US-PATENT-APPL-SN-409990	c 35	N75-27330 *	US-PATENT-APPL-SN-426455	c 28	N71-15661 *
US-PATENT-APPL-SN-393525	c 31	N74-32917 *	US-PATENT-APPL-SN-409991	c 33	N75-13139 *	US-PATENT-APPL-SN-426702	c 15	N70-42034 *
US-PATENT-APPL-SN-393526	c 77	N75-20139 *	US-PATENT-APPL-SN-410325	c 18	N71-23088 *	US-PATENT-APPL-SN-427395	c 54	N75-27760 *
US-PATENT-APPL-SN-393527	c 15	N75-13007 *	US-PATENT-APPL-SN-410326	c 09	N71-21449 *	US-PATENT-APPL-SN-427775	c 27	N76-22376 *
US-PATENT-APPL-SN-393528	c 36	N75-19654 *	US-PATENT-APPL-SN-410330	c 26	N71-23043 *	US-PATENT-APPL-SN-427990	c 06	N71-23527 *
US-PATENT-APPL-SN-393581	c 54	N84-23113 *	US-PATENT-APPL-SN-410331	c 02	N70-41589 *	US-PATENT-APPL-SN-428444	c 44	N76-18642 *
US-PATENT-APPL-SN-393582	c 37	N85-21649 *	US-PATENT-APPL-SN-410332	c 14	N71-23039 *	US-PATENT-APPL-SN-428444	c 44	N76-29704 *
US-PATENT-APPL-SN-393583	c 27	N83-29392 *	US-PATENT-APPL-SN-411572	c 35	N75-15932 *	US-PATENT-APPL-SN-428882	c 31	N70-41948 *
US-PATENT-APPL-SN-393584	c 37	N85-30334 *	US-PATENT-APPL-SN-411944	c 15	N70-41629 *	US-PATENT-APPL-SN-428887	c 33	N71-29051 *
US-PATENT-APPL-SN-393585	c 37	N82-31690 *	US-PATENT-APPL-SN-411945	c 18	N71-23047 *	US-PATENT-APPL-SN-428890	c 02	N70-41630 *
US-PATENT-APPL-SN-393586	c 54	N84-28484 *	US-PATENT-APPL-SN-411949	c 27	N71-15635 *	US-PATENT-APPL-SN-428992	c 34	N77-18382 *
US-PATENT-APPL-SN-393588	c 25	N84-16276 *	US-PATENT-APPL-SN-412039	c 06	N84-34443 *	US-PATENT-APPL-SN-428993	c 45	N75-27585 *
US-PATENT-APPL-SN-394149	c 35	N75-25123 *	US-PATENT-APPL-SN-412079	c 37	N75-13266 *	US-PATENT-APPL-SN-428994	c 32	N75-21486 *
US-PATENT-APPL-SN-394206	c 76	N75-25730 *	US-PATENT-APPL-SN-412080	c 36	N75-19653 *	US-PATENT-APPL-SN-428994	c 32	N76-16249 *
US-PATENT-APPL-SN-394207	c 25	N78-27226 *	US-PATENT-APPL-SN-412379	c 32	N77-10392 *	US-PATENT-APPL-SN-428995	c 51	N75-25503 *
US-PATENT-APPL-SN-394280	c 54	N82-29002 *	US-PATENT-APPL-SN-413101	c 07	N86-20389 *	US-PATENT-APPL-SN-429437	c 35	N75-23910 *
US-PATENT-APPL-SN-394638	c 28	N70-34162 *	US-PATENT-APPL-SN-41345	c 09	N72-29172 *	US-PATENT-APPL-SN-429932	c 05	N71-20268 *
US-PATENT-APPL-SN-394898	c 07	N77-28118 *	US-PATENT-APPL-SN-41346	c 15	N72-24522 *	US-PATENT-APPL-SN-430192	c 18	N71-27170 *
US-PATENT-APPL-SN-395348	c 15	N71-22713 *	US-PATENT-APPL-SN-41347	c 09	N72-25256 *	US-PATENT-APPL-SN-430226	c 18	N71-23658 *
US-PATENT-APPL-SN-395493	c 37	N79-13364 *	US-PATENT-APPL-SN-41348	c 09	N72-23173 *	US-PATENT-APPL-SN-430496	c 26	N75-29236 *
US-PATENT-APPL-SN-395495	c 54	N75-27759 *	US-PATENT-APPL-SN-413661	c 15	N71-23024 *	US-PATENT-APPL-SN-430748	c 76	N79-21910 *
US-PATENT-APPL-SN-395687	c 37	N75-18573 *	US-PATENT-APPL-SN-413662	c 09	N70-41929 *	US-PATENT-APPL-SN-430776	c 03	N70-41954 *
US-PATENT-APPL-SN-395688	c 33	N75-19516 *	US-PATENT-APPL-SN-414042	c 35	N79-17192 *	US-PATENT-APPL-SN-430777	c 18	N71-24184 *
US-PATENT-APPL-SN-395695	c 36	N78-17366 *	US-PATENT-APPL-SN-414043	c 27	N76-32315 *	US-PATENT-APPL-SN-430778	c 03	N71-10728 *
US-PATENT-APPL-SN-396263	c 35	N89-28806 *	US-PATENT-APPL-SN-41404	c 03	N73-20039 *	US-PATENT-APPL-SN-430780	c 03	N71-12260 *
US-PATENT-APPL-SN-396443	c 15	N71-15986 *	US-PATENT-APPL-SN-414106	c 54	N84-16803 *	US-PATENT-APPL-SN-431235	c 15	N71-16052 *
US-PATENT-APPL-SN-396444	c 10	N71-20782 *	US-PATENT-APPL-SN-414107	c 35	N84-22932 *	US-PATENT-APPL-SN-431420	c 37	N85-29282 *
US-PATENT-APPL-SN-397281	c 76	N83-34796 *	US-PATENT-APPL-SN-414237	c 35	N85-30282 *	US-PATENT-APPL-SN-431448	c 37	N84-22957 *
US-PATENT-APPL-SN-397476	c 34	N75-12222 *	US-PATENT-APPL-SN-41430	c 10	N72-20221 *	US-PATENT-APPL-SN-431886	c 18	N84-27787 *
US-PATENT-APPL-SN-397477	c 33	N75-19517 *	US-PATENT-APPL-SN-41431	c 37	N77-27400 *	US-PATENT-APPL-SN-432025	c 15	N71-21531 *
US-PATENT-APPL-SN-397478	c 52	N75-33640 *	US-PATENT-APPL-SN-414482	c 10	N71-10578 *	US-PATENT-APPL-SN-432026	c 07	N71-23405 *
US-PATENT-APPL-SN-39755	c 08	N72-21198 *	US-PATENT-APPL-SN-41455	c 02	N70-33255 *	US-PATENT-APPL-SN-432027	c 21	N70-41930 *
US-PATENT-APPL-SN-397665	c 10	N70-41991 *	US-PATENT-APPL-SN-415486	c 37	N75-19683 *	US-PATENT-APPL-SN-432028	c 15	N71-22723 *
US-PATENT-APPL-SN-398131	c 05	N70-41297 *	US-PATENT-APPL-SN-415878	c 08	N86-27288 *	US-PATENT-APPL-SN-432030	c 12	N71-20896 *
US-PATENT-APPL-SN-398132	c 15	N70-41808 *	US-PATENT-APPL-SN-415879	c 37	N85-21652 *	US-PATENT-APPL-SN-432032	c 15	N69-24322 *
US-PATENT-APPL-SN-398885	c 27	N76-15310 *	US-PATENT-APPL-SN-415880	c 27	N84-27884 *	US-PATENT-APPL-SN-432057	c 33	N84-14423 *
US-PATENT-APPL-SN-398886	c 07	N75-24736 *	US-PATENT-APPL-SN-415960	c 37	N85-20337 *	US-PATENT-APPL-SN-432433	c 15	N71-22705 *
US-PATENT-APPL-SN-398901	c 37	N75-25186 *	US-PATENT-APPL-SN-416135	c 32	N75-15854 *	US-PATENT-APPL-SN-433196	c 44	N84-23019 *
US-PATENT-APPL-SN-399074	c 33	N88-14271 *	US-PATENT-APPL-SN-416938	c 11	N71-10746 *	US-PATENT-APPL-SN-433227	c 15	N72-26371 *
US-PATENT-APPL-SN-399419	c 21	N71-23289 *	US-PATENT-APPL-SN-416940	c 31	N71-21708 *	US-PATENT-APPL-SN-433598	c 27	N84-22747 *
US-PATENT-APPL-SN-400467	c 33	N75-30431 *	US-PATENT-APPL-SN-416941	c 21	N70-34159 *	US-PATENT-APPL-SN-433621	c 09	N71-16089 *
US-PATENT-APPL-SN-400613	c 15	N71-21528 *	US-PATENT-APPL-SN-416943	c 14	N71-23269 *	US-PATENT-APPL-SN-433668	c 33	N75-25041 *
US-PATENT-APPL-SN-400617	c 31	N71-17629 *	US-PATENT-APPL-SN-416945	c 10	N71-23543 *	US-PATENT-APPL-SN-434084	c 33	N84-27974 *
US-PATENT-APPL-SN-400657	c 31	N79-21225 *	US-PATENT-APPL-SN-416946	c 28	N71-15563 *	US-PATENT-APPL-SN-434085	c 33	N85-29145 *
US-PATENT-APPL-SN-401224	c 38	N78-17396 *	US-PATENT-APPL-SN-417253	c 11	N71-23042 *	US-PATENT-APPL-SN-434087	c 27	N86-19457 *
US-PATENT-APPL-SN-401225	c 38	N78-17395 *	US-PATENT-APPL-SN-418137	c 16	N84-22601 *	US-PATENT-APPL-SN-434143	c 15	N71-15871 *
US-PATENT-APPL-SN-401282	c 18	N85-29991 *	US-PATENT-APPL-SN-418138	c 16	N84-27784 *	US-PATENT-APPL-SN-434148	c 31	N71-24750 *
US-PATENT-APPL-SN-4012								

US-PATENT-APPL-SN-435433	c 14	N71-30026 *	US-PATENT-APPL-SN-455477	c 08	N71-19687 *	US-PATENT-APPL-SN-47443	c 09	N72-17152 *
US-PATENT-APPL-SN-435511	c 27	N84-27886 *	US-PATENT-APPL-SN-45549	c 27	N76-16228 *	US-PATENT-APPL-SN-474531	c 31	N71-23009 *
US-PATENT-APPL-SN-435756	c 12	N71-16894 *	US-PATENT-APPL-SN-456460	c 26	N84-27855 *	US-PATENT-APPL-SN-474744	c 35	N76-14431 *
US-PATENT-APPL-SN-436313	c 54	N71-32721 *	US-PATENT-APPL-SN-456578	c 07	N70-41678 *	US-PATENT-APPL-SN-474745	c 37	N76-14463 *
US-PATENT-APPL-SN-436315	c 26	N75-19408 *	US-PATENT-APPL-SN-456581	c 09	N71-23021 *	US-PATENT-APPL-SN-474815	c 33	N79-21264 *
US-PATENT-APPL-SN-436316	c 20	N76-14191 *	US-PATENT-APPL-SN-456874	c 06	N71-23499 *	US-PATENT-APPL-SN-475299	c 31	N71-17679 *
US-PATENT-APPL-SN-436317	c 37	N76-24575 *	US-PATENT-APPL-SN-457295	c 20	N75-24837 *	US-PATENT-APPL-SN-475336	c 54	N75-27758 *
US-PATENT-APPL-SN-437556	c 27	N76-16230 *	US-PATENT-APPL-SN-457874	c 09	N71-23545 *	US-PATENT-APPL-SN-475337	c 51	N76-29891 *
US-PATENT-APPL-SN-437611	c 09	N71-22796 *	US-PATENT-APPL-SN-457875	c 31	N70-42015 *	US-PATENT-APPL-SN-475338	c 35	N76-15431 *
US-PATENT-APPL-SN-437912	c 33	N85-29142 *	US-PATENT-APPL-SN-457876	c 02	N71-12243 *	US-PATENT-APPL-SN-476244	c 33	N84-22885 *
US-PATENT-APPL-SN-437917	c 60	N85-33701 *	US-PATENT-APPL-SN-457879	c 15	N71-21078 *	US-PATENT-APPL-SN-476759	c 03	N70-42073 *
US-PATENT-APPL-SN-438135	c 09	N71-23027 *	US-PATENT-APPL-SN-457990	c 85	N85-34722 *	US-PATENT-APPL-SN-476761	c 11	N71-10748 *
US-PATENT-APPL-SN-438147	c 75	N76-14931 *	US-PATENT-APPL-SN-457992	c 35	N85-29212 *	US-PATENT-APPL-SN-476763	c 09	N69-21313 *
US-PATENT-APPL-SN-438446	c 74	N86-20126 *	US-PATENT-APPL-SN-458484	c 44	N76-14595 *	US-PATENT-APPL-SN-477333	c 28	N70-41922 *
US-PATENT-APPL-SN-438797	c 14	N71-10500 *	US-PATENT-APPL-SN-459138	c 14	N71-10773 *	US-PATENT-APPL-SN-478129	c 25	N86-27431 *
US-PATENT-APPL-SN-43883	c 18	N73-30532 *	US-PATENT-APPL-SN-459407	c 14	N73-30391 *	US-PATENT-APPL-SN-478130	c 74	N85-23396 *
US-PATENT-APPL-SN-43884	c 15	N72-25457 *	US-PATENT-APPL-SN-459736	c 33	N75-26245 *	US-PATENT-APPL-SN-478131	c 26	N87-14482 *
US-PATENT-APPL-SN-439489	c 09	N70-41717 *	US-PATENT-APPL-SN-459842	c 35	N85-30281 *	US-PATENT-APPL-SN-478491	c 14	N69-21363 *
US-PATENT-APPL-SN-439490	c 23	N69-24332 *	US-PATENT-APPL-SN-460509	c 37	N84-33807 *	US-PATENT-APPL-SN-478800	c 37	N76-19436 *
US-PATENT-APPL-SN-440033	c 27	N70-41897 *	US-PATENT-APPL-SN-460733	c 37	N83-20154 *	US-PATENT-APPL-SN-478802	c 35	N75-29381 *
US-PATENT-APPL-SN-440036	c 09	N71-23097 *	US-PATENT-APPL-SN-460876	c 09	N69-21407 *	US-PATENT-APPL-SN-478803	c 31	N76-14284 *
US-PATENT-APPL-SN-440039	c 09	N71-22888 *	US-PATENT-APPL-SN-460877	c 33	N71-23085 *	US-PATENT-APPL-SN-479353	c 15	N71-23256 *
US-PATENT-APPL-SN-440656	c 27	N85-21348 *	US-PATENT-APPL-SN-461073	c 33	N75-26246 *	US-PATENT-APPL-SN-479357	c 36	N77-19416 *
US-PATENT-APPL-SN-440916	c 33	N75-27252 *	US-PATENT-APPL-SN-461477	c 37	N75-19686 *	US-PATENT-APPL-SN-480210	c 11	N71-21474 *
US-PATENT-APPL-SN-440917	c 37	N76-18459 *	US-PATENT-APPL-SN-461724	c 31	N85-21404 *	US-PATENT-APPL-SN-480211	c 14	N71-26135 *
US-PATENT-APPL-SN-441279	c 35	N75-29382 *	US-PATENT-APPL-SN-461785	c 17	N71-23046 *	US-PATENT-APPL-SN-481020	c 36	N83-29681 *
US-PATENT-APPL-SN-441897	c 35	N84-33768 *	US-PATENT-APPL-SN-461788	c 27	N85-21349 *	US-PATENT-APPL-SN-481106	c 33	N84-33660 *
US-PATENT-APPL-SN-441899	c 27	N84-14322 *	US-PATENT-APPL-SN-462341	c 44	N76-31666 *	US-PATENT-APPL-SN-481108	c 09	N84-34448 *
US-PATENT-APPL-SN-441936	c 14	N69-39975 *	US-PATENT-APPL-SN-462424	c 24	N77-19171 *	US-PATENT-APPL-SN-482104	c 27	N76-22377 *
US-PATENT-APPL-SN-442558	c 15	N71-10799 *	US-PATENT-APPL-SN-462497	c 25	N85-21279 *	US-PATENT-APPL-SN-482105	c 27	N76-23426 *
US-PATENT-APPL-SN-442815	c 76	N87-23286 *	US-PATENT-APPL-SN-462508	c 35	N86-19580 *	US-PATENT-APPL-SN-482307	c 15	N71-21060 *
US-PATENT-APPL-SN-442835	c 26	N71-29156 *	US-PATENT-APPL-SN-462705	c 37	N75-19684 *	US-PATENT-APPL-SN-482311	c 05	N71-22748 *
US-PATENT-APPL-SN-444087	c 02	N71-11041 *	US-PATENT-APPL-SN-462762	c 12	N69-21466 *	US-PATENT-APPL-SN-482313	c 11	N69-24321 *
US-PATENT-APPL-SN-444124	c 52	N84-23095 *	US-PATENT-APPL-SN-462763	c 14	N71-22991 *	US-PATENT-APPL-SN-482670	c 14	N71-21007 *
US-PATENT-APPL-SN-444125	c 20	N83-17588 *	US-PATENT-APPL-SN-462844	c 33	N75-19520 *	US-PATENT-APPL-SN-482952	c 09	N71-28926 *
US-PATENT-APPL-SN-444149	c 47	N84-28292 *	US-PATENT-APPL-SN-462903	c 37	N76-14461 *	US-PATENT-APPL-SN-482953	c 74	N76-18913 *
US-PATENT-APPL-SN-444150	c 35	N84-22933 *	US-PATENT-APPL-SN-463456	c 37	N85-30333 *	US-PATENT-APPL-SN-482967	c 34	N76-18364 *
US-PATENT-APPL-SN-445178	c 37	N76-15461 *	US-PATENT-APPL-SN-463925	c 74	N76-30053 *	US-PATENT-APPL-SN-483301	c 36	N77-26477 *
US-PATENT-APPL-SN-445292	c 11	N71-23030 *	US-PATENT-APPL-SN-464720	c 32	N76-16249 *	US-PATENT-APPL-SN-483817	c 27	N79-21190 *
US-PATENT-APPL-SN-445398	c 74	N78-15880 *	US-PATENT-APPL-SN-464721	c 37	N75-26372 *	US-PATENT-APPL-SN-483850	c 37	N76-14460 *
US-PATENT-APPL-SN-445807	c 14	N71-22996 *	US-PATENT-APPL-SN-464722	c 35	N76-22509 *	US-PATENT-APPL-SN-483851	c 35	N76-15435 *
US-PATENT-APPL-SN-446071	c 25	N82-29370 *	US-PATENT-APPL-SN-464723	c 33	N75-30429 *	US-PATENT-APPL-SN-483852	c 33	N75-30430 *
US-PATENT-APPL-SN-446131	c 14	N71-22992 *	US-PATENT-APPL-SN-464878	c 10	N71-22986 *	US-PATENT-APPL-SN-483857	c 44	N76-14601 *
US-PATENT-APPL-SN-446560	c 12	N76-15189 *	US-PATENT-APPL-SN-464879	c 14	N71-21072 *	US-PATENT-APPL-SN-483858	c 35	N76-18400 *
US-PATENT-APPL-SN-446562	c 36	N76-14447 *	US-PATENT-APPL-SN-464880	c 33	N71-21586 *	US-PATENT-APPL-SN-483885	c 04	N71-23185 *
US-PATENT-APPL-SN-446564	c 35	N75-26334 *	US-PATENT-APPL-SN-464885	c 15	N71-22997 *	US-PATENT-APPL-SN-483886	c 09	N71-22988 *
US-PATENT-APPL-SN-446567	c 34	N76-27515 *	US-PATENT-APPL-SN-465363	c 52	N84-28389 *	US-PATENT-APPL-SN-483891	c 14	N69-39892 *
US-PATENT-APPL-SN-446568	c 37	N76-23570 *	US-PATENT-APPL-SN-465364	c 44	N85-20530 *	US-PATENT-APPL-SN-484156	c 11	N71-21475 *
US-PATENT-APPL-SN-446569	c 77	N75-20140 *	US-PATENT-APPL-SN-465365	c 43	N86-19171 *	US-PATENT-APPL-SN-484208	c 35	N75-30502 *
US-PATENT-APPL-SN-447124	c 35	N75-30503 *	US-PATENT-APPL-SN-465366	c 27	N85-20126 *	US-PATENT-APPL-SN-484209	c 35	N76-18403 *
US-PATENT-APPL-SN-447371	c 27	N84-22746 *	US-PATENT-APPL-SN-465367	c 27	N84-22748 *	US-PATENT-APPL-SN-484445	c 01	N71-23497 *
US-PATENT-APPL-SN-447927	c 11	N71-10776 *	US-PATENT-APPL-SN-465369	c 76	N86-28760 *	US-PATENT-APPL-SN-484489	c 10	N71-15909 *
US-PATENT-APPL-SN-447928	c 15	N71-10577 *	US-PATENT-APPL-SN-465370	c 52	N83-29991 *	US-PATENT-APPL-SN-484490	c 24	N71-20518 *
US-PATENT-APPL-SN-447930	c 14	N69-39896 *	US-PATENT-APPL-SN-466390	c 28	N71-20330 *	US-PATENT-APPL-SN-484745	c 35	N85-20295 *
US-PATENT-APPL-SN-447933	c 03	N69-21337 *	US-PATENT-APPL-SN-466688	c 22	N71-23599 *	US-PATENT-APPL-SN-484855	c 09	N71-19480 *
US-PATENT-APPL-SN-448320	c 91	N76-30131 *	US-PATENT-APPL-SN-466873	c 17	N71-20743 *	US-PATENT-APPL-SN-485058	c 06	N71-23500 *
US-PATENT-APPL-SN-448321	c 27	N78-32261 *	US-PATENT-APPL-SN-466875	c 08	N71-22707 *	US-PATENT-APPL-SN-485656	c 28	N71-10574 *
US-PATENT-APPL-SN-448323	c 18	N76-17185 *	US-PATENT-APPL-SN-467820	c 28	N71-26779 *	US-PATENT-APPL-SN-485957	c 25	N71-21694 *
US-PATENT-APPL-SN-448325	c 33	N75-26244 *	US-PATENT-APPL-SN-468614	c 60	N77-14751 *	US-PATENT-APPL-SN-485958	c 15	N71-24047 *
US-PATENT-APPL-SN-448365	c 10	N71-26414 *	US-PATENT-APPL-SN-468614	c 60	N77-32731 *	US-PATENT-APPL-SN-485960	c 15	N70-42017 *
US-PATENT-APPL-SN-448681	c 32	N85-29118 *	US-PATENT-APPL-SN-468614	c 60	N78-10709 *	US-PATENT-APPL-SN-48621	c 20	N78-32179 *
US-PATENT-APPL-SN-448898	c 15	N70-41310 *	US-PATENT-APPL-SN-468647	c 21	N71-10771 *	US-PATENT-APPL-SN-486470	c 44	N85-21768 *
US-PATENT-APPL-SN-449118	c 33	N75-19524 *	US-PATENT-APPL-SN-468655	c 15	N69-21471 *	US-PATENT-APPL-SN-486471	c 33	N85-21492 *
US-PATENT-APPL-SN-449153	c 54	N75-27761 *	US-PATENT-APPL-SN-469011	c 11	N69-21540 *	US-PATENT-APPL-SN-486573	c 10	N71-19469 *
US-PATENT-APPL-SN-449901	c 28	N70-41967 *	US-PATENT-APPL-SN-469012	c 25	N71-20747 *	US-PATENT-APPL-SN-486884	c 15	N73-32362 *
US-PATENT-APPL-SN-449902	c 14	N70-41681 *	US-PATENT-APPL-SN-469013	c 14	N69-27423 *	US-PATENT-APPL-SN-487156	c 44	N77-10636 *
US-PATENT-APPL-SN-450166	c 33	N84-27975 *	US-PATENT-APPL-SN-469371	c 05	N86-19310 *	US-PATENT-APPL-SN-487341	c 14	N71-19431 *
US-PATENT-APPL-SN-450319	c 33	N84-33661 *	US-PATENT-APPL-SN-469864	c 37	N86-19305 *	US-PATENT-APPL-SN-487342	c 09	N71-21583 *
US-PATENT-APPL-SN-450500	c 37	N76-18455 *	US-PATENT-APPL-SN-469866	c 27	N84-22749 *	US-PATENT-APPL-SN-487343	c 03	N69-39890 *
US-PATENT-APPL-SN-450502	c 37	N76-18456 *	US-PATENT-APPL-SN-470113	c 17	N87-16863 *	US-PATENT-APPL-SN-487344	c 15	N69-21472 *
US-PATENT-APPL-SN-450504	c 23	N77-17161 *	US-PATENT-APPL-SN-470114	c 25	N83-24572 *	US-PATENT-APPL-SN-487352	c 14	N71-18699 *
US-PATENT-APPL-SN-450505	c 37	N75-31446 *	US-PATENT-APPL-SN-470428	c 33	N76-16332 *	US-PATENT-APPL-SN-487852	c 23	N76-15268 *
US-PATENT-APPL-SN-45053	c 33	N75-31330 *	US-PATENT-APPL-SN-470429	c 33	N75-31329 *	US-PATENT-APPL-SN-487929	c 33	N74-20859 *
US-PATENT-APPL-SN-451596	c 17	N71-29137 *	US-PATENT-APPL-SN-47061	c 26	N72-25680 *	US-PATENT-APPL-SN-487934	c 15	N71-21530 *
US-PATENT-APPL-SN-451896	c 26	N86-32551 *	US-PATENT-APPL-SN-47062	c 15	N72-17451 *	US-PATENT-APPL-SN-487939	c 14	N71-23040 *
US-PATENT-APPL-SN-452464	c 24	N84-11213 *	US-PATENT-APPL-SN-47063	c 33	N72-25911 *	US-PATENT-APPL-SN-487940	c 10	N71-26434 *
US-PATENT-APPL-SN-452466	c 03	N84-33394 *	US-PATENT-APPL-SN-47063	c 33	N73-25952 *	US-PATENT-APPL-SN-488381	c 14	N73-32321 *
US-PATENT-APPL-SN-452761	c 33	N75-19522 *	US-PATENT-APPL-SN-470902	c 06	N71-28808 *	US-PATENT-APPL-SN-488616	c 07	N76-18117 *
US-PATENT-APPL-SN-452767	c 05	N75-25915 *	US-PATENT-APPL-SN-471154	c 09	N73-28084 *	US-PATENT-APPL-SN-488745	c 26	N75-27127 *
US-PATENT-APPL-SN-452768	c 52	N76-30793 *	US-PATENT-APPL-SN-47120	c 31	N70-33242 *	US-PATENT-APPL-SN-489008	c 23	N75-30256 *
US-PATENT-APPL-SN-452769	c 44	N76-16612 *	US-PATENT-APPL-SN-47121	c 09	N70-39915 *	US-PATENT-APPL-SN-489009	c 33	N76-19339 *
US-PATENT-APPL-SN-452770	c 33	N75-31332 *	US-PATENT-APPL-SN-47122	c 14	N70-34813 *	US-PATENT-APPL-SN-489442	c 25	N69-39884 *
US-PATENT-APPL-SN-452944	c 18	N71-24183 *	US-PATENT-APPL-SN-47123	c 15	N70-34817 *	US-PATENT-APPL-SN-489675	c 05	N85-29947 *
US-PATENT-APPL-SN-452945	c 18	N69-39979 *	US-PATENT-APPL-SN-472066	c 31	N70-42075 *	US-PATENT-APPL-SN-491054	c 14	N71-23174 *
US-PATENT-APPL-SN-453115	c 32	N76-14321 *	US-PATENT-APPL-SN-472372	c 07	N71-20791 *	US-PATENT-APPL-SN-491058	c 09	N71-23443 *
US-PATENT-APPL-SN-453225	c 15	N71-24933 *	US-PATENT-APPL-SN-472643	c 33	N79-21285 *	US-PATENT-APPL-SN-491059	c 09	N71-23015 *
US-PATENT-APPL-SN-453227	c 31	N71-10582 *	US-PATENT-APPL-SN-472747	c 31	N71-16081 *	US-PATENT-APPL-SN-491113	c 35	N86-19581 *
US-PATENT-APPL-SN-453229	c 17	N71-23828 *	US-PATENT-APPL-SN-472775	c 35	N75-33369 *	US-PATENT-APPL-SN-491125	c 27	N84-22750 *
US-PATENT-APPL-SN-453231	c 23	N71-15467 *	US-PATENT-APPL-SN-473498	c 20	N85-21256 *	US-PATENT-APPL-SN-491416	c 35	N75-33368 *
US-PATENT-APPL-SN-453232	c 15	N71-21311 *	US-PATENT-APPL-SN-473499	c 74	N86-21348 *	US-PATENT-APPL-SN-491417	c 37	N76-19437 *
US-PATENT-APPL-SN-453232	c 18	N75-19329 *	US-PATENT-APPL-SN-473535	c 31	N71-15637 *	US-PATENT-APPL-SN-491418	c 31	N76-31365 *
US-PATENT-APPL-SN-453241	c 33	N75-29318 *	US-PATENT-APPL-SN-473537	c 08	N71-15908 *	US-PATENT-APPL-SN-491419	c 32	N76-15330 *
US-PATENT-APPL-SN-455163	c 32	N75-26195 *	US-PATENT-APPL-SN-473827	c 35	N86-32698 *	US-PATENT-APPL-SN-491845	c 28	N71-15659 *
US-PATENT-APPL-SN								



US-PATENT-APPL-SN-493179	c 23	N85-35227 *	US-PATENT-APPL-SN-511362	c 33	N85-29147 *	US-PATENT-APPL-SN-526438	c 25	N76-22323 *
US-PATENT-APPL-SN-493359	c 20	N76-21275 *	US-PATENT-APPL-SN-511363	c 25	N88-23846 *	US-PATENT-APPL-SN-526448	c 44	N76-14602 *
US-PATENT-APPL-SN-493363	c 33	N76-21390 *	US-PATENT-APPL-SN-5114	c 06	N72-26150 *	US-PATENT-APPL-SN-526459	c 54	N76-14804 *
US-PATENT-APPL-SN-493865	c 24	N86-19380 *	US-PATENT-APPL-SN-511564	c 09	N69-39885 *	US-PATENT-APPL-SN-526450	c 35	N77-14409 *
US-PATENT-APPL-SN-493866	c 71	N84-28568 *	US-PATENT-APPL-SN-511567	c 05	N71-12336 *	US-PATENT-APPL-SN-526631	c 10	N71-19471 *
US-PATENT-APPL-SN-493942	c 14	N71-17659 *	US-PATENT-APPL-SN-511887	c 35	N76-15436 *	US-PATENT-APPL-SN-526664	c 07	N69-24334 *
US-PATENT-APPL-SN-493943	c 15	N71-21529 *	US-PATENT-APPL-SN-511894	c 03	N76-32140 *	US-PATENT-APPL-SN-526665	c 14	N69-24331 *
US-PATENT-APPL-SN-494280	c 28	N71-23081 *	US-PATENT-APPL-SN-512352	c 15	N70-33330 *	US-PATENT-APPL-SN-526739	c 37	N87-23970 *
US-PATENT-APPL-SN-494282	c 15	N69-39735 *	US-PATENT-APPL-SN-512509	c 26	N75-27125 *	US-PATENT-APPL-SN-526741	c 09	N84-12193 *
US-PATENT-APPL-SN-494283	c 31	N71-24035 *	US-PATENT-APPL-SN-512559	c 23	N71-22881 *	US-PATENT-APPL-SN-526750	c 71	N85-22105 *
US-PATENT-APPL-SN-494287	c 03	N71-22974 *	US-PATENT-APPL-SN-512561	c 16	N71-25914 *	US-PATENT-APPL-SN-526768	c 25	N85-35253 *
US-PATENT-APPL-SN-494739	c 07	N71-26291 *	US-PATENT-APPL-SN-512562	c 16	N71-24074 *	US-PATENT-APPL-SN-526770	c 35	N85-21598 *
US-PATENT-APPL-SN-495021	c 44	N78-13526 *	US-PATENT-APPL-SN-512795	c 27	N84-22745 *	US-PATENT-APPL-SN-527331	c 17	N73-28573 *
US-PATENT-APPL-SN-495022	c 60	N77-12721 *	US-PATENT-APPL-SN-512825	c 32	N76-15329 *	US-PATENT-APPL-SN-527613	c 37	N86-19604 *
US-PATENT-APPL-SN-495380	c 37	N85-29285 *	US-PATENT-APPL-SN-51317	c 14	N73-30389 *	US-PATENT-APPL-SN-527727	c 02	N76-16014 *
US-PATENT-APPL-SN-495380	c 37	N87-22976 *	US-PATENT-APPL-SN-513346	c 07	N79-14095 *	US-PATENT-APPL-SN-527728	c 37	N76-18458 *
US-PATENT-APPL-SN-495381	c 24	N84-22695 *	US-PATENT-APPL-SN-513389	c 25	N75-12087 *	US-PATENT-APPL-SN-527790	c 33	N76-14372 *
US-PATENT-APPL-SN-495381	c 24	N85-21267 *	US-PATENT-APPL-SN-513576	c 35	N76-29552 *	US-PATENT-APPL-SN-527914	c 27	N86-21675 *
US-PATENT-APPL-SN-496205	c 14	N71-22965 *	US-PATENT-APPL-SN-513611	c 24	N76-22309 *	US-PATENT-APPL-SN-527918	c 09	N85-21178 *
US-PATENT-APPL-SN-496779	c 05	N76-29217 *	US-PATENT-APPL-SN-513611	c 24	N80-33482 *	US-PATENT-APPL-SN-528031	c 10	N69-39868 *
US-PATENT-APPL-SN-498167	c 03	N71-10608 *	US-PATENT-APPL-SN-513612	c 05	N77-17029 *	US-PATENT-APPL-SN-529593	c 27	N71-21819 *
US-PATENT-APPL-SN-498168	c 28	N71-21822 *	US-PATENT-APPL-SN-513613	c 27	N78-15276 *	US-PATENT-APPL-SN-529594	c 15	N69-27483 *
US-PATENT-APPL-SN-499122	c 15	N71-24164 *	US-PATENT-APPL-SN-513690	c 37	N76-20480 *	US-PATENT-APPL-SN-529594	c 33	N71-29152 *
US-PATENT-APPL-SN-499126	c 23	N86-19376 *	US-PATENT-APPL-SN-514117	c 27	N86-19455 *	US-PATENT-APPL-SN-529609	c 09	N69-39986 *
US-PATENT-APPL-SN-500044	c 35	N85-21597 *	US-PATENT-APPL-SN-514407	c 18	N71-22894 *	US-PATENT-APPL-SN-529803	c 33	N86-20668 *
US-PATENT-APPL-SN-500046	c 31	N87-16918 *	US-PATENT-APPL-SN-514546	c 74	N76-20958 *	US-PATENT-APPL-SN-529884	c 54	N78-18761 *
US-PATENT-APPL-SN-500435	c 14	N71-21082 *	US-PATENT-APPL-SN-51473	c 02	N70-33266 *	US-PATENT-APPL-SN-530185	c 32	N86-20647 *
US-PATENT-APPL-SN-500446	c 10	N71-23029 *	US-PATENT-APPL-SN-51477	c 14	N72-25412 *	US-PATENT-APPL-SN-530339	c 31	N86-19479 *
US-PATENT-APPL-SN-500651	c 07	N85-35195 *	US-PATENT-APPL-SN-515484	c 14	N71-22993 *	US-PATENT-APPL-SN-530958	c 09	N71-22985 *
US-PATENT-APPL-SN-500979	c 32	N76-18295 *	US-PATENT-APPL-SN-516087	c 27	N85-20125 *	US-PATENT-APPL-SN-531565	c 36	N76-24553 *
US-PATENT-APPL-SN-500980	c 72	N76-15860 *	US-PATENT-APPL-SN-516150	c 05	N71-19440 *	US-PATENT-APPL-SN-53156	c 10	N71-28860 *
US-PATENT-APPL-SN-500981	c 35	N77-10492 *	US-PATENT-APPL-SN-516151	c 15	N70-41679 *	US-PATENT-APPL-SN-531572	c 66	N76-19888 *
US-PATENT-APPL-SN-500982	c 75	N76-17951 *	US-PATENT-APPL-SN-516152	c 14	N71-23225 *	US-PATENT-APPL-SN-531575	c 32	N76-31372 *
US-PATENT-APPL-SN-501011	c 33	N76-18345 *	US-PATENT-APPL-SN-516153	c 10	N71-28783 *	US-PATENT-APPL-SN-531642	c 25	N71-21693 *
US-PATENT-APPL-SN-501012	c 33	N76-14373 *	US-PATENT-APPL-SN-516154	c 09	N69-24330 *	US-PATENT-APPL-SN-531647	c 04	N76-20114 *
US-PATENT-APPL-SN-501060	c 60	N84-28491 *	US-PATENT-APPL-SN-516155	c 09	N71-23270 *	US-PATENT-APPL-SN-531647	c 04	N77-19056 *
US-PATENT-APPL-SN-50206	c 07	N72-17109 *	US-PATENT-APPL-SN-516158	c 09	N71-19479 *	US-PATENT-APPL-SN-532006	c 23	N71-24857 *
US-PATENT-APPL-SN-50207	c 07	N72-20141 *	US-PATENT-APPL-SN-516159	c 14	N70-41812 *	US-PATENT-APPL-SN-532342	c 08	N85-35200 *
US-PATENT-APPL-SN-50208	c 14	N73-13418 *	US-PATENT-APPL-SN-516160	c 33	N71-16277 *	US-PATENT-APPL-SN-532784	c 27	N75-29263 *
US-PATENT-APPL-SN-502124	c 35	N76-16393 *	US-PATENT-APPL-SN-516162	c 07	N71-28900 *	US-PATENT-APPL-SN-532784	c 27	N78-17205 *
US-PATENT-APPL-SN-502135	c 35	N76-15433 *	US-PATENT-APPL-SN-516217	c 27	N85-21350 *	US-PATENT-APPL-SN-533555	c 36	N76-18428 *
US-PATENT-APPL-SN-502136	c 35	N75-27331 *	US-PATENT-APPL-SN-516217	c 27	N85-21351 *	US-PATENT-APPL-SN-533556	c 36	N76-29575 *
US-PATENT-APPL-SN-502137	c 37	N76-21554 *	US-PATENT-APPL-SN-516217	c 27	N85-21352 *	US-PATENT-APPL-SN-533608	c 32	N76-21366 *
US-PATENT-APPL-SN-502138	c 43	N77-10584 *	US-PATENT-APPL-SN-516217	c 25	N85-28982 *	US-PATENT-APPL-SN-533650	c 35	N75-27329 *
US-PATENT-APPL-SN-502693	c 15	N71-20739 *	US-PATENT-APPL-SN-516217	c 25	N85-30039 *	US-PATENT-APPL-SN-533659	c 14	N73-30390 *
US-PATENT-APPL-SN-502701	c 08	N71-23295 *	US-PATENT-APPL-SN-516793	c 16	N71-22895 *	US-PATENT-APPL-SN-533734	c 33	N77-10428 *
US-PATENT-APPL-SN-502709	c 31	N71-21881 *	US-PATENT-APPL-SN-516794	c 14	N70-42074 *	US-PATENT-APPL-SN-534265	c 32	N76-21365 *
US-PATENT-APPL-SN-502710	c 15	N71-23048 *	US-PATENT-APPL-SN-517100	c 28	N70-33241 *	US-PATENT-APPL-SN-534266	c 35	N76-24523 *
US-PATENT-APPL-SN-502729	c 31	N70-41871 *	US-PATENT-APPL-SN-517156	c 14	N71-23093 *	US-PATENT-APPL-SN-534295	c 15	N71-21076 *
US-PATENT-APPL-SN-502739	c 09	N71-23311 *	US-PATENT-APPL-SN-517157	c 15	N71-22722 *	US-PATENT-APPL-SN-534564	c 10	N71-22961 *
US-PATENT-APPL-SN-502740	c 14	N69-27485 *	US-PATENT-APPL-SN-517158	c 14	N71-23401 *	US-PATENT-APPL-SN-534901	c 14	N70-36807 *
US-PATENT-APPL-SN-502743	c 08	N71-19435 *	US-PATENT-APPL-SN-517159	c 15	N71-20740 *	US-PATENT-APPL-SN-534931	c 37	N80-14395 *
US-PATENT-APPL-SN-502746	c 03	N69-39898 *	US-PATENT-APPL-SN-517858	c 14	N71-21006 *	US-PATENT-APPL-SN-534966	c 15	N71-24042 *
US-PATENT-APPL-SN-502750	c 09	N71-19466 *	US-PATENT-APPL-SN-517869	c 15	N71-23050 *	US-PATENT-APPL-SN-534975	c 14	N71-24232 *
US-PATENT-APPL-SN-502753	c 07	N69-39978 *	US-PATENT-APPL-SN-517995	c 39	N76-31562 *	US-PATENT-APPL-SN-535169	c 54	N78-17678 *
US-PATENT-APPL-SN-502756	c 03	N71-23336 *	US-PATENT-APPL-SN-518487	c 05	N71-11190 *	US-PATENT-APPL-SN-535304	c 09	N71-28810 *
US-PATENT-APPL-SN-502820	c 27	N85-21347 *	US-PATENT-APPL-SN-518544	c 44	N76-24696 *	US-PATENT-APPL-SN-535410	c 37	N76-15457 *
US-PATENT-APPL-SN-50339	c 04	N72-33072 *	US-PATENT-APPL-SN-518545	c 19	N76-22284 *	US-PATENT-APPL-SN-536210	c 17	N71-24830 *
US-PATENT-APPL-SN-504225	c 35	N76-16392 *	US-PATENT-APPL-SN-518546	c 26	N76-18257 *	US-PATENT-APPL-SN-536216	c 10	N71-23315 *
US-PATENT-APPL-SN-504266	c 31	N71-21064 *	US-PATENT-APPL-SN-518684	c 44	N76-22657 *	US-PATENT-APPL-SN-536217	c 10	N71-23544 *
US-PATENT-APPL-SN-504345	c 33	N85-22877 *	US-PATENT-APPL-SN-518685	c 35	N76-14429 *	US-PATENT-APPL-SN-536535	c 33	N76-14371 *
US-PATENT-APPL-SN-505320	c 16	N71-18614 *	US-PATENT-APPL-SN-519160	c 18	N71-20742 *	US-PATENT-APPL-SN-536761	c 33	N76-19338 *
US-PATENT-APPL-SN-505321	c 10	N71-22962 *	US-PATENT-APPL-SN-519161	c 05	N71-20718 *	US-PATENT-APPL-SN-536762	c 37	N76-22540 *
US-PATENT-APPL-SN-505765	c 15	N71-23816 *	US-PATENT-APPL-SN-519395	c 09	N69-24317 *	US-PATENT-APPL-SN-536785	c 33	N76-31409 *
US-PATENT-APPL-SN-505819	c 33	N76-16331 *	US-PATENT-APPL-SN-520838	c 08	N71-18595 *	US-PATENT-APPL-SN-536786	c 44	N77-32581 *
US-PATENT-APPL-SN-505881	c 09	N76-24280 *	US-PATENT-APPL-SN-520839	c 10	N71-19472 *	US-PATENT-APPL-SN-537024	c 44	N77-27664 *
US-PATENT-APPL-SN-506135	c 06	N71-20905 *	US-PATENT-APPL-SN-521006	c 34	N77-10463 *	US-PATENT-APPL-SN-537480	c 45	N76-31714 *
US-PATENT-APPL-SN-506137	c 15	N71-23049 *	US-PATENT-APPL-SN-521601	c 60	N76-14818 *	US-PATENT-APPL-SN-537614	c 33	N86-20672 *
US-PATENT-APPL-SN-506477	c 33	N85-29146 *	US-PATENT-APPL-SN-521602	c 37	N76-18454 *	US-PATENT-APPL-SN-537615	c 28	N71-22993 *
US-PATENT-APPL-SN-506803	c 24	N79-25143 *	US-PATENT-APPL-SN-521603	c 35	N75-29380 *	US-PATENT-APPL-SN-537615	c 37	N85-33489 *
US-PATENT-APPL-SN-506804	c 35	N76-18402 *	US-PATENT-APPL-SN-521620	c 09	N77-10071 *	US-PATENT-APPL-SN-537616	c 26	N85-29005 *
US-PATENT-APPL-SN-506908	c 09	N71-18843 *	US-PATENT-APPL-SN-521753	c 15	N70-41960 *	US-PATENT-APPL-SN-537617	c 09	N71-22987 *
US-PATENT-APPL-SN-507254	c 14	N71-22990 *	US-PATENT-APPL-SN-521754	c 07	N71-22984 *	US-PATENT-APPL-SN-537757	c 37	N86-20789 *
US-PATENT-APPL-SN-507257	c 09	N71-19449 *	US-PATENT-APPL-SN-521755	c 28	N71-28849 *	US-PATENT-APPL-SN-537979	c 37	N77-11397 *
US-PATENT-APPL-SN-507623	c 31	N85-29083 *	US-PATENT-APPL-SN-521816	c 35	N77-19385 *	US-PATENT-APPL-SN-538047	c 37	N76-27568 *
US-PATENT-APPL-SN-507624	c 76	N85-30922 *	US-PATENT-APPL-SN-521817	c 45	N76-21742 *	US-PATENT-APPL-SN-538063	c 37	N86-19603 *
US-PATENT-APPL-SN-507625	c 76	N86-20150 *	US-PATENT-APPL-SN-521994	c 17	N71-23365 *	US-PATENT-APPL-SN-538166	c 15	N71-21177 *
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US-PATENT-APPL-SN-508169	c 18	N71-27397 *	US-PATENT-APPL-SN-521998	c 07	N69-24323 *	US-PATENT-APPL-SN-538863	c 54	N78-17680 *
US-PATENT-APPL-SN-508170	c 08	N71-22710 *	US-PATENT-APPL-SN-521999	c 12	N71-20815 *	US-PATENT-APPL-SN-538905	c 08	N71-18594 *
US-PATENT-APPL-SN-508371	c 05	N85-21147 *	US-PATENT-APPL-SN-522109	c 07	N78-17056 *	US-PATENT-APPL-SN-538907	c 33	N71-28903 *
US-PATENT-APPL-SN-508372	c 43	N83-29783 *	US-PATENT-APPL-SN-522551	c 76	N76-20994 *	US-PATENT-APPL-SN-538908	c 33	N71-22890 *
US-PATENT-APPL-SN-508601	c 15	N71-22878 *	US-PATENT-APPL-SN-522552	c 35	N76-16390 *	US-PATENT-APPL-SN-538911	c 33	N71-22792 *
US-PATENT-APPL-SN-508784	c 76	N76-25049 *	US-PATENT-APPL-SN-522556	c 35	N76-15432 *	US-PATENT-APPL-SN-538913	c 14	N71-17627 *
US-PATENT-APPL-SN-508873	c 14	N71-23240 *	US-PATENT-APPL-SN-522628	c 08	N85-19985 *	US-PATENT-APPL-SN-538982	c 33	N77-14333 *
US-PATENT-APPL-SN-509460	c 01	N71-13411 *	US-PATENT-APPL-SN-522794	c 09	N71-23190 *	US-PATENT-APPL-SN-538983	c 37	N76-18353 *
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US-PATENT-APPL-SN-510137	c 37	N85-34401 *	US-PATENT-APPL-SN-522971	c 54	N76-24900 *	US-PATENT-APPL-SN-539237	c 33	N71-16278 *
US-PATENT-APPL-SN-510150	c 10	N71-26103 *	US-PATENT-APPL-SN-523297	c 24	N85-21266 *	US-PATENT-APPL-SN-539255	c 18	N71-26153 *
US-PATENT-APPL-SN-510155	c 06	N71-11235 *	US-PATENT-APPL-SN-523297	c 24	N85-35233 *	US-PATENT-APPL-SN-539255	c 17	N72-28536 *
US-PATENT-APPL-SN-510474	c 15	N71-23810 *	US-PATENT-APPL-SN-523511	c 28	N71-20942 *	US-PATENT-APPL-SN-540414	c 15	N71-22799 *
US-PATENT-APPL-SN-510475	c 14	N71-23087 *	US-PATENT-APPL-SN-523559	c 74	N85-29750 *	US-PATENT-APPL-SN-540779	c 33	N79-12331 *
US-PATENT-APPL-SN-510677	c 44	N77-19571 *	US-PATENT-APPL-SN-523660	c 60	N86-21154 *	US-PATENT-APPL-SN-541399	c 14	N71-20428 *
US-PATENT-APPL								



US-PATENT-APPL-SN-542232	c 33	N86-19516 *	US-PATENT-APPL-SN-559846	c 34	N80-24573 *	US-PATENT-APPL-SN-574290	c 14	N71-20439 *
US-PATENT-APPL-SN-542557	c 44	N85-30474 *	US-PATENT-APPL-SN-559847	c 34	N79-13288 *	US-PATENT-APPL-SN-575291	c 33	N71-29151 *
US-PATENT-APPL-SN-54270	c 07	N72-25173 *	US-PATENT-APPL-SN-559988	c 71	N85-29693 *	US-PATENT-APPL-SN-575475	c 05	N69-23192 #
US-PATENT-APPL-SN-542713	c 23	N71-23976 *	US-PATENT-APPL-SN-560035	c 24	N85-30027 *	US-PATENT-APPL-SN-575930	c 06	N71-23230 *
US-PATENT-APPL-SN-54271	c 02	N73-19004 *	US-PATENT-APPL-SN-560089	c 73	N78-19920 *	US-PATENT-APPL-SN-576182	c 33	N71-24276 *
US-PATENT-APPL-SN-542754	c 34	N76-18374 *	US-PATENT-APPL-SN-560697	c 15	N69-21922 *	US-PATENT-APPL-SN-576183	c 09	N71-23525 *
US-PATENT-APPL-SN-543206	c 05	N71-23159 *	US-PATENT-APPL-SN-560968	c 10	N71-24863 *	US-PATENT-APPL-SN-576195	c 14	N71-21079 *
US-PATENT-APPL-SN-543774	c 06	N69-39733 #	US-PATENT-APPL-SN-560969	c 14	N71-15622 *	US-PATENT-APPL-SN-576308	c 07	N85-35194 *
US-PATENT-APPL-SN-544611	c 33	N76-15373 *	US-PATENT-APPL-SN-561020	c 44	N76-23675 *	US-PATENT-APPL-SN-576488	c 44	N76-28635 *
US-PATENT-APPL-SN-544895	c 07	N71-28809 *	US-PATENT-APPL-SN-561223	c 14	N71-20427 *	US-PATENT-APPL-SN-576521	c 09	N71-20864 *
US-PATENT-APPL-SN-544899	c 09	N71-20569 *	US-PATENT-APPL-SN-561369	c 35	N84-33766 *	US-PATENT-APPL-SN-576774	c 60	N77-19760 *
US-PATENT-APPL-SN-545223	c 03	N71-11056 *	US-PATENT-APPL-SN-561429	c 27	N85-21351 *	US-PATENT-APPL-SN-576792	c 14	N71-26136 *
US-PATENT-APPL-SN-545224	c 15	N69-21362 #	US-PATENT-APPL-SN-561431	c 27	N85-21350 *	US-PATENT-APPL-SN-576797	c 09	N69-24318 #
US-PATENT-APPL-SN-545228	c 07	N69-39736 #	US-PATENT-APPL-SN-561432	c 20	N86-26368 *	US-PATENT-APPL-SN-577114	c 15	N69-24320 #
US-PATENT-APPL-SN-545229	c 03	N69-21469 #	US-PATENT-APPL-SN-561433	c 35	N86-20752 *	US-PATENT-APPL-SN-577115	c 15	N71-17647 *
US-PATENT-APPL-SN-545282	c 35	N76-24524 *	US-PATENT-APPL-SN-561434	c 25	N85-30039 *	US-PATENT-APPL-SN-577545	c 08	N71-18693 *
US-PATENT-APPL-SN-545283	c 32	N77-12239 *	US-PATENT-APPL-SN-561435	c 27	N85-21352 *	US-PATENT-APPL-SN-577546	c 31	N71-23008 *
US-PATENT-APPL-SN-545284	c 34	N76-27517 *	US-PATENT-APPL-SN-561764	c 32	N77-10392 *	US-PATENT-APPL-SN-577548	c 09	N69-27422 #
US-PATENT-APPL-SN-54540	c 15	N72-29488 *	US-PATENT-APPL-SN-561956	c 35	N77-17426 *	US-PATENT-APPL-SN-577549	c 14	N72-28438 *
US-PATENT-APPL-SN-54540	c 37	N74-15125 *	US-PATENT-APPL-SN-562443	c 09	N69-39734 #	US-PATENT-APPL-SN-577549	c 15	N71-22721 *
US-PATENT-APPL-SN-54552	c 27	N70-34783 *	US-PATENT-APPL-SN-562444	c 14	N71-22995 *	US-PATENT-APPL-SN-577775	c 14	N71-17574 *
US-PATENT-APPL-SN-54552	c 20	N77-17143 *	US-PATENT-APPL-SN-562445	c 14	N71-23797 *	US-PATENT-APPL-SN-577778	c 03	N71-11050 *
US-PATENT-APPL-SN-545535	c 03	N69-21539 #	US-PATENT-APPL-SN-562499	c 32	N77-31350 *	US-PATENT-APPL-SN-578240	c 34	N77-18382 *
US-PATENT-APPL-SN-545793	c 20	N80-14188 *	US-PATENT-APPL-SN-562558	c 31	N79-21227 *	US-PATENT-APPL-SN-578241	c 52	N76-29896 *
US-PATENT-APPL-SN-545805	c 15	N71-21744 *	US-PATENT-APPL-SN-562933	c 10	N71-24799 *	US-PATENT-APPL-SN-578387	c 06	N87-22678 *
US-PATENT-APPL-SN-546142	c 09	N69-24329 #	US-PATENT-APPL-SN-562934	c 09	N69-21468 #	US-PATENT-APPL-SN-578388	c 06	N86-27280 *
US-PATENT-APPL-SN-546148	c 11	N71-22875 *	US-PATENT-APPL-SN-562992	c 27	N78-32261 *	US-PATENT-APPL-SN-578390	c 44	N85-30475 *
US-PATENT-APPL-SN-546149	c 16	N71-24170 *	US-PATENT-APPL-SN-563049	c 17	N76-29347 *	US-PATENT-APPL-SN-578397	c 20	N79-21124 *
US-PATENT-APPL-SN-547072	c 15	N71-24043 *	US-PATENT-APPL-SN-563050	c 37	N76-31524 *	US-PATENT-APPL-SN-578700	c 43	N82-13465 *
US-PATENT-APPL-SN-547072	c 35	N78-32397 *	US-PATENT-APPL-SN-563283	c 35	N76-18401 *	US-PATENT-APPL-SN-578916	c 14	N71-23036 *
US-PATENT-APPL-SN-547175	c 76	N84-12968 #	US-PATENT-APPL-SN-563644	c 15	N71-18613 *	US-PATENT-APPL-SN-578923	c 15	N71-21403 *
US-PATENT-APPL-SN-547176	c 37	N85-29286 *	US-PATENT-APPL-SN-563646	c 05	N71-23096 *	US-PATENT-APPL-SN-578925	c 23	N71-16355 *
US-PATENT-APPL-SN-547643	c 33	N79-33392 *	US-PATENT-APPL-SN-563648	c 15	N71-17803 *	US-PATENT-APPL-SN-578926	c 06	N69-39936 #
US-PATENT-APPL-SN-547677	c 10	N71-20448 *	US-PATENT-APPL-SN-563650	c 25	N69-21929 #	US-PATENT-APPL-SN-578928	c 26	N71-21824 *
US-PATENT-APPL-SN-548468	c 37	N76-27567 *	US-PATENT-APPL-SN-563651	c 28	N71-23293 *	US-PATENT-APPL-SN-578931	c 23	N71-21882 *
US-PATENT-APPL-SN-548559	c 44	N76-29700 *	US-PATENT-APPL-SN-563890	c 35	N85-34373 *	US-PATENT-APPL-SN-578932	c 08	N71-12505 *
US-PATENT-APPL-SN-548582	c 39	N86-20841 *	US-PATENT-APPL-SN-564622	c 37	N77-31497 *	US-PATENT-APPL-SN-579121	c 15	N71-29136 *
US-PATENT-APPL-SN-548583	c 27	N85-34282 *	US-PATENT-APPL-SN-564919	c 09	N71-21233 *	US-PATENT-APPL-SN-579300	c 20	N79-21216 *
US-PATENT-APPL-SN-548584	c 24	N84-34571 *	US-PATENT-APPL-SN-565162	c 35	N79-14348 *	US-PATENT-APPL-SN-579375	c 07	N77-14025 *
US-PATENT-APPL-SN-548808	c 14	N71-23227 *	US-PATENT-APPL-SN-565289	c 38	N77-17495 *	US-PATENT-APPL-SN-579376	c 20	N79-21125 *
US-PATENT-APPL-SN-549418	c 36	N76-31512 *	US-PATENT-APPL-SN-565290	c 17	N76-22245 *	US-PATENT-APPL-SN-579989	c 34	N77-32413 *
US-PATENT-APPL-SN-549860	c 03	N71-19438 *	US-PATENT-APPL-SN-565481	c 09	N86-32447 *	US-PATENT-APPL-SN-580365	c 15	N71-23255 *
US-PATENT-APPL-SN-550088	c 07	N71-24612 *	US-PATENT-APPL-SN-566392	c 14	N71-23175 *	US-PATENT-APPL-SN-580397	c 37	N87-21333 *
US-PATENT-APPL-SN-550681	c 02	N87-16793 *	US-PATENT-APPL-SN-566397	c 05	N71-23161 *	US-PATENT-APPL-SN-580419	c 34	N85-33433 *
US-PATENT-APPL-SN-551182	c 03	N71-23187 *	US-PATENT-APPL-SN-566493	c 44	N76-29701 *	US-PATENT-APPL-SN-580573	c 44	N85-34441 *
US-PATENT-APPL-SN-551184	c 37	N76-22541 *	US-PATENT-APPL-SN-566494	c 32	N77-30309 *	US-PATENT-APPL-SN-580574	c 18	N84-22610 #
US-PATENT-APPL-SN-551536	c 04	N86-27270 *	US-PATENT-APPL-SN-566495	c 33	N77-17351 *	US-PATENT-APPL-SN-58147	c 28	N70-33356 *
US-PATENT-APPL-SN-551694	c 31	N71-18611 *	US-PATENT-APPL-SN-566717	c 14	N71-24233 *	US-PATENT-APPL-SN-581514	c 70	N75-26789 #
US-PATENT-APPL-SN-551815	c 02	N71-11038 *	US-PATENT-APPL-SN-567686	c 15	N71-22994 *	US-PATENT-APPL-SN-581750	c 07	N78-17055 *
US-PATENT-APPL-SN-551846	c 03	N71-20492 *	US-PATENT-APPL-SN-567806	c 06	N71-22975 *	US-PATENT-APPL-SN-581751	c 37	N78-10468 *
US-PATENT-APPL-SN-551933	c 33	N71-14032 *	US-PATENT-APPL-SN-56791	c 10	N72-16172 *	US-PATENT-APPL-SN-581843	c 31	N79-21226 *
US-PATENT-APPL-SN-551961	c 15	N70-33376 *	US-PATENT-APPL-SN-568067	c 31	N71-22968 *	US-PATENT-APPL-SN-582171	c 32	N71-16428 *
US-PATENT-APPL-SN-552108	c 07	N79-14096 *	US-PATENT-APPL-SN-568071	c 14	N69-27461 #	US-PATENT-APPL-SN-582213	c 32	N74-22096 *
US-PATENT-APPL-SN-552344	c 09	N69-27463 #	US-PATENT-APPL-SN-568160	c 10	N71-18724 *	US-PATENT-APPL-SN-582318	c 33	N76-27472 *
US-PATENT-APPL-SN-552454	c 35	N76-24525 *	US-PATENT-APPL-SN-568346	c 04	N69-27487 #	US-PATENT-APPL-SN-582492	c 52	N85-30618 *
US-PATENT-APPL-SN-553339	c 27	N86-20560 *	US-PATENT-APPL-SN-568352	c 09	N71-20842 *	US-PATENT-APPL-SN-582494	c 36	N84-25037 #
US-PATENT-APPL-SN-553339	c 27	N87-22845 *	US-PATENT-APPL-SN-568354	c 14	N71-22752 *	US-PATENT-APPL-SN-582495	c 44	N86-27706 *
US-PATENT-APPL-SN-55333	c 10	N73-16206 *	US-PATENT-APPL-SN-568355	c 32	N71-23971 *	US-PATENT-APPL-SN-582609	c 10	N71-19467 *
US-PATENT-APPL-SN-553687	c 44	N76-29704 *	US-PATENT-APPL-SN-568356	c 14	N71-15599 *	US-PATENT-APPL-SN-582643	c 35	N85-34374 *
US-PATENT-APPL-SN-553891	c 23	N71-16341 *	US-PATENT-APPL-SN-568362	c 03	N69-39983 #	US-PATENT-APPL-SN-583055	c 07	N78-18067 *
US-PATENT-APPL-SN-554277	c 07	N71-26579 *	US-PATENT-APPL-SN-568364	c 10	N71-26418 *	US-PATENT-APPL-SN-583056	c 37	N78-17384 *
US-PATENT-APPL-SN-554897	c 15	N71-22982 *	US-PATENT-APPL-SN-568541	c 24	N77-28225 *	US-PATENT-APPL-SN-583219	c 43	N82-13465 *
US-PATENT-APPL-SN-554899	c 15	N70-33382 *	US-PATENT-APPL-SN-568541	c 27	N81-14077 *	US-PATENT-APPL-SN-583485	c 33	N77-28385 *
US-PATENT-APPL-SN-554949	c 06	N71-20717 *	US-PATENT-APPL-SN-568620	c 10	N71-26626 *	US-PATENT-APPL-SN-583486	c 33	N77-26386 *
US-PATENT-APPL-SN-554950	c 17	N71-23248 *	US-PATENT-APPL-SN-568987	c 10	N71-19547 *	US-PATENT-APPL-SN-583487	c 52	N76-19785 *
US-PATENT-APPL-SN-554959	c 27	N79-21191 *	US-PATENT-APPL-SN-569370	c 43	N84-23012 #	US-PATENT-APPL-SN-584015	c 14	N71-26475 *
US-PATENT-APPL-SN-555189	c 08	N71-27255 *	US-PATENT-APPL-SN-569372	c 76	N85-33826 *	US-PATENT-APPL-SN-584066	c 10	N71-20852 *
US-PATENT-APPL-SN-555336	c 33	N76-27473 *	US-PATENT-APPL-SN-569925	c 07	N77-17059 *	US-PATENT-APPL-SN-584067	c 07	N71-12392 *
US-PATENT-APPL-SN-555334	c 11	N72-25288 *	US-PATENT-APPL-SN-570093	c 06	N71-17705 *	US-PATENT-APPL-SN-584070	c 09	N69-27500 #
US-PATENT-APPL-SN-55535	c 14	N73-20474 *	US-PATENT-APPL-SN-570095	c 14	N71-23226 *	US-PATENT-APPL-SN-584071	c 26	N71-16037 *
US-PATENT-APPL-SN-55536	c 14	N72-29464 *	US-PATENT-APPL-SN-570097	c 15	N69-23185 #	US-PATENT-APPL-SN-584072	c 15	N69-39786 #
US-PATENT-APPL-SN-55537	c 18	N72-25540 *	US-PATENT-APPL-SN-570678	c 17	N71-25903 *	US-PATENT-APPL-SN-584094	c 26	N77-20201 *
US-PATENT-APPL-SN-555641	c 51	N76-29891 *	US-PATENT-APPL-SN-571458	c 44	N77-10635 *	US-PATENT-APPL-SN-584914	c 54	N78-17679 *
US-PATENT-APPL-SN-555750	c 27	N79-12221 *	US-PATENT-APPL-SN-571459	c 54	N78-14784 *	US-PATENT-APPL-SN-585217	c 54	N78-17677 *
US-PATENT-APPL-SN-556481	c 74	N86-26190 *	US-PATENT-APPL-SN-571613	c 74	N86-20124 *	US-PATENT-APPL-SN-585420	c 35	N76-31489 *
US-PATENT-APPL-SN-556512	c 37	N86-25789 *	US-PATENT-APPL-SN-571614	c 35	N86-20750 *	US-PATENT-APPL-SN-585988	c 33	N75-29318 *
US-PATENT-APPL-SN-556513	c 33	N85-29143 *	US-PATENT-APPL-SN-571615	c 74	N87-14971 *	US-PATENT-APPL-SN-586324	c 05	N71-26293 *
US-PATENT-APPL-SN-556514	c 35	N86-25753 *	US-PATENT-APPL-SN-571616	c 25	N86-19413 *	US-PATENT-APPL-SN-586325	c 31	N71-24315 *
US-PATENT-APPL-SN-556784	c 09	N71-20447 *	US-PATENT-APPL-SN-571617	c 26	N85-35267 *	US-PATENT-APPL-SN-586329	c 05	N71-24623 *
US-PATENT-APPL-SN-556830	c 15	N71-26294 *	US-PATENT-APPL-SN-571821	c 20	N76-22296 *	US-PATENT-APPL-SN-586330	c 05	N71-12344 *
US-PATENT-APPL-SN-557016	c 15	N71-23086 *	US-PATENT-APPL-SN-57252	c 14	N72-25414 *	US-PATENT-APPL-SN-587749	c 60	N88-29310 *
US-PATENT-APPL-SN-557430	c 52	N77-14737 *	US-PATENT-APPL-SN-57253	c 18	N72-25541 *	US-PATENT-APPL-SN-587764	c 18	N86-24729 *
US-PATENT-APPL-SN-557448	c 45	N76-17656 *	US-PATENT-APPL-SN-572990	c 37	N78-16369 *	US-PATENT-APPL-SN-588036	c 18	N84-22612 #
US-PATENT-APPL-SN-557565	c 24	N77-27187 *	US-PATENT-APPL-SN-572991	c 51	N77-22794 *	US-PATENT-APPL-SN-588039	c 18	N87-14373 *
US-PATENT-APPL-SN-557584	c 09	N71-20851 *	US-PATENT-APPL-SN-573029	c 07	N79-14097 *	US-PATENT-APPL-SN-588164	c 31	N85-29082 *
US-PATENT-APPL-SN-557861	c 03	N71-24605 *	US-PATENT-APPL-SN-573162	c 37	N86-27630 *	US-PATENT-APPL-SN-588635	c 21	N71-15642 *
US-PATENT-APPL-SN-557868	c 14	N70-41682 *	US-PATENT-APPL-SN-573432	c 14	N71-23790 *	US-PATENT-APPL-SN-588651	c 31	N71-24813 *
US-PATENT-APPL-SN-557871	c 10	N71-21483 *	US-PATENT-APPL-SN-57399	c 03	N72-20034 *	US-PATENT-APPL-SN-588671	c 03	N71-23354 *
US-PATENT-APPL-SN-55806	c 06	N72-31140 *	US-PATENT-APPL-SN-574208	c 37	N76-29590 *	US-PATENT-APPL-SN-588721	c 27	N78-33228 *
US-PATENT-APPL-SN-558600	c 74	N77-10899 *	US-PATENT-APPL-SN-574218	c 52	N76-29895 *	US-PATENT-APPL-SN-589119	c 32	N77-32342 *
US-PATENT-APPL-SN-559055	c 33	N71-29046 *	US-PATENT-APPL-SN-574219	c 35	N76-31490 *	US-PATENT-APPL-SN-589172	c 27	N79-14214 *
US-PATENT-APPL-SN-559349	c 33	N71-21415 *	US-PATENT-APPL-SN-574280	c 15	N69-21460 #	US-PATENT-APPL-SN-589173	c 32	N77-12240 *
US-PATENT-APPL-SN-559350	c 33	N71-28892 *	US-PATENT-APPL-SN-574282	c 15	N69-23190 #	US-PATENT-APPL-SN-589233	c 33	N77-

US-PATENT-APPL-SN-590146	c 09	N69-21926 *	US-PATENT-APPL-SN-605100	c 15	N71-21536 *	US-PATENT-APPL-SN-625732	c 35	N77-18417 *
US-PATENT-APPL-SN-590147	c 15	N71-21489 *	US-PATENT-APPL-SN-605102	c 09	N69-39987 *	US-PATENT-APPL-SN-625733	c 26	N77-28265 *
US-PATENT-APPL-SN-590158	c 05	N71-24147 *	US-PATENT-APPL-SN-60531	c 28	N70-37980 *	US-PATENT-APPL-SN-625734	c 35	N78-10428 *
US-PATENT-APPL-SN-590159	c 09	N69-24324 *	US-PATENT-APPL-SN-60536	c 02	N70-38009 *	US-PATENT-APPL-SN-625759	c 37	N77-14478 *
US-PATENT-APPL-SN-590182	c 37	N76-29588 *	US-PATENT-APPL-SN-605518	c 15	N71-23023 *	US-PATENT-APPL-SN-625781	c 33	N77-31404 *
US-PATENT-APPL-SN-590183	c 74	N79-13855 *	US-PATENT-APPL-SN-605964	c 06	N73-30103 *	US-PATENT-APPL-SN-626376	c 05	N71-11189 *
US-PATENT-APPL-SN-590921	c 71	N86-21276 *	US-PATENT-APPL-SN-605994	c 06	N73-30101 *	US-PATENT-APPL-SN-626942	c 51	N77-27677 *
US-PATENT-APPL-SN-590923	c 35	N85-34375 *	US-PATENT-APPL-SN-606027	c 06	N73-30099 *	US-PATENT-APPL-SN-627257	c 08	N71-12504 *
US-PATENT-APPL-SN-590925	c 26	N86-32550 *	US-PATENT-APPL-SN-606036	c 06	N73-30100 *	US-PATENT-APPL-SN-627537	c 71	N88-24241 *
US-PATENT-APPL-SN-590975	c 44	N78-31525 *	US-PATENT-APPL-SN-606426	c 74	N86-29650 *	US-PATENT-APPL-SN-627599	c 18	N71-16046 *
US-PATENT-APPL-SN-591000	c 15	N71-24044 *	US-PATENT-APPL-SN-606431	c 37	N86-25791 *	US-PATENT-APPL-SN-628094	c 16	N71-20400 *
US-PATENT-APPL-SN-591004	c 07	N71-11266 *	US-PATENT-APPL-SN-606432	c 74	N87-21679 *	US-PATENT-APPL-SN-628221	c 07	N78-18066 *
US-PATENT-APPL-SN-591007	c 16	N69-27491 *	US-PATENT-APPL-SN-606462	c 08	N71-24891 *	US-PATENT-APPL-SN-628246	c 15	N71-17687 *
US-PATENT-APPL-SN-591014	c 28	N71-24736 *	US-PATENT-APPL-SN-606463	c 14	N71-24864 *	US-PATENT-APPL-SN-628247	c 09	N69-21542 *
US-PATENT-APPL-SN-591089	c 24	N85-21267 *	US-PATENT-APPL-SN-606464	c 15	N71-18579 *	US-PATENT-APPL-SN-628248	c 14	N69-27432 *
US-PATENT-APPL-SN-591568	c 74	N76-31998 *	US-PATENT-APPL-SN-606891	c 44	N77-14581 *	US-PATENT-APPL-SN-628866	c 31	N85-20153 *
US-PATENT-APPL-SN-591569	c 37	N77-12402 *	US-PATENT-APPL-SN-607461	c 05	N71-12346 *	US-PATENT-APPL-SN-629456	c 37	N77-14479 *
US-PATENT-APPL-SN-591930	c 03	N69-21330 *	US-PATENT-APPL-SN-607484	c 09	N71-26002 *	US-PATENT-APPL-SN-629457	c 35	N77-32454 *
US-PATENT-APPL-SN-592159	c 07	N76-27232 *	US-PATENT-APPL-SN-607608	c 14	N69-27484 *	US-PATENT-APPL-SN-629458	c 35	N78-17357 *
US-PATENT-APPL-SN-592680	c 15	N71-22877 *	US-PATENT-APPL-SN-607969	c 09	N76-23273 *	US-PATENT-APPL-SN-629759	c 15	N71-16076 *
US-PATENT-APPL-SN-592694	c 05	N71-12342 *	US-PATENT-APPL-SN-608247	c 15	N71-20813 *	US-PATENT-APPL-SN-630579	c 35	N77-24454 *
US-PATENT-APPL-SN-593142	c 37	N77-17464 *	US-PATENT-APPL-SN-608482	c 74	N77-20882 *	US-PATENT-APPL-SN-630583	c 33	N77-24375 *
US-PATENT-APPL-SN-593593	c 06	N71-11239 *	US-PATENT-APPL-SN-608483	c 09	N77-19076 *	US-PATENT-APPL-SN-631341	c 60	N78-17691 *
US-PATENT-APPL-SN-593594	c 06	N71-11236 *	US-PATENT-APPL-SN-608741	c 23	N85-28973 *	US-PATENT-APPL-SN-631344	c 16	N72-28521 *
US-PATENT-APPL-SN-593595	c 06	N71-24740 *	US-PATENT-APPL-SN-60876	c 15	N72-27485 *	US-PATENT-APPL-SN-631848	c 09	N71-12514 *
US-PATENT-APPL-SN-593604	c 11	N69-27466 *	US-PATENT-APPL-SN-60881	c 32	N72-25877 *	US-PATENT-APPL-SN-63195	c 14	N72-27408 *
US-PATENT-APPL-SN-593605	c 06	N71-11242 *	US-PATENT-APPL-SN-60882	c 05	N73-32011 *	US-PATENT-APPL-SN-632104	c 09	N71-19470 *
US-PATENT-APPL-SN-593606	c 06	N71-11243 *	US-PATENT-APPL-SN-60883	c 10	N73-13235 *	US-PATENT-APPL-SN-632111	c 37	N79-10422 *
US-PATENT-APPL-SN-593607	c 07	N71-26102 *	US-PATENT-APPL-SN-608944	c 15	N71-23798 *	US-PATENT-APPL-SN-632112	c 35	N77-22449 *
US-PATENT-APPL-SN-594134	c 74	N86-20125 *	US-PATENT-APPL-SN-60950	c 04	N73-27052 *	US-PATENT-APPL-SN-632152	c 10	N71-24798 *
US-PATENT-APPL-SN-594584	c 14	N71-25892 *	US-PATENT-APPL-SN-610723	c 14	N71-23755 *	US-PATENT-APPL-SN-632154	c 09	N69-39984 *
US-PATENT-APPL-SN-594587	c 28	N71-21493 *	US-PATENT-APPL-SN-610724	c 31	N71-28851 *	US-PATENT-APPL-SN-632162	c 14	N69-39937 *
US-PATENT-APPL-SN-594633	c 15	N71-24046 *	US-PATENT-APPL-SN-610728	c 31	N71-22969 *	US-PATENT-APPL-SN-632163	c 30	N71-23723 *
US-PATENT-APPL-SN-595197	c 33	N77-10429 *	US-PATENT-APPL-SN-610801	c 76	N77-32919 *	US-PATENT-APPL-SN-632164	c 15	N69-24319 *
US-PATENT-APPL-SN-595254	c 17	N78-17140 *	US-PATENT-APPL-SN-610802	c 35	N77-20400 *	US-PATENT-APPL-SN-632165	c 14	N71-26266 *
US-PATENT-APPL-SN-595745	c 37	N77-32501 *	US-PATENT-APPL-SN-611414	c 46	N74-23068 *	US-PATENT-APPL-SN-633178	c 25	N84-32247 *
US-PATENT-APPL-SN-595747	c 37	N77-32500 *	US-PATENT-APPL-SN-611414	c 46	N74-23069 *	US-PATENT-APPL-SN-633179	c 34	N86-12547 *
US-PATENT-APPL-SN-596338	c 09	N71-20816 *	US-PATENT-APPL-SN-612265	c 14	N72-22442 *	US-PATENT-APPL-SN-633180	c 09	N89-25242 *
US-PATENT-APPL-SN-596641	c 07	N77-23106 *	US-PATENT-APPL-SN-612568	c 15	N71-28952 *	US-PATENT-APPL-SN-633363	c 25	N86-25428 *
US-PATENT-APPL-SN-596641	c 37	N78-10467 *	US-PATENT-APPL-SN-612740	c 25	N71-20563 *	US-PATENT-APPL-SN-633383	c 08	N72-20177 *
US-PATENT-APPL-SN-596733	c 15	N72-11389 *	US-PATENT-APPL-SN-612899	c 07	N77-18154 *	US-PATENT-APPL-SN-63384	c 05	N72-22093 *
US-PATENT-APPL-SN-596735	c 32	N71-24285 *	US-PATENT-APPL-SN-612964	c 20	N77-10148 *	US-PATENT-APPL-SN-633876	c 27	N78-19302 *
US-PATENT-APPL-SN-596787	c 37	N77-19458 *	US-PATENT-APPL-SN-612965	c 52	N77-14735 *	US-PATENT-APPL-SN-633877	c 27	N77-13217 *
US-PATENT-APPL-SN-596787	c 37	N78-31426 *	US-PATENT-APPL-SN-612966	c 35	N78-12390 *	US-PATENT-APPL-SN-634038	c 25	N71-16073 *
US-PATENT-APPL-SN-596788	c 33	N76-21390 *	US-PATENT-APPL-SN-612967	c 74	N77-18893 *	US-PATENT-APPL-SN-634040	c 15	N71-19489 *
US-PATENT-APPL-SN-596905	c 24	N77-19170 *	US-PATENT-APPL-SN-613004	c 71	N77-26919 *	US-PATENT-APPL-SN-634080	c 09	N69-39987 *
US-PATENT-APPL-SN-596959	c 18	N84-22609 *	US-PATENT-APPL-SN-613139	c 27	N86-27450 *	US-PATENT-APPL-SN-634205	c 35	N77-14406 *
US-PATENT-APPL-SN-596959	c 18	N86-20469 *	US-PATENT-APPL-SN-613140	c 33	N86-20669 *	US-PATENT-APPL-SN-634214	c 73	N78-28913 *
US-PATENT-APPL-SN-596960	c 37	N85-33490 *	US-PATENT-APPL-SN-613235	c 14	N73-30394 *	US-PATENT-APPL-SN-634304	c 27	N79-18052 *
US-PATENT-APPL-SN-597430	c 44	N81-29525 *	US-PATENT-APPL-SN-61329	c 31	N70-37986 *	US-PATENT-APPL-SN-635325	c 14	N69-27431 *
US-PATENT-APPL-SN-597430	c 44	N82-28780 *	US-PATENT-APPL-SN-613734	c 52	N77-14738 *	US-PATENT-APPL-SN-635326	c 14	N71-18482 *
US-PATENT-APPL-SN-598118	c 15	N69-27490 *	US-PATENT-APPL-SN-613979	c 33	N71-14035 *	US-PATENT-APPL-SN-635327	c 12	N69-39988 *
US-PATENT-APPL-SN-598119	c 08	N71-19437 *	US-PATENT-APPL-SN-615030	c 35	N78-19465 *	US-PATENT-APPL-SN-635328	c 09	N69-21467 *
US-PATENT-APPL-SN-598120	c 08	N71-18602 *	US-PATENT-APPL-SN-61535	c 15	N72-25453 *	US-PATENT-APPL-SN-63532	c 08	N72-25209 *
US-PATENT-APPL-SN-598504	c 37	N77-14477 *	US-PATENT-APPL-SN-615505	c 34	N85-29180 *	US-PATENT-APPL-SN-635519	c 35	N77-24555 *
US-PATENT-APPL-SN-598777	c 27	N85-34281 *	US-PATENT-APPL-SN-616002	c 34	N86-27593 *	US-PATENT-APPL-SN-635531	c 33	N77-14334 *
US-PATENT-APPL-SN-59892	c 06	N73-30097 *	US-PATENT-APPL-SN-616332	c 24	N77-27188 *	US-PATENT-APPL-SN-635970	c 15	N69-21465 *
US-PATENT-APPL-SN-59892	c 15	N74-27360 *	US-PATENT-APPL-SN-616333	c 33	N76-32457 *	US-PATENT-APPL-SN-635972	c 18	N71-23710 *
US-PATENT-APPL-SN-59893	c 15	N72-25456 *	US-PATENT-APPL-SN-616472	c 74	N77-22951 *	US-PATENT-APPL-SN-63610	c 06	N72-25147 *
US-PATENT-APPL-SN-59894	c 23	N73-13662 *	US-PATENT-APPL-SN-616528	c 24	N80-33482 *	US-PATENT-APPL-SN-636193	c 74	N78-15880 *
US-PATENT-APPL-SN-59895	c 15	N72-20445 *	US-PATENT-APPL-SN-617021	c 23	N71-16101 *	US-PATENT-APPL-SN-636459	c 44	N87-21410 *
US-PATENT-APPL-SN-598967	c 31	N77-10229 *	US-PATENT-APPL-SN-617022	c 07	N69-27462 *	US-PATENT-APPL-SN-636463	c 20	N87-16875 *
US-PATENT-APPL-SN-598968	c 33	N77-17354 *	US-PATENT-APPL-SN-617202	c 74	N77-28933 *	US-PATENT-APPL-SN-636465	c 37	N85-29284 *
US-PATENT-APPL-SN-598969	c 44	N78-17460 *	US-PATENT-APPL-SN-617612	c 52	N77-10780 *	US-PATENT-APPL-SN-636796	c 35	N78-17358 *
US-PATENT-APPL-SN-599126	c 23	N88-24692 *	US-PATENT-APPL-SN-617770	c 14	N71-23267 *	US-PATENT-APPL-SN-636878	c 14	N71-20442 *
US-PATENT-APPL-SN-599284	c 35	N77-14411 *	US-PATENT-APPL-SN-617774	c 18	N71-16124 *	US-PATENT-APPL-SN-637247	c 35	N77-10493 *
US-PATENT-APPL-SN-59956	c 14	N72-27411 *	US-PATENT-APPL-SN-617775	c 06	N71-28807 *	US-PATENT-APPL-SN-637249	c 38	N76-28563 *
US-PATENT-APPL-SN-59966	c 21	N72-25595 *	US-PATENT-APPL-SN-617776	c 18	N69-39895 *	US-PATENT-APPL-SN-637268	c 47	N77-10753 *
US-PATENT-APPL-SN-59968	c 15	N72-27484 *	US-PATENT-APPL-SN-617778	c 14	N71-26244 *	US-PATENT-APPL-SN-637269	c 52	N77-28717 *
US-PATENT-APPL-SN-59969	c 09	N72-25249 *	US-PATENT-APPL-SN-617779	c 09	N69-39929 *	US-PATENT-APPL-SN-637882	c 15	N71-17650 *
US-PATENT-APPL-SN-599975	c 08	N69-21928 *	US-PATENT-APPL-SN-617783	c 15	N69-24266 *	US-PATENT-APPL-SN-638192	c 10	N71-26415 *
US-PATENT-APPL-SN-600266	c 14	N71-20430 *	US-PATENT-APPL-SN-617871	c 27	N85-29043 *	US-PATENT-APPL-SN-638194	c 33	N71-21507 *
US-PATENT-APPL-SN-600682	c 14	N71-20461 *	US-PATENT-APPL-SN-617895	c 32	N77-14292 *	US-PATENT-APPL-SN-638541	c 33	N86-20671 *
US-PATENT-APPL-SN-601130	c 31	N86-21718 *	US-PATENT-APPL-SN-618594	c 37	N77-13418 *	US-PATENT-APPL-SN-638584	c 33	N86-20670 *
US-PATENT-APPL-SN-601128	c 15	N71-17652 *	US-PATENT-APPL-SN-61894	c 12	N72-21310 *	US-PATENT-APPL-SN-638586	c 32	N87-21207 *
US-PATENT-APPL-SN-601229	c 14	N71-26474 *	US-PATENT-APPL-SN-61895	c 07	N72-33146 *	US-PATENT-APPL-SN-638707	c 14	N69-27486 *
US-PATENT-APPL-SN-602049	c 35	N86-32697 *	US-PATENT-APPL-SN-618969	c 05	N71-26333 *	US-PATENT-APPL-SN-639589	c 28	N70-33372 *
US-PATENT-APPL-SN-602617	c 37	N77-23483 *	US-PATENT-APPL-SN-619519	c 32	N71-16106 *	US-PATENT-APPL-SN-640154	c 09	N71-18600 *
US-PATENT-APPL-SN-602618	c 44	N76-31667 *	US-PATENT-APPL-SN-619520	c 05	N69-21380 *	US-PATENT-APPL-SN-640447	c 15	N71-19486 *
US-PATENT-APPL-SN-60276	c 22	N73-32528 *	US-PATENT-APPL-SN-619521	c 06	N69-39889 *	US-PATENT-APPL-SN-640448	c 08	N71-19420 *
US-PATENT-APPL-SN-602828	c 09	N71-13531 *	US-PATENT-APPL-SN-619903	c 15	N69-27505 *	US-PATENT-APPL-SN-640449	c 09	N71-19516 *
US-PATENT-APPL-SN-603374	c 37	N86-19806 *	US-PATENT-APPL-SN-619907	c 09	N69-21543 *	US-PATENT-APPL-SN-640450	c 15	N71-17694 *
US-PATENT-APPL-SN-603396	c 14	N69-23191 *	US-PATENT-APPL-SN-619908	c 08	N71-20571 *	US-PATENT-APPL-SN-640452	c 09	N71-12513 *
US-PATENT-APPL-SN-603397	c 26	N71-23292 *	US-PATENT-APPL-SN-619986	c 37	N75-32485 *	US-PATENT-APPL-SN-640453	c 23	N71-16099 *
US-PATENT-APPL-SN-604337	c 27	N85-29044 *	US-PATENT-APPL-SN-620675	c 35	N78-19466 *	US-PATENT-APPL-SN-640454	c 06	N71-11238 *
US-PATENT-APPL-SN-604374	c 44	N76-29699 *	US-PATENT-APPL-SN-621098	c 09	N71-20446 *	US-PATENT-APPL-SN-640455	c 10	N71-23099 *
US-PATENT-APPL-SN-605090	c 15	N71-19485 *	US-PATENT-APPL-SN-621714	c 15	N71-19569 *	US-PATENT-APPL-SN-640456	c 03	N71-26726 *
US-PATENT-APPL-SN-605091	c 15	N71-26346 *	US-PATENT-APPL-SN-621715	c 05	N71-11207 *	US-PATENT-APPL-SN-640457	c 03	N71-11052 *
US-PATENT-APPL-SN-605092	c 05	N71-23317 *	US-PATENT-APPL-SN-621742	c 28	N71-23968 *	US-PATENT-APPL-SN-640458	c 15	N71-23811 *
US-PATENT-APPL-SN-605093	c 17	N71-24911 *	US-PATENT-APPL-SN-623156	c 04	N77-19056 *	US-PATENT-APPL-SN-640459	c 10	N71-18723 *
US-PATENT-APPL-SN-605094	c 09	N71-24808 *	US-PATENT-APPL-SN-623187	c 34	N77-19353 *	US-PATENT-APPL-SN-640460	c 14	N69-21541 *
US-PATENT-APPL-SN-605095	c 10	N71-19417 *	US-PATENT-APPL-SN-623188	c 54	N77-21844 *	US-PATENT-APPL-SN-640462	c 15	N71-20443 *
US-PATENT-APPL-SN-605096	c 15	N71-24834 *	US-PATENT-APPL-SN-623238	c 51	N77-25769 *	US-PATENT-APPL-SN-640712	c 24	N85-35233 *
US-PATENT-APPL-SN-605097	c 14	N69-21923 *	US-PATENT-APPL-SN-623389	c 31	N81-15154 *	US-PATENT-APPL-SN-640781	c 03	N69-

US-PATENT-APPL-SN-640785	c 09	N69-24333 *	#	US-PATENT-APPL-SN-657907	c 27	N78-17213 *	US-PATENT-APPL-SN-672224	c 37	N86-25790 *
US-PATENT-APPL-SN-640786	c 15	N71-24695 *		US-PATENT-APPL-SN-657995	c 35	N77-22450 *	US-PATENT-APPL-SN-672382	c 15	N71-23815 *
US-PATENT-APPL-SN-640787	c 28	N71-24321 *		US-PATENT-APPL-SN-657996	c 60	N78-10709 *	US-PATENT-APPL-SN-672383	c 15	N71-24045 *
US-PATENT-APPL-SN-640788	c 15	N69-27502 *	#	US-PATENT-APPL-SN-657997	c 60	N77-32731 *	US-PATENT-APPL-SN-672384	c 15	N71-27067 *
US-PATENT-APPL-SN-640789	c 15	N69-27504 *	#	US-PATENT-APPL-SN-657998	c 27	N78-32262 *	US-PATENT-APPL-SN-672388	c 26	N72-17820 *
US-PATENT-APPL-SN-641142	c 23	N86-32525 *		US-PATENT-APPL-SN-658132	c 44	N77-32580 *	US-PATENT-APPL-SN-672636	c 37	N79-11405 *
US-PATENT-APPL-SN-641143	c 27	N85-34280 *		US-PATENT-APPL-SN-658133	c 71	N78-10837 *	US-PATENT-APPL-SN-672695	c 27	N78-17206 *
US-PATENT-APPL-SN-641146	c 76	N87-13313 *		US-PATENT-APPL-SN-65840	c 10	N72-20225 *	US-PATENT-APPL-SN-672815	c 37	N77-23482 *
US-PATENT-APPL-SN-641147	c 27	N87-23751 *		US-PATENT-APPL-SN-658449	c 32	N77-20289 *	US-PATENT-APPL-SN-673226	c 08	N71-12502 *
US-PATENT-APPL-SN-641152	c 23	N87-28605 *		US-PATENT-APPL-SN-658450	c 37	N77-22482 *	US-PATENT-APPL-SN-673227	c 11	N71-24964 *
US-PATENT-APPL-SN-641153	c 27	N86-32568 *	#	US-PATENT-APPL-SN-658487	c 37	N81-25371 *	US-PATENT-APPL-SN-673228	c 07	N71-19433 *
US-PATENT-APPL-SN-641420	c 03	N71-23449 *		US-PATENT-APPL-SN-658955	c 14	N71-15605 *	US-PATENT-APPL-SN-673229	c 33	N71-15641 *
US-PATENT-APPL-SN-641431	c 30	N71-16090 *		US-PATENT-APPL-SN-658956	c 15	N71-15607 *	US-PATENT-APPL-SN-673685	c 60	N87-21591 *
US-PATENT-APPL-SN-641441	c 08	N71-18751 *		US-PATENT-APPL-SN-658957	c 14	N71-17584 *	US-PATENT-APPL-SN-674194	c 27	N78-17215 *
US-PATENT-APPL-SN-641784	c 37	N77-32499 *		US-PATENT-APPL-SN-658964	c 19	N71-26674 *	US-PATENT-APPL-SN-674195	c 74	N78-17866 *
US-PATENT-APPL-SN-641802	c 34	N77-30399 *		US-PATENT-APPL-SN-658999	c 44	N82-24645 *	US-PATENT-APPL-SN-674355	c 14	N71-20429 *
US-PATENT-APPL-SN-641803	c 35	N78-18391 *		US-PATENT-APPL-SN-659474	c 35	N86-26595 *	US-PATENT-APPL-SN-674356	c 14	N71-23699 *
US-PATENT-APPL-SN-642224	c 17	N70-38490 *		US-PATENT-APPL-SN-659475	c 31	N86-32587 *	US-PATENT-APPL-SN-674357	c 05	N71-12351 *
US-PATENT-APPL-SN-642326	c 17	N70-38198 *		US-PATENT-APPL-SN-659882	c 37	N78-13436 *	US-PATENT-APPL-SN-674395	c 76	N87-23286 *
US-PATENT-APPL-SN-642310	c 44	N86-19721 *		US-PATENT-APPL-SN-66004	c 15	N72-25450 *	US-PATENT-APPL-SN-674700	c 27	N77-31308 *
US-PATENT-APPL-SN-642602	c 54	N86-29507 *	#	US-PATENT-APPL-SN-6600571	c 26	N71-23654 *	US-PATENT-APPL-SN-675238	c 10	N71-26374 *
US-PATENT-APPL-SN-643041	c 44	N78-19599 *		US-PATENT-APPL-SN-660572	c 15	N71-15571 *	US-PATENT-APPL-SN-675328	c 35	N78-15461 *
US-PATENT-APPL-SN-643043	c 35	N78-13400 *		US-PATENT-APPL-SN-660573	c 15	N71-28936 *	US-PATENT-APPL-SN-675351	c 35	N78-10429 *
US-PATENT-APPL-SN-643332	c 15	N71-14932 *		US-PATENT-APPL-SN-660581	c 14	N71-15621 *	US-PATENT-APPL-SN-676012	c 05	N71-11193 *
US-PATENT-APPL-SN-643522	c 16	N86-26352 *		US-PATENT-APPL-SN-660842	c 14	N71-23726 *	US-PATENT-APPL-SN-676375	c 14	N71-18483 *
US-PATENT-APPL-SN-643524	c 27	N86-29039 *		US-PATENT-APPL-SN-660843	c 08	N71-24650 *	US-PATENT-APPL-SN-676386	c 08	N71-12507 *
US-PATENT-APPL-SN-643559	c 27	N86-31727 *		US-PATENT-APPL-SN-6610	c 15	N72-22492 *	US-PATENT-APPL-SN-676387	c 10	N71-25950 *
US-PATENT-APPL-SN-643897	c 73	N78-32848 *		US-PATENT-APPL-SN-661170	c 14	N71-24809 *	US-PATENT-APPL-SN-676391	c 21	N71-17166 *
US-PATENT-APPL-SN-643931	c 31	N72-25842 *		US-PATENT-APPL-SN-661481	c 26	N88-14179 *	US-PATENT-APPL-SN-676432	c 28	N78-24365 *
US-PATENT-APPL-SN-644444	c 09	N71-18721 *		US-PATENT-APPL-SN-6615	c 03	N72-25019 *	US-PATENT-APPL-SN-676432	c 28	N80-20402 *
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US-PATENT-APPL-SN-644447	c 14	N71-24234 *		US-PATENT-APPL-SN-6617	c 15	N72-22488 *	US-PATENT-APPL-SN-676433	c 52	N77-28716 *
US-PATENT-APPL-SN-644448	c 17	N69-25147 *	#	US-PATENT-APPL-SN-66206	c 11	N73-13257 *	US-PATENT-APPL-SN-676957	c 32	N77-18307 *
US-PATENT-APPL-SN-644799	c 17	N71-15468 *		US-PATENT-APPL-SN-662175	c 09	N77-27131 *	US-PATENT-APPL-SN-676958	c 54	N76-22914 *
US-PATENT-APPL-SN-645500	c 74	N77-28932 *		US-PATENT-APPL-SN-662176	c 32	N77-21267 *	US-PATENT-APPL-SN-676958	c 52	N81-25661 *
US-PATENT-APPL-SN-645502	c 24	N79-25143 *		US-PATENT-APPL-SN-662181	c 25	N82-21269 *	US-PATENT-APPL-SN-67730	c 15	N73-13463 *
US-PATENT-APPL-SN-645507	c 26	N77-32280 *		US-PATENT-APPL-SN-662182	c 37	N78-27424 *	US-PATENT-APPL-SN-677351	c 35	N77-32455 *
US-PATENT-APPL-SN-645508	c 44	N77-14580 *		US-PATENT-APPL-SN-662182	c 35	N79-26372 *	US-PATENT-APPL-SN-677352	c 43	N78-10529 *
US-PATENT-APPL-SN-645510	c 32	N77-30308 *		US-PATENT-APPL-SN-662763	c 15	N73-12489 *	US-PATENT-APPL-SN-677353	c 52	N78-14773 *
US-PATENT-APPL-SN-645563	c 31	N71-20396 *		US-PATENT-APPL-SN-662828	c 11	N71-18578 *	US-PATENT-APPL-SN-677475	c 32	N71-26681 *
US-PATENT-APPL-SN-645571	c 35	N77-14407 *		US-PATENT-APPL-SN-662829	c 15	N71-15597 *	US-PATENT-APPL-SN-677476	c 14	N71-17586 *
US-PATENT-APPL-SN-645573	c 24	N71-25555 *		US-PATENT-APPL-SN-663008	c 37	N77-28486 *	US-PATENT-APPL-SN-677505	c 09	N71-13521 *
US-PATENT-APPL-SN-645584	c 08	N71-12494 *		US-PATENT-APPL-SN-663180	c 10	N71-23663 *	US-PATENT-APPL-SN-677506	c 16	N71-15567 *
US-PATENT-APPL-SN-646044	c 37	N85-34403 *		US-PATENT-APPL-SN-663840	c 27	N86-20561 *	US-PATENT-APPL-SN-677508	c 16	N71-15551 *
US-PATENT-APPL-SN-646124	c 15	N71-23817 *		US-PATENT-APPL-SN-664091	c 43	N79-17288 *	US-PATENT-APPL-SN-67815	c 28	N72-22771 *
US-PATENT-APPL-SN-646333	c 35	N80-26635 *		US-PATENT-APPL-SN-665032	c 74	N77-22950 *	US-PATENT-APPL-SN-678520	c 20	N78-24275 *
US-PATENT-APPL-SN-646424	c 07	N69-27460 *	#	US-PATENT-APPL-SN-665033	c 20	N77-20162 *	US-PATENT-APPL-SN-678700	c 05	N71-19439 *
US-PATENT-APPL-SN-646704	c 36	N77-25499 *		US-PATENT-APPL-SN-665209	c 14	N71-23725 *	US-PATENT-APPL-SN-678813	c 33	N81-29342 *
US-PATENT-APPL-SN-646934	c 08	N71-18692 *		US-PATENT-APPL-SN-665676	c 14	N71-19568 *	US-PATENT-APPL-SN-679055	c 08	N71-24633 *
US-PATENT-APPL-SN-64709	c 10	N72-28240 *		US-PATENT-APPL-SN-665679	c 15	N71-20395 *	US-PATENT-APPL-SN-679862	c 20	N71-16340 *
US-PATENT-APPL-SN-64723	c 07	N72-25170 *		US-PATENT-APPL-SN-665680	c 24	N71-16213 *	US-PATENT-APPL-SN-679885	c 09	N71-12521 *
US-PATENT-APPL-SN-647298	c 31	N71-16102 *		US-PATENT-APPL-SN-665681	c 15	N71-18616 *	US-PATENT-APPL-SN-679980	c 44	N82-24642 *
US-PATENT-APPL-SN-648034	c 09	N79-21083 *		US-PATENT-APPL-SN-665734	c 35	N78-18390 *	US-PATENT-APPL-SN-679987	c 44	N82-24644 *
US-PATENT-APPL-SN-648700	c 74	N78-13874 *		US-PATENT-APPL-SN-666551	c 14	N71-23698 *	US-PATENT-APPL-SN-679996	c 44	N82-24643 *
US-PATENT-APPL-SN-649075	c 14	N71-15600 *		US-PATENT-APPL-SN-666553	c 03	N71-11055 *	US-PATENT-APPL-SN-680015	c 52	N79-14750 *
US-PATENT-APPL-SN-649076	c 08	N71-24890 *		US-PATENT-APPL-SN-666554	c 33	N71-16104 *	US-PATENT-APPL-SN-680048	c 44	N82-24641 *
US-PATENT-APPL-SN-649078	c 07	N71-19493 *		US-PATENT-APPL-SN-666555	c 07	N71-24614 *	US-PATENT-APPL-SN-680067	c 07	N77-27116 *
US-PATENT-APPL-SN-649327	c 33	N87-25531 *		US-PATENT-APPL-SN-666992	c 27	N77-30236 *	US-PATENT-APPL-SN-680223	c 05	N72-33096 *
US-PATENT-APPL-SN-649328	c 27	N86-19456 *		US-PATENT-APPL-SN-667010	c 34	N77-27345 *	US-PATENT-APPL-SN-68024	c 17	N72-22535 *
US-PATENT-APPL-SN-649329	c 05	N84-33400 *	#	US-PATENT-APPL-SN-667625	c 31	N71-15674 *	US-PATENT-APPL-SN-680938	c 74	N77-26942 *
US-PATENT-APPL-SN-649330	c 27	N86-19458 *		US-PATENT-APPL-SN-667636	c 03	N71-20491 *	US-PATENT-APPL-SN-680939	c 44	N78-10554 *
US-PATENT-APPL-SN-649356	c 09	N71-23189 *		US-PATENT-APPL-SN-667637	c 28	N71-14044 *	US-PATENT-APPL-SN-680957	c 35	N77-27366 *
US-PATENT-APPL-SN-649357	c 08	N71-12500 *		US-PATENT-APPL-SN-667928	c 35	N77-30436 *	US-PATENT-APPL-SN-680958	c 74	N78-18905 *
US-PATENT-APPL-SN-649358	c 07	N71-11267 *		US-PATENT-APPL-SN-667929	c 35	N79-14346 *	US-PATENT-APPL-SN-681000	c 34	N78-25350 *
US-PATENT-APPL-SN-649359	c 15	N71-18701 *		US-PATENT-APPL-SN-667930	c 32	N77-28346 *	US-PATENT-APPL-SN-681001	c 74	N76-22993 *
US-PATENT-APPL-SN-649360	c 23	N71-16365 *		US-PATENT-APPL-SN-668116	c 35	N76-16391 *	US-PATENT-APPL-SN-681017	c 44	N77-32583 *
US-PATENT-APPL-SN-650166	c 09	N71-23191 *		US-PATENT-APPL-SN-668238	c 15	N71-15608 *	US-PATENT-APPL-SN-681041	c 37	N86-27629 *
US-PATENT-APPL-SN-651002	c 08	N79-14108 *		US-PATENT-APPL-SN-668241	c 15	N71-17685 *	US-PATENT-APPL-SN-681096	c 44	N77-32582 *
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US-PATENT-APPL-SN-651009	c 26	N78-18182 *		US-PATENT-APPL-SN-668247	c 09	N71-20445 *	US-PATENT-APPL-SN-681692	c 08	N71-12506 *
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US-PATENT-APPL-SN-652979	c 45	N82-11634 *		US-PATENT-APPL-SN-668302	c 07	N71-12390 *	US-PATENT-APPL-SN-682435	c 27	N77-32308 *
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US-PATENT-APPL-SN-653278	c 14	N69-27503 *	#	US-PATENT-APPL-SN-668751	c 06	N71-11237 *	US-PATENT-APPL-SN-683073	c 44	N82-28780 *
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US-PATENT-APPL-SN-654787	c 07	N77-32148 *		US-PATENT-APPL-SN-668968	c 09	N71-12515 *	US-PATENT-APPL-SN-683507	c 15	N71-15609 *
US-PATENT-APPL-SN-655149	c 07	N77-23106 *		US-PATENT-APPL-SN-668969	c 08	N71-19288 *	US-PATENT-APPL-SN-683606	c 09	N71-24717 *
US-PATENT-APPL-SN-65548	c 18	N70-39897 *		US-PATENT-APPL-SN-668971	c 07	N78-33101 *	US-PATENT-APPL-SN-683612	c 01	N69-39981 *
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US-PATENT-APPL-SN-655605	c 52	N87-24874 *		US-PATENT-APPL-SN-669336	c 15	N71-17651 *	US-PATENT-APPL-SN-684045	c 07	N80-26298 *
US-PATENT-APPL-SN-655606	c 32	N89-14374 *		US-PATENT-APPL-SN-669911	c 33	N78-17295 *	US-PATENT-APPL-SN-684083	c 09	N71-24596 *
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US-PATENT-APPL-SN-655724	c 15	N71-22706 *		US-PATENT-APPL-SN-670829	c 28	N72-23809 *	US-PATENT-APPL-SN-684186	c 35	N88-29150 *
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US-PATENT-APPL-SN-656953	c 14	N71-17585 *		US-PATENT-APPL-SN-672210	c 25	N78-10224 *	US-PATENT-APPL-SN-684192	c 54	N86-28620 *
US-PATENT-APPL-SN-656993	c 09	N71-24843 *</							

US-PATENT-APPL-SN-685463	c 15	N71-23254 *	US-PATENT-APPL-SN-700673	c 39	N77-28511 *	US-PATENT-APPL-SN-716183	c 15	N71-18132 *
US-PATENT-APPL-SN-685473	c 17	N71-16044 *	US-PATENT-APPL-SN-700984	c 11	N71-19494 *	US-PATENT-APPL-SN-716734	c 15	N71-17628 *
US-PATENT-APPL-SN-685497	c 07	N69-39974 *	US-PATENT-APPL-SN-700985	c 15	N69-23190 *	US-PATENT-APPL-SN-716795	c 14	N71-20435 *
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US-PATENT-APPL-SN-685748	c 07	N71-11282 *	US-PATENT-APPL-SN-700987	c 09	N71-19610 *	US-PATENT-APPL-SN-717052	c 14	N71-17626 *
US-PATENT-APPL-SN-685750	c 27	N71-16392 *	US-PATENT-APPL-SN-701244	c 05	N72-20096 *	US-PATENT-APPL-SN-717319	c 44	N77-31601 *
US-PATENT-APPL-SN-685764	c 14	N69-27459 *	US-PATENT-APPL-SN-701448	c 52	N78-10686 *	US-PATENT-APPL-SN-717320	c 44	N78-15560 *
US-PATENT-APPL-SN-685766	c 15	N69-21924 *	US-PATENT-APPL-SN-701486	c 31	N87-21159 *	US-PATENT-APPL-SN-717822	c 09	N71-25866 *
US-PATENT-APPL-SN-685787	c 14	N71-18625 *	US-PATENT-APPL-SN-701635	c 12	N71-17578 *	US-PATENT-APPL-SN-718095	c 28	N70-39899 *
US-PATENT-APPL-SN-686209	c 15	N71-23809 *	US-PATENT-APPL-SN-701654	c 03	N71-11049 *	US-PATENT-APPL-SN-718137	c 44	N78-31527 *
US-PATENT-APPL-SN-686248	c 14	N71-26774 *	US-PATENT-APPL-SN-701679	c 02	N71-19287 *	US-PATENT-APPL-SN-718244	c 05	N78-32086 *
US-PATENT-APPL-SN-686296	c 18	N71-14014 *	US-PATENT-APPL-SN-701679	c 07	N73-20174 *	US-PATENT-APPL-SN-718266	c 74	N78-17867 *
US-PATENT-APPL-SN-686331	c 38	N78-32447 *	US-PATENT-APPL-SN-701732	c 24	N71-16095 *	US-PATENT-APPL-SN-718267	c 26	N77-29260 *
US-PATENT-APPL-SN-686344	c 15	N71-17688 *	US-PATENT-APPL-SN-701733	c 10	N71-24844 *	US-PATENT-APPL-SN-718268	c 44	N78-33526 *
US-PATENT-APPL-SN-686449	c 34	N78-18355 *	US-PATENT-APPL-SN-701744	c 21	N71-13958 *	US-PATENT-APPL-SN-718279	c 15	N71-26312 *
US-PATENT-APPL-SN-686796	c 15	N70-33311 *	US-PATENT-APPL-SN-701767	c 07	N71-26101 *	US-PATENT-APPL-SN-718689	c 14	N71-17655 *
US-PATENT-APPL-SN-686933	c 14	N71-17588 *	US-PATENT-APPL-SN-702115	c 71	N79-14871 *	US-PATENT-APPL-SN-718752	c 03	N71-18698 *
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US-PATENT-APPL-SN-687251	c 52	N79-12694 *	US-PATENT-APPL-SN-702911	c 15	N71-24875 *	US-PATENT-APPL-SN-719029	c 14	N71-27186 *
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US-PATENT-APPL-SN-688742	c 15	N71-20441 *	US-PATENT-APPL-SN-703107	c 37	N77-22479 *	US-PATENT-APPL-SN-719794	c 35	N86-32695 *
US-PATENT-APPL-SN-688743	c 15	N71-20393 *	US-PATENT-APPL-SN-703847	c 72	N86-33127 *	US-PATENT-APPL-SN-719796	c 24	N86-21590 *
US-PATENT-APPL-SN-688805	c 14	N71-17701 *	US-PATENT-APPL-SN-703905	c 32	N80-14281 *	US-PATENT-APPL-SN-719798	c 76	N85-30934 *
US-PATENT-APPL-SN-688807	c 03	N71-23239 *	US-PATENT-APPL-SN-704180	c 36	N78-27402 *	US-PATENT-APPL-SN-719799	c 35	N86-25752 *
US-PATENT-APPL-SN-688852	c 44	N78-28594 *	US-PATENT-APPL-SN-704224	c 18	N71-15469 *	US-PATENT-APPL-SN-719869	c 31	N71-15676 *
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US-PATENT-APPL-SN-689455	c 54	N74-32546 *	US-PATENT-APPL-SN-704465	c 07	N71-24741 *	US-PATENT-APPL-SN-720224	c 09	N73-12211 *
US-PATENT-APPL-SN-690163	c 14	N71-18465 *	US-PATENT-APPL-SN-704468	c 25	N79-28523 *	US-PATENT-APPL-SN-720521	c 44	N78-25530 *
US-PATENT-APPL-SN-690172	c 11	N72-22245 *	US-PATENT-APPL-SN-704668	c 10	N71-12554 *	US-PATENT-APPL-SN-720546	c 18	N72-17532 *
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US-PATENT-APPL-SN-690274	c 05	N87-14314 *	US-PATENT-APPL-SN-706073	c 76	N79-11920 *	US-PATENT-APPL-SN-721607	c 18	N71-25881 *
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US-PATENT-APPL-SN-690997	c 16	N71-24828 *	US-PATENT-APPL-SN-706424	c 27	N80-24438 *	US-PATENT-APPL-SN-723465	c 15	N72-29488 *
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US-PATENT-APPL-SN-691647	c 52	N82-11770 *	US-PATENT-APPL-SN-706565	c 76	N87-25862 *	US-PATENT-APPL-SN-723804	c 09	N71-24806 *
US-PATENT-APPL-SN-691735	c 09	N71-12520 *	US-PATENT-APPL-SN-706681	c 35	N86-32696 *	US-PATENT-APPL-SN-723805	c 10	N71-26339 *
US-PATENT-APPL-SN-691736	c 18	N71-16210 *	US-PATENT-APPL-SN-706682	c 24	N86-28131 *	US-PATENT-APPL-SN-723827	c 10	N71-27137 *
US-PATENT-APPL-SN-691737	c 07	N71-24742 *	US-PATENT-APPL-SN-707124	c 44	N77-22606 *	US-PATENT-APPL-SN-724551	c 15	N71-17696 *
US-PATENT-APPL-SN-691738	c 08	N71-18694 *	US-PATENT-APPL-SN-707125	c 39	N78-16387 *	US-PATENT-APPL-SN-724874	c 76	N78-24950 *
US-PATENT-APPL-SN-691739	c 32	N71-15974 *	US-PATENT-APPL-SN-707440	c 06	N73-30102 *	US-PATENT-APPL-SN-725405	c 15	N71-26134 *
US-PATENT-APPL-SN-691909	c 05	N71-24606 *	US-PATENT-APPL-SN-707495	c 11	N71-18773 *	US-PATENT-APPL-SN-725432	c 07	N71-24622 *
US-PATENT-APPL-SN-691936	c 26	N77-32279 *	US-PATENT-APPL-SN-708658	c 33	N77-26385 *	US-PATENT-APPL-SN-725475	c 31	N71-15643 *
US-PATENT-APPL-SN-692029	c 15	N72-21463 *	US-PATENT-APPL-SN-708660	c 34	N78-27357 *	US-PATENT-APPL-SN-725686	c 27	N87-15304 *
US-PATENT-APPL-SN-692284	c 27	N78-14164 *	US-PATENT-APPL-SN-708771	c 26	N78-24333 *	US-PATENT-APPL-SN-725689	c 37	N87-17037 *
US-PATENT-APPL-SN-692331	c 10	N71-26326 *	US-PATENT-APPL-SN-708795	c 37	N77-28487 *	US-PATENT-APPL-SN-725714	c 33	N89-14384 *
US-PATENT-APPL-SN-692332	c 07	N71-11281 *	US-PATENT-APPL-SN-708796	c 36	N78-18410 *	US-PATENT-APPL-SN-725719	c 15	N71-26243 *
US-PATENT-APPL-SN-692413	c 25	N78-25148 *	US-PATENT-APPL-SN-708800	c 54	N78-17676 *	US-PATENT-APPL-SN-725725	c 27	N87-16908 *
US-PATENT-APPL-SN-692414	c 32	N77-24331 *	US-PATENT-APPL-SN-708951	c 27	N78-31232 *	US-PATENT-APPL-SN-725727	c 27	N87-22845 *
US-PATENT-APPL-SN-692471	c 09	N71-12518 *	US-PATENT-APPL-SN-709255	c 37	N86-32738 *	US-PATENT-APPL-SN-726898	c 12	N71-17579 *
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US-PATENT-APPL-SN-692745	c 36	N87-17026 *	US-PATENT-APPL-SN-709398	c 06	N71-13461 *	US-PATENT-APPL-SN-727035	c 33	N86-32624 *
US-PATENT-APPL-SN-692801	c 37	N87-22977 *	US-PATENT-APPL-SN-709399	c 16	N71-26154 *	US-PATENT-APPL-SN-727444	c 31	N81-15154 *
US-PATENT-APPL-SN-692802	c 37	N87-17034 *	US-PATENT-APPL-SN-709415	c 44	N78-27515 *	US-PATENT-APPL-SN-727480	c 14	N71-17658 *
US-PATENT-APPL-SN-692875	c 37	N86-20788 *	US-PATENT-APPL-SN-709622	c 33	N71-24858 *	US-PATENT-APPL-SN-727503	c 08	N81-19130 *
US-PATENT-APPL-SN-693074	c 44	N78-24609 *	US-PATENT-APPL-SN-70967	c 07	N73-13149 *	US-PATENT-APPL-SN-727838	c 33	N86-20681 *
US-PATENT-APPL-SN-693419	c 31	N71-16222 *	US-PATENT-APPL-SN-70967	c 32	N74-10132 *	US-PATENT-APPL-SN-727931	c 33	N88-24862 *
US-PATENT-APPL-SN-693420	c 31	N71-16080 *	US-PATENT-APPL-SN-709849	c 52	N77-25772 *	US-PATENT-APPL-SN-728234	c 03	N71-12255 *
US-PATENT-APPL-SN-694246	c 15	N71-26673 *	US-PATENT-APPL-SN-710032	c 54	N77-30749 *	US-PATENT-APPL-SN-728369	c 52	N76-33835 *
US-PATENT-APPL-SN-694247	c 09	N69-21927 *	US-PATENT-APPL-SN-710035	c 44	N78-24608 *	US-PATENT-APPL-SN-729299	c 03	N72-15986 *
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US-PATENT-APPL-SN-694340	c 11	N71-17600 *	US-PATENT-APPL-SN-710047	c 09	N72-21247 *	US-PATENT-APPL-SN-729719	c 32	N87-25511 *
US-PATENT-APPL-SN-694345	c 10	N71-23669 *	US-PATENT-APPL-SN-710048	c 18	N73-12604 *	US-PATENT-APPL-SN-729766	c 09	N87-14355 *
US-PATENT-APPL-SN-694406	c 35	N79-10389 *	US-PATENT-APPL-SN-710533	c 02	N71-11043 *	US-PATENT-APPL-SN-729767	c 24	N87-27742 *
US-PATENT-APPL-SN-694407	c 27	N80-23452 *	US-PATENT-APPL-SN-710561	c 09	N71-12517 *	US-PATENT-APPL-SN-729768	c 72	N87-21660 *
US-PATENT-APPL-SN-694855	c 33	N77-30365 *	US-PATENT-APPL-SN-710562	c 31	N71-16085 *	US-PATENT-APPL-SN-730045	c 32	N78-24391 *
US-PATENT-APPL-SN-69488	c 23	N75-14834 *	US-PATENT-APPL-SN-710621	c 06	N73-27086 *	US-PATENT-APPL-SN-730046	c 35	N78-32396 *
US-PATENT-APPL-SN-695513	c 07	N78-25089 *	US-PATENT-APPL-SN-710945	c 33	N71-15568 *	US-PATENT-APPL-SN-730162	c 09	N71-18599 *
US-PATENT-APPL-SN-695973	c 05	N71-12343 *	US-PATENT-APPL-SN-710949	c 12	N71-17631 *	US-PATENT-APPL-SN-730468	c 25	N79-11152 *
US-PATENT-APPL-SN-696374	c 44	N80-29835 *	US-PATENT-APPL-SN-711898	c 18	N71-24934 *	US-PATENT-APPL-SN-730700	c 07	N71-24583 *
US-PATENT-APPL-SN-696679	c 38	N79-14398 *	US-PATENT-APPL-SN-711903	c 18	N71-26772 *	US-PATENT-APPL-SN-730701	c 12	N71-18615 *
US-PATENT-APPL-SN-696989	c 27	N77-30237 *	US-PATENT-APPL-SN-711921	c 18	N71-16105 *	US-PATENT-APPL-SN-730702	c 33	N71-16356 *
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US-PATENT-APPL-SN-697341	c 09	N71-23188 *	US-PATENT-APPL-SN-711971	c 09	N71-23598 *	US-PATENT-APPL-SN-730733	c 28	N71-16224 *
US-PATENT-APPL-SN-698239	c 33	N78-17294 *	US-PATENT-APPL-SN-711972	c 06	N71-24607 *	US-PATENT-APPL-SN-730734	c 15	N71-17654 *
US-PATENT-APPL-SN-698279	c 37	N87-22976 *	US-PATENT-APPL-SN-712065	c 08	N71-12503 *	US-PATENT-APPL-SN-730778	c 32	N79-10264 *
US-PATENT-APPL-SN-698592	c 15	N71-18580 *	US-PATENT-APPL-SN-712099	c 23	N71-24868 *	US-PATENT-APPL-SN-731388	c 15	N71-24835 *
US-PATENT-APPL-SN-698629	c 09	N71-12516 *	US-PATENT-APPL-SN-712270	c 52	N79-27836 *	US-PATENT-APPL-SN-732321	c 33	N87-28832 *
US-PATENT-APPL-SN-698630	c 09	N71-24841 *	US-PATENT-APPL-SN-712419	c 35	N78-14364 *	US-PATENT-APPL-SN-732455	c 22	N71-28759 *
US-PATENT-APPL-SN-698641	c 74	N86-28732 *	US-PATENT-APPL-SN-712658	c 07	N71-19773 *	US-PATENT-APPL-SN-732630	c 36	N78-14380 *
US-PATENT-APPL-SN-698646	c 24	N78-15180 *	US-PATENT-APPL-SN-712981	c 31	N78-25256 *	US-PATENT-APPL-SN-732833	c 15	N72-28495 *
US-PATENT-APPL-SN-699002	c 32	N78-15323 *	US-PATENT-APPL-SN-713027	c 37	N79-10419 *	US-PATENT-APPL-SN-732917	c 14	N71-17575 *
US-PATENT-APPL-SN-699012	c 33	N78-27326 *	US-PATENT-APPL-SN-713162	c 06	N71-26754 *	US-PATENT-APPL-SN-732921	c 10	N71-26544 *
US-PATENT-APPL-SN-700040	c 18	N72-23581 *	US-PATENT-APPL-SN-713168	c 08	N71-33110 *	US-PATENT-APPL-SN-732922	c 17	N71-28747 *
US-PATENT-APPL-SN-700120	c 15	N71-20440 *	US-PATENT-APPL-SN-713449	c 74	N87-25843 *	US-PATENT-APPL-SN-733039	c 07	N72-12081 *
US-PATENT-APPL-SN-700142	c 21	N71-14159 *	US-PATENT-APPL-SN-713616	c 06	N71-27363 *	US-PATENT-APPL-SN-73310	c 09	N72-25247 *
US-PATENT-APPL-SN-700174	c 02	N71-20570 *	US-PATENT-APPL-SN-714051	c 33	N86-21742 *	US-PATENT-APPL-SN-73367	c 14	N71-15969 *
US-PATENT-APPL-SN-700255	c 33	N87-21234 *	US-PATENT-APPL-SN-714158	c 33	N78-13320 *	US-PATENT-APPL-SN-733825	c 31	N79-11246 *
US-PATENT-APPL-SN-70032	c 11	N73-12264 *	US-PATENT-APPL-SN-714296	c 14	N71-15604 *	US-PATENT-APPL-SN-73422	c 15	N72-25454 *
US-PATENT								

US-PATENT-APPL-SN-734902	c 24	N78-14096 *	US-PATENT-APPL-SN-753985	c 54	N78-31735 *	US-PATENT-APPL-SN-765980	c 27	N86-27451 *
US-PATENT-APPL-SN-735911	c 14	N70-41946 *	US-PATENT-APPL-SN-753985	c 54	N79-24651 *	US-PATENT-APPL-SN-765981	c 74	N87-28416 *
US-PATENT-APPL-SN-736286	c 32	N79-11265 *	US-PATENT-APPL-SN-753971	c 71	N84-14873 *	US-PATENT-APPL-SN-765991	c 35	N86-26598 *
US-PATENT-APPL-SN-736848	c 23	N71-16212 *	US-PATENT-APPL-SN-753974	c 16	N71-33410 *	US-PATENT-APPL-SN-766170	c 07	N71-24625 *
US-PATENT-APPL-SN-736909	c 37	N79-11404 *	US-PATENT-APPL-SN-753976	c 54	N78-17675 *	US-PATENT-APPL-SN-766244	c 15	N71-26721 *
US-PATENT-APPL-SN-736910	c 27	N78-32260 *	US-PATENT-APPL-SN-753977	c 74	N79-12890 *	US-PATENT-APPL-SN-766245	c 14	N71-27215 *
US-PATENT-APPL-SN-737018	c 37	N86-20801 *	US-PATENT-APPL-SN-753978	c 54	N78-32721 *	US-PATENT-APPL-SN-766697	c 09	N71-33519 *
US-PATENT-APPL-SN-737974	c 33	N78-18308 *	US-PATENT-APPL-SN-754019	c 09	N71-25999 *	US-PATENT-APPL-SN-7668	c 15	N71-26611 *
US-PATENT-APPL-SN-737975	c 32	N84-27952 *	US-PATENT-APPL-SN-754020	c 12	N71-27332 *	US-PATENT-APPL-SN-766999	c 33	N80-23559 *
US-PATENT-APPL-SN-738119	c 18	N71-15545 *	US-PATENT-APPL-SN-754055	c 07	N71-24624 *	US-PATENT-APPL-SN-7669	c 31	N72-18859 *
US-PATENT-APPL-SN-738218	c 37	N78-27425 *	US-PATENT-APPL-SN-754066	c 39	N78-15512 *	US-PATENT-APPL-SN-767741	c 09	N72-27228 *
US-PATENT-APPL-SN-738314	c 12	N71-17573 *	US-PATENT-APPL-SN-75431	c 21	N72-31637 *	US-PATENT-APPL-SN-767911	c 09	N78-31129 *
US-PATENT-APPL-SN-738315	c 14	N71-27334 *	US-PATENT-APPL-SN-754362	c 27	N87-21112 *	US-PATENT-APPL-SN-767912	c 27	N79-14214 *
US-PATENT-APPL-SN-738315	c 14	N72-31446 *	US-PATENT-APPL-SN-754707	c 33	N87-22895 *	US-PATENT-APPL-SN-768336	c 15	N71-17648 *
US-PATENT-APPL-SN-73834	c 15	N72-23497 *	US-PATENT-APPL-SN-755288	c 34	N87-22950 *	US-PATENT-APPL-SN-768470	c 09	N71-28421 *
US-PATENT-APPL-SN-738931	c 35	N86-20756 *	US-PATENT-APPL-SN-755288	c 34	N88-23958 *	US-PATENT-APPL-SN-768473	c 14	N71-17657 *
US-PATENT-APPL-SN-739072	c 33	N75-27251 *	US-PATENT-APPL-SN-755310	c 25	N78-15210 *	US-PATENT-APPL-SN-768662	c 07	N73-25160 *
US-PATENT-APPL-SN-73922	c 14	N73-25461 *	US-PATENT-APPL-SN-755323	c 74	N79-11865 *	US-PATENT-APPL-SN-768795	c 33	N79-10339 *
US-PATENT-APPL-SN-73932	c 15	N72-22485 *	US-PATENT-APPL-SN-755960	c 31	N88-29052 *	US-PATENT-APPL-SN-768942	c 46	N74-23068 *
US-PATENT-APPL-SN-739391	c 09	N72-17156 *	US-PATENT-APPL-SN-756260	c 23	N71-26722 *	US-PATENT-APPL-SN-76899	c 09	N72-22201 *
US-PATENT-APPL-SN-739760	c 27	N86-31726 *	US-PATENT-APPL-SN-756266	c 15	N71-26145 *	US-PATENT-APPL-SN-769148	c 52	N79-10724 *
US-PATENT-APPL-SN-739788	c 37	N88-14360 *	US-PATENT-APPL-SN-756381	c 06	N71-25929 *	US-PATENT-APPL-SN-769149	c 33	N78-32339 *
US-PATENT-APPL-SN-739789	c 34	N85-29182 *	US-PATENT-APPL-SN-756511	c 09	N71-27016 *	US-PATENT-APPL-SN-769592	c 15	N72-16330 *
US-PATENT-APPL-SN-739792	c 33	N87-28833 *	US-PATENT-APPL-SN-756834	c 15	N72-21466 *	US-PATENT-APPL-SN-769665	c 15	N72-11387 *
US-PATENT-APPL-SN-739908	c 15	N78-25119 *	US-PATENT-APPL-SN-757017	c 35	N77-21393 *	US-PATENT-APPL-SN-769788	c 07	N71-11300 *
US-PATENT-APPL-SN-739909	c 37	N78-24545 *	US-PATENT-APPL-SN-757625	c 09	N71-26701 *	US-PATENT-APPL-SN-770203	c 05	N71-11195 *
US-PATENT-APPL-SN-739914	c 33	N78-10375 *	US-PATENT-APPL-SN-757857	c 10	N71-25900 *	US-PATENT-APPL-SN-770209	c 08	N71-27057 *
US-PATENT-APPL-SN-739915	c 37	N78-24544 *	US-PATENT-APPL-SN-757861	c 05	N71-11194 *	US-PATENT-APPL-SN-770371	c 15	N71-24599 *
US-PATENT-APPL-SN-739927	c 32	N71-16103 *	US-PATENT-APPL-SN-757875	c 09	N71-24805 *	US-PATENT-APPL-SN-770398	c 06	N71-27254 *
US-PATENT-APPL-SN-740153	c 28	N79-11231 *	US-PATENT-APPL-SN-758082	c 15	N71-17805 *	US-PATENT-APPL-SN-770398	c 06	N72-27144 *
US-PATENT-APPL-SN-740155	c 74	N78-27904 *	US-PATENT-APPL-SN-758390	c 28	N71-26642 *	US-PATENT-APPL-SN-770417	c 06	N73-33076 *
US-PATENT-APPL-SN-740156	c 71	N78-14867 *	US-PATENT-APPL-SN-758540	c 28	N73-27699 *	US-PATENT-APPL-SN-770425	c 06	N72-20121 *
US-PATENT-APPL-SN-740457	c 35	N78-32395 *	US-PATENT-APPL-SN-758721	c 52	N79-18580 *	US-PATENT-APPL-SN-770689	c 44	N78-25527 *
US-PATENT-APPL-SN-741056	c 07	N81-19116 *	US-PATENT-APPL-SN-758942	c 27	N71-14090 *	US-PATENT-APPL-SN-770920	c 37	N86-32736 *
US-PATENT-APPL-SN-741405	c 23	N86-21582 *	US-PATENT-APPL-SN-759220	c 27	N78-17214 *	US-PATENT-APPL-SN-771216	c 14	N72-17329 *
US-PATENT-APPL-SN-741461	c 12	N71-18603 *	US-PATENT-APPL-SN-759256	c 07	N71-27233 *	US-PATENT-APPL-SN-771245	c 27	N81-14076 *
US-PATENT-APPL-SN-741749	c 52	N79-14751 *	US-PATENT-APPL-SN-759457	c 33	N71-16357 *	US-PATENT-APPL-SN-771523	c 10	N71-18772 *
US-PATENT-APPL-SN-741824	c 07	N71-12389 *	US-PATENT-APPL-SN-759460	c 09	N71-24597 *	US-PATENT-APPL-SN-771530	c 09	N72-12136 *
US-PATENT-APPL-SN-742034	c 33	N78-10377 *	US-PATENT-APPL-SN-759665	c 14	N71-18481 *	US-PATENT-APPL-SN-771537	c 37	N87-23981 *
US-PATENT-APPL-SN-742816	c 14	N71-17656 *	US-PATENT-APPL-SN-759665	c 52	N79-26771 *	US-PATENT-APPL-SN-771538	c 24	N86-25416 *
US-PATENT-APPL-SN-743249	c 35	N77-32456 *	US-PATENT-APPL-SN-760057	c 44	N79-14527 *	US-PATENT-APPL-SN-77169	c 14	N72-21408 *
US-PATENT-APPL-SN-743429	c 07	N71-11285 *	US-PATENT-APPL-SN-760114	c 28	N72-11709 *	US-PATENT-APPL-SN-771759	c 09	N71-29008 *
US-PATENT-APPL-SN-743525	c 07	N71-28430 *	US-PATENT-APPL-SN-760374	c 27	N87-16909 *	US-PATENT-APPL-SN-771760	c 10	N71-25917 *
US-PATENT-APPL-SN-744477	c 33	N78-25319 *	US-PATENT-APPL-SN-760374	c 23	N88-24692 *	US-PATENT-APPL-SN-771803	c 07	N71-12391 *
US-PATENT-APPL-SN-744522	c 33	N77-21314 *	US-PATENT-APPL-SN-760378	c 37	N86-32737 *	US-PATENT-APPL-SN-771937	c 10	N71-24862 *
US-PATENT-APPL-SN-744573	c 44	N78-25531 *	US-PATENT-APPL-SN-760389	c 09	N71-24618 *	US-PATENT-APPL-SN-772006	c 17	N71-33408 *
US-PATENT-APPL-SN-744574	c 25	N78-14104 *	US-PATENT-APPL-SN-760771	c 44	N79-14528 *	US-PATENT-APPL-SN-772165	c 74	N79-13855 *
US-PATENT-APPL-SN-744577	c 35	N79-10391 *	US-PATENT-APPL-SN-760790	c 36	N87-28006 *	US-PATENT-APPL-SN-772167	c 25	N79-22235 *
US-PATENT-APPL-SN-744910	c 15	N71-17649 *	US-PATENT-APPL-SN-760791	c 27	N87-14515 *	US-PATENT-APPL-SN-772168	c 37	N79-20377 *
US-PATENT-APPL-SN-745337	c 28	N72-20758 *	US-PATENT-APPL-SN-760797	c 27	N87-16907 *	US-PATENT-APPL-SN-77220	c 14	N72-27409 *
US-PATENT-APPL-SN-745384	c 25	N79-11151 *	US-PATENT-APPL-SN-760799	c 54	N87-29118 *	US-PATENT-APPL-SN-77221	c 08	N72-25210 *
US-PATENT-APPL-SN-745766	c 37	N79-11403 *	US-PATENT-APPL-SN-760809	c 24	N78-24290 *	US-PATENT-APPL-SN-772434	c 52	N80-14687 *
US-PATENT-APPL-SN-745852	c 12	N71-17661 *	US-PATENT-APPL-SN-760810	c 26	N78-32229 *	US-PATENT-APPL-SN-77251	c 25	N70-41628 *
US-PATENT-APPL-SN-745973	c 36	N86-29204 *	US-PATENT-APPL-SN-760819	c 14	N70-34820 *	US-PATENT-APPL-SN-77252	c 02	N70-37939 *
US-PATENT-APPL-SN-745977	c 35	N87-14671 *	US-PATENT-APPL-SN-760927	c 26	N71-25490 *	US-PATENT-APPL-SN-77256	c 15	N70-33323 *
US-PATENT-APPL-SN-746160	c 37	N86-20797 *	US-PATENT-APPL-SN-760928	c 15	N71-28582 *	US-PATENT-APPL-SN-773029	c 09	N71-24893 *
US-PATENT-APPL-SN-746269	c 44	N78-25528 *	US-PATENT-APPL-SN-761007	c 18	N71-26155 *	US-PATENT-APPL-SN-773072	c 10	N72-28241 *
US-PATENT-APPL-SN-746578	c 12	N79-26075 *	US-PATENT-APPL-SN-761235	c 27	N86-32569 *	US-PATENT-APPL-SN-773530	c 25	N75-29192 *
US-PATENT-APPL-SN-746579	c 33	N81-27397 *	US-PATENT-APPL-SN-761252	c 27	N80-32515 *	US-PATENT-APPL-SN-774151	c 15	N71-17692 *
US-PATENT-APPL-SN-746580	c 34	N78-17335 *	US-PATENT-APPL-SN-761310	c 25	N88-23846 *	US-PATENT-APPL-SN-774265	c 10	N71-27365 *
US-PATENT-APPL-SN-746809	c 35	N87-22953 *	US-PATENT-APPL-SN-761404	c 09	N71-12526 *	US-PATENT-APPL-SN-774266	c 15	N71-26185 *
US-PATENT-APPL-SN-74759	c 14	N73-20478 *	US-PATENT-APPL-SN-762362	c 44	N79-24433 *	US-PATENT-APPL-SN-774384	c 32	N79-10262 *
US-PATENT-APPL-SN-747674	c 27	N80-26446 *	US-PATENT-APPL-SN-762363	c 44	N79-24432 *	US-PATENT-APPL-SN-774691	c 10	N72-31273 *
US-PATENT-APPL-SN-747675	c 37	N78-31426 *	US-PATENT-APPL-SN-762438	c 12	N71-17569 *	US-PATENT-APPL-SN-774733	c 14	N72-24477 *
US-PATENT-APPL-SN-748536	c 33	N86-20680 *	US-PATENT-APPL-SN-762935	c 14	N71-29041 *	US-PATENT-APPL-SN-775072	c 16	N71-24831 *
US-PATENT-APPL-SN-74861	c 27	N72-25699 *	US-PATENT-APPL-SN-762936	c 31	N69-27499 *	US-PATENT-APPL-SN-775239	c 37	N79-14382 *
US-PATENT-APPL-SN-74862	c 27	N73-16764 *	US-PATENT-APPL-SN-762956	c 14	N71-26627 *	US-PATENT-APPL-SN-775548	c 33	N87-21233 *
US-PATENT-APPL-SN-749121	c 07	N72-11149 *	US-PATENT-APPL-SN-762957	c 08	N71-27210 *	US-PATENT-APPL-SN-775870	c 09	N71-24800 *
US-PATENT-APPL-SN-749148	c 10	N71-19421 *	US-PATENT-APPL-SN-763040	c 14	N72-28438 *	US-PATENT-APPL-SN-775870	c 09	N72-22196 *
US-PATENT-APPL-SN-749149	c 15	N71-24897 *	US-PATENT-APPL-SN-763355	c 06	N71-28620 *	US-PATENT-APPL-SN-775877	c 02	N71-11039 *
US-PATENT-APPL-SN-749181	c 09	N71-24803 *	US-PATENT-APPL-SN-763684	c 15	N72-16329 *	US-PATENT-APPL-SN-775966	c 02	N71-10377 *
US-PATENT-APPL-SN-749320	c 14	N72-22443 *	US-PATENT-APPL-SN-763685	c 15	N71-24910 *	US-PATENT-APPL-SN-775968	c 31	N87-21160 *
US-PATENT-APPL-SN-749420	c 04	N82-16059 *	US-PATENT-APPL-SN-763705	c 09	N71-18720 *	US-PATENT-APPL-SN-775989	c 71	N87-21653 *
US-PATENT-APPL-SN-749548	c 10	N71-33129 *	US-PATENT-APPL-SN-763706	c 15	N71-24896 *	US-PATENT-APPL-SN-775990	c 17	N87-25348 *
US-PATENT-APPL-SN-750031	c 05	N73-32012 *	US-PATENT-APPL-SN-763729	c 12	N71-26546 *	US-PATENT-APPL-SN-776029	c 07	N79-10057 *
US-PATENT-APPL-SN-750235	c 25	N75-14844 *	US-PATENT-APPL-SN-763743	c 14	N72-21409 *	US-PATENT-APPL-SN-776146	c 44	N79-17313 *
US-PATENT-APPL-SN-750655	c 74	N78-32854 *	US-PATENT-APPL-SN-763744	c 10	N72-27246 *	US-PATENT-APPL-SN-776146	c 25	N82-21268 *
US-PATENT-APPL-SN-750786	c 07	N71-27341 *	US-PATENT-APPL-SN-763753	c 43	N78-14452 *	US-PATENT-APPL-SN-776185	c 03	N72-22041 *
US-PATENT-APPL-SN-750787	c 10	N71-27126 *	US-PATENT-APPL-SN-763868	c 15	N71-24679 *	US-PATENT-APPL-SN-77764	c 15	N71-27214 *
US-PATENT-APPL-SN-750792	c 37	N79-11402 *	US-PATENT-APPL-SN-763869	c 17	N71-16393 *	US-PATENT-APPL-SN-777765	c 15	N71-29018 *
US-PATENT-APPL-SN-750798	c 85	N79-17747 *	US-PATENT-APPL-SN-764245	c 24	N80-33482 *	US-PATENT-APPL-SN-777765	c 14	N73-28487 *
US-PATENT-APPL-SN-751061	c 18	N71-29040 *	US-PATENT-APPL-SN-764252	c 14	N71-25901 *	US-PATENT-APPL-SN-777766	c 31	N71-16221 *
US-PATENT-APPL-SN-751198	c 03	N71-24718 *	US-PATENT-APPL-SN-764470	c 16	N71-28554 *	US-PATENT-APPL-SN-777818	c 09	N71-27364 *
US-PATENT-APPL-SN-751215	c 22	N72-20597 *	US-PATENT-APPL-SN-764805	c 37	N87-17036 *	US-PATENT-APPL-SN-77786	c 14	N72-27412 *
US-PATENT-APPL-SN-751266	c 15	N71-33518 *	US-PATENT-APPL-SN-764812	c 10	N71-19468 *	US-PATENT-APPL-SN-777983	c 32	N79-24210 *
US-PATENT-APPL-SN-751644	c 85	N87-21755 *	US-PATENT-APPL-SN-764812	c 76	N88-24543 *	US-PATENT-APPL-SN-778195	c 24	N79-16915 *
US-PATENT-APPL-SN-751691	c 37	N87-21332 *	US-PATENT-APPL-SN-764823	c 33	N78-17296 *	US-PATENT-APPL-SN-77869	c 37	N79-21345 *
US-PATENT-APPL-SN-751695	c 71	N87-21652 *	US-PATENT-APPL-SN-765123	c 31	N71-15687 *	US-PATENT-APPL-SN-779024	c 10	N71-27271 *
US-PATENT-APPL-SN-752050	c 07	N81-19115 *	US-PATENT-APPL-SN-765138	c 44	N79-10513 *	US-PATENT-APPL-SN-779025	c 09	N72-23171 *
US-PATENT-APPL-SN-752729	c 09	N71-26787 *	US-PATENT-APPL-SN-765139	c 44	N78-31526 *	US-PATENT-APPL-SN-779160	c 14	N72-16282 *
US-PATENT-APPL-SN-752748	c 35	N78-25391 *	US-PATENT-APPL-SN-765165	c 32	N79-11264 *	US-PATENT-APPL-SN-779169	c 09	N71-28618 *
US-PATENT-APPL-SN-752946	c 15	N71-29032 *	US-PATENT-APPL-SN-765167	c 32	N79-10263 *	US-PATENT-APPL-SN-779415	c 60	N79-20751 *
US-PATENT-APPL-SN-752947	c 31	N71-15689 *	US-PATENT-APPL-SN-765264	c 02	N71-29128 *	US-PATENT-APPL-SN-779428	c 34	N78-25351 *
US-PATENT-APPL-SN-753103								



US-PATENT-APPL-SN-779871	c 33	N79-20314 *	US-PATENT-APPL-SN-795945	c 37	N87-25573 *	US-PATENT-APPL-SN-811037	c 14	N71-26137 *
US-PATENT-APPL-SN-779883	c 27	N79-18052 *	US-PATENT-APPL-SN-796053	c 37	N87-22985 *	US-PATENT-APPL-SN-811038	c 14	N72-20380 *
US-PATENT-APPL-SN-780064	c 15	N71-27372 *	US-PATENT-APPL-SN-796256	c 52	N80-18691 *	US-PATENT-APPL-SN-811401	c 31	N81-25258 *
US-PATENT-APPL-SN-780065	c 12	N71-28741 *	US-PATENT-APPL-SN-796258	c 52	N82-22875 *	US-PATENT-APPL-SN-811509	c 02	N70-33332 *
US-PATENT-APPL-SN-780569	c 54	N78-31736 *	US-PATENT-APPL-SN-796263	c 27	N79-28307 *	US-PATENT-APPL-SN-811542	c 21	N71-24948 *
US-PATENT-APPL-SN-78065	c 08	N72-22162 *	US-PATENT-APPL-SN-796358	c 05	N72-11085 *	US-PATENT-APPL-SN-811815	c 44	N78-31525 *
US-PATENT-APPL-SN-78065	c 08	N72-22162 *	US-PATENT-APPL-SN-796360	c 15	N71-24696 *	US-PATENT-APPL-SN-811892	c 14	N71-27090 *
US-PATENT-APPL-SN-780728	c 32	N78-31321 *	US-PATENT-APPL-SN-796370	c 10	N71-27366 *	US-PATENT-APPL-SN-812447	c 71	N79-20827 *
US-PATENT-APPL-SN-780729	c 33	N79-22373 *	US-PATENT-APPL-SN-796405	c 14	N71-27185 *	US-PATENT-APPL-SN-812998	c 28	N72-22769 *
US-PATENT-APPL-SN-780873	c 32	N81-27341 *	US-PATENT-APPL-SN-796685	c 26	N72-28782 *	US-PATENT-APPL-SN-812999	c 05	N71-12345 *
US-PATENT-APPL-SN-780874	c 35	N78-28411 *	US-PATENT-APPL-SN-796690	c 07	N72-21119 *	US-PATENT-APPL-SN-813338	c 18	N72-22566 *
US-PATENT-APPL-SN-780938	c 54	N80-10799 *	US-PATENT-APPL-SN-796691	c 10	N71-26334 *	US-PATENT-APPL-SN-813488	c 15	N71-28467 *
US-PATENT-APPL-SN-781812	c 36	N87-23960 *	US-PATENT-APPL-SN-797056	c 15	N71-25975 *	US-PATENT-APPL-SN-813494	c 08	N72-11171 *
US-PATENT-APPL-SN-781813	c 27	N87-14516 *	US-PATENT-APPL-SN-797057	c 15	N70-22192 *	US-PATENT-APPL-SN-814004	c 33	N79-18193 *
US-PATENT-APPL-SN-782462	c 33	N79-17133 *	US-PATENT-APPL-SN-797058	c 05	N71-24738 *	US-PATENT-APPL-SN-814005	c 76	N79-14906 *
US-PATENT-APPL-SN-782463	c 72	N79-13826 *	US-PATENT-APPL-SN-797059	c 15	N71-28465 *	US-PATENT-APPL-SN-814006	c 37	N79-22475 *
US-PATENT-APPL-SN-782464	c 32	N79-14267 *	US-PATENT-APPL-SN-797210	c 28	N78-31255 *	US-PATENT-APPL-SN-814212	c 14	N72-17326 *
US-PATENT-APPL-SN-782480	c 33	N78-32340 *	US-PATENT-APPL-SN-797219	c 03	N71-33409 *	US-PATENT-APPL-SN-814378	c 25	N79-10162 *
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US-PATENT-APPL-SN-782482	c 33	N79-11315 *	US-PATENT-APPL-SN-797795	c 07	N71-27191 *	US-PATENT-APPL-SN-815103	c 60	N89-26400 *
US-PATENT-APPL-SN-782544	c 14	N71-27325 *	US-PATENT-APPL-SN-797796	c 28	N71-14058 *	US-PATENT-APPL-SN-815106	c 60	N88-24169 *
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US-PATENT-APPL-SN-782955	c 07	N71-33108 *	US-PATENT-APPL-SN-798976	c 52	N81-25661 *	US-PATENT-APPL-SN-815367	c 14	N71-28863 *
US-PATENT-APPL-SN-782956	c 10	N71-25865 *	US-PATENT-APPL-SN-799013	c 09	N71-28468 *	US-PATENT-APPL-SN-815760	c 15	N71-27068 *
US-PATENT-APPL-SN-783374	c 15	N71-27147 *	US-PATENT-APPL-SN-799023	c 37	N79-10421 *	US-PATENT-APPL-SN-816733	c 15	N71-27084 *
US-PATENT-APPL-SN-783375	c 07	N71-24621 *	US-PATENT-APPL-SN-799024	c 24	N78-17149 *	US-PATENT-APPL-SN-816988	c 14	N71-26199 *
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US-PATENT-APPL-SN-783378	c 07	N71-19436 *	US-PATENT-APPL-SN-799026	c 44	N79-11468 *	US-PATENT-APPL-SN-817415	c 74	N79-20857 *
US-PATENT-APPL-SN-783379	c 15	N71-17653 *	US-PATENT-APPL-SN-799353	c 09	N71-27232 *	US-PATENT-APPL-SN-817481	c 09	N72-11225 *
US-PATENT-APPL-SN-783886	c 37	N87-17035 *	US-PATENT-APPL-SN-799832	c 33	N79-15245 *	US-PATENT-APPL-SN-817482	c 10	N71-27338 *
US-PATENT-APPL-SN-783887	c 36	N87-25567 *	US-PATENT-APPL-SN-800193	c 37	N87-17038 *	US-PATENT-APPL-SN-817569	c 06	N69-31244 *
US-PATENT-APPL-SN-783888	c 37	N87-25582 *	US-PATENT-APPL-SN-800194	c 76	N88-14835 *	US-PATENT-APPL-SN-818349	c 21	N71-19212 *
US-PATENT-APPL-SN-783890	c 74	N87-17493 *	US-PATENT-APPL-SN-800204	c 06	N72-17094 *	US-PATENT-APPL-SN-818916	c 05	N79-17847 *
US-PATENT-APPL-SN-783890	c 74	N87-25843 *	US-PATENT-APPL-SN-800209	c 14	N73-32320 *	US-PATENT-APPL-SN-818917	c 32	N79-13214 *
US-PATENT-APPL-SN-784055	c 15	N72-11390 *	US-PATENT-APPL-SN-800229	c 74	N74-20008 *	US-PATENT-APPL-SN-819029	c 20	N82-18314 *
US-PATENT-APPL-SN-784521	c 14	N71-15620 *	US-PATENT-APPL-SN-800373	c 16	N71-24832 *	US-PATENT-APPL-SN-819599	c 15	N71-19214 *
US-PATENT-APPL-SN-784544	c 15	N72-12408 *	US-PATENT-APPL-SN-801290	c 37	N79-18318 *	US-PATENT-APPL-SN-819898	c 30	N72-17873 *
US-PATENT-APPL-SN-785078	c 03	N72-27053 *	US-PATENT-APPL-SN-801290	c 37	N80-26658 *	US-PATENT-APPL-SN-8203	c 15	N70-33180 *
US-PATENT-APPL-SN-785257	c 44	N79-14526 *	US-PATENT-APPL-SN-801290	c 37	N82-19540 *	US-PATENT-APPL-SN-820453	c 03	N72-24037 *
US-PATENT-APPL-SN-785279	c 27	N81-14077 *	US-PATENT-APPL-SN-801312	c 16	N71-15565 *	US-PATENT-APPL-SN-820498	c 89	N79-10969 *
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US-PATENT-APPL-SN-785595	c 10	N71-24861 *	US-PATENT-APPL-SN-801432	c 33	N78-32341 *	US-PATENT-APPL-SN-8204	c 31	N70-37981 *
US-PATENT-APPL-SN-785611	c 15	N71-24600 *	US-PATENT-APPL-SN-801452	c 44	N79-11471 *	US-PATENT-APPL-SN-820963	c 07	N71-19854 *
US-PATENT-APPL-SN-785613	c 05	N72-25119 *	US-PATENT-APPL-SN-801660	c 14	N71-26672 *	US-PATENT-APPL-SN-820964	c 15	N71-28740 *
US-PATENT-APPL-SN-785615	c 05	N72-20098 *	US-PATENT-APPL-SN-802769	c 76	N86-25269 *	US-PATENT-APPL-SN-820965	c 09	N71-13486 *
US-PATENT-APPL-SN-785620	c 21	N71-27324 *	US-PATENT-APPL-SN-802812	c 10	N72-22235 *	US-PATENT-APPL-SN-821586	c 26	N71-14354 *
US-PATENT-APPL-SN-785710	c 05	N71-24730 *	US-PATENT-APPL-SN-802813	c 15	N72-22487 *	US-PATENT-APPL-SN-821681	c 35	N78-27384 *
US-PATENT-APPL-SN-785780	c 18	N71-28729 *	US-PATENT-APPL-SN-802816	c 31	N71-16346 *	US-PATENT-APPL-SN-822039	c 06	N72-25149 *
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US-PATENT-APPL-SN-7867	c 14	N72-17324 *	US-PATENT-APPL-SN-802820	c 10	N71-13545 *	US-PATENT-APPL-SN-822089	c 23	N72-23695 *
US-PATENT-APPL-SN-7868	c 10	N72-17173 *	US-PATENT-APPL-SN-802848	c 31	N71-33160 *	US-PATENT-APPL-SN-822090	c 16	N71-27183 *
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US-PATENT-APPL-SN-78703	c 15	N73-20514 *	US-PATENT-APPL-SN-803068	c 09	N73-20231 *	US-PATENT-APPL-SN-822519	c 14	N71-28992 *
US-PATENT-APPL-SN-78704	c 05	N72-25121 *	US-PATENT-APPL-SN-803069	c 09	N72-22198 *	US-PATENT-APPL-SN-822534	c 09	N72-11224 *
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US-PATENT-APPL-SN-787911	c 03	N71-28579 *	US-PATENT-APPL-SN-804172	c 28	N71-26781 *	US-PATENT-APPL-SN-824024	c 44	N79-18443 *
US-PATENT-APPL-SN-788045	c 24	N79-25142 *	US-PATENT-APPL-SN-804196	c 33	N87-28831 *	US-PATENT-APPL-SN-824042	c 23	N71-29123 *
US-PATENT-APPL-SN-788705	c 35	N78-24515 *	US-PATENT-APPL-SN-805010	c 35	N87-23944 *	US-PATENT-APPL-SN-824628	c 34	N78-17337 *
US-PATENT-APPL-SN-789043	c 10	N71-26531 *	US-PATENT-APPL-SN-805011	c 54	N88-24163 *	US-PATENT-APPL-SN-824755	c 09	N70-33182 *
US-PATENT-APPL-SN-789044	c 14	N72-20381 *	US-PATENT-APPL-SN-805012	c 27	N87-21111 *	US-PATENT-APPL-SN-825253	c 16	N69-31343 *
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US-PATENT-APPL-SN-789266	c 71	N88-24241 *	US-PATENT-APPL-SN-805405	c 14	N71-27323 *	US-PATENT-APPL-SN-825259	c 14	N71-26788 *
US-PATENT-APPL-SN-789278	c 15	N71-24694 *	US-PATENT-APPL-SN-805406	c 07	N71-24613 *	US-PATENT-APPL-SN-825489	c 27	N81-15104 *
US-PATENT-APPL-SN-789713	c 28	N86-23744 *	US-PATENT-APPL-SN-805549	c 35	N79-16246 *	US-PATENT-APPL-SN-826202	c 37	N79-28551 *
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US-PATENT-APPL-SN-790637	c 44	N78-25529 *	US-PATENT-APPL-SN-807762	c 27	N78-31233 *	US-PATENT-APPL-SN-827185	c 52	N89-16256 *
US-PATENT-APPL-SN-791267	c 23	N72-17747 *	US-PATENT-APPL-SN-808192	c 15	N71-27432 *	US-PATENT-APPL-SN-827464	c 74	N79-34011 *
US-PATENT-APPL-SN-791268	c 33	N72-17947 *	US-PATENT-APPL-SN-808193	c 31	N71-26537 *	US-PATENT-APPL-SN-827579	c 15	N71-24984 *
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US-PATENT-APPL-SN-791888	c 23	N71-24725 *	US-PATENT-APPL-SN-808577	c 32	N71-25360 *	US-PATENT-APPL-SN-828920	c 35	N74-22095 *
US-PATENT-APPL-SN-792067	c 24	N78-17150 *	US-PATENT-APPL-SN-808822	c 14	N73-16483 *	US-PATENT-APPL-SN-828921	c 09	N71-27001 *
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US-PATENT-APPL-SN-792623	c 14	N72-23457 *	US-PATENT-APPL-SN-808980	c 44	N79-17314 *	US-PATENT-APPL-SN-829042	c 35	N89-14407 *
US-PATENT-APPL-SN-792623	c 14	N72-23457 *	US-PATENT-APPL-SN-808980	c 44	N80-14474 *	US-PATENT-APPL-SN-829314	c 09	N79-31228 *
US-PATENT-APPL-SN-793006	c 52	N86-19885 *	US-PATENT-APPL-SN-809075	c 44	N87-17399 *	US-PATENT-APPL-SN-829315	c 34	N79-20336 *
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US-PATENT-APPL-SN-793771	c 14	N72-22440 *	US-PATENT-APPL-SN-810576	c 25	N82-21269 *	US-PATENT-APPL-SN-829318	c 52	N80-14684 *
US-PATENT-APPL-SN-793772	c 10	N71-18722 *	US-PATENT-APPL-SN-810579	c 09	N72-22203 *	US-PATENT-APPL-SN-829390	c 44	N79-11469 *
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US-PATENT-APPL-SN-794530</								



US-PATENT-APPL-SN-830458	c 46	N79-23555 *	US-PATENT-APPL-SN-846427	c 36	N88-14350 *	US-PATENT-APPL-SN-858936	c 07	N80-18039 *
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US-PATENT-APPL-SN-830846	c 31	N80-32584 *	US-PATENT-APPL-SN-846430	c 82	N87-29372 *	US-PATENT-APPL-SN-860404	c 37	N81-15364 *
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US-PATENT-APPL-SN-831371	c 31	N87-25492 *	US-PATENT-APPL-SN-847027	c 03	N70-33343 *	US-PATENT-APPL-SN-860493	c 14	N72-16283 *
US-PATENT-APPL-SN-831372	c 35	N88-30108 *	US-PATENT-APPL-SN-847276	c 37	N81-32510 *	US-PATENT-APPL-SN-860635	c 28	N72-17843 *
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US-PATENT-APPL-SN-831632	c 07	N80-26298 *	US-PATENT-APPL-SN-847596	c 15	N70-10867 *	US-PATENT-APPL-SN-860781	c 18	N72-22567 *
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US-PATENT-APPL-SN-831634	c 05	N79-12061 *	US-PATENT-APPL-SN-848282	c 15	N72-21462 *	US-PATENT-APPL-SN-861390	c 28	N79-28342 *
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US-PATENT-APPL-SN-834978	c 27	N86-24841 *	US-PATENT-APPL-SN-848420	c 43	N79-25443 *	US-PATENT-APPL-SN-862921	c 31	N71-29050 *
US-PATENT-APPL-SN-835058	c 21	N72-22619 *	US-PATENT-APPL-SN-848421	c 43	N80-14423 *	US-PATENT-APPL-SN-862925	c 24	N88-18628 *
US-PATENT-APPL-SN-835059	c 09	N71-26133 *	US-PATENT-APPL-SN-848428	c 25	N82-21268 *	US-PATENT-APPL-SN-862959	c 33	N87-21232 *
US-PATENT-APPL-SN-835060	c 02	N71-26110 *	US-PATENT-APPL-SN-848481	c 17	N70-33283 *	US-PATENT-APPL-SN-863024	c 46	N80-14603 *
US-PATENT-APPL-SN-835146	c 15	N70-33264 *	US-PATENT-APPL-SN-848776	c 07	N72-21217 *	US-PATENT-APPL-SN-863276	c 16	N72-12400 *
US-PATENT-APPL-SN-835152	c 28	N70-38199 *	US-PATENT-APPL-SN-848793	c 43	N79-31706 *	US-PATENT-APPL-SN-863280	c 24	N72-33681 *
US-PATENT-APPL-SN-835153	c 31	N71-17680 *	US-PATENT-APPL-SN-848794	c 44	N79-24431 *	US-PATENT-APPL-SN-8636	c 15	N72-25451 *
US-PATENT-APPL-SN-835419	c 33	N80-18285 *	US-PATENT-APPL-SN-848805	c 06	N72-17095 *	US-PATENT-APPL-SN-863770	c 44	N79-18444 *
US-PATENT-APPL-SN-835544	c 33	N79-14305 *	US-PATENT-APPL-SN-848810	c 07	N72-11148 *	US-PATENT-APPL-SN-863773	c 44	N79-26475 *
US-PATENT-APPL-SN-835628	c 35	N79-14347 *	US-PATENT-APPL-SN-848811	c 10	N71-26142 *	US-PATENT-APPL-SN-863913	c 14	N71-28991 *
US-PATENT-APPL-SN-836280	c 14	N73-14428 *	US-PATENT-APPL-SN-849106	c 09	N72-22197 *	US-PATENT-APPL-SN-863914	c 09	N72-31235 *
US-PATENT-APPL-SN-836280	c 35	N75-25122 *	US-PATENT-APPL-SN-849274	c 28	N79-14228 *	US-PATENT-APPL-SN-863963	c 10	N71-26085 *
US-PATENT-APPL-SN-836367	c 09	N71-24804 *	US-PATENT-APPL-SN-84961	c 02	N70-34178 *	US-PATENT-APPL-SN-863967	c 11	N71-27036 *
US-PATENT-APPL-SN-837259	c 54	N79-24652 *	US-PATENT-APPL-SN-84962	c 21	N70-36943 *	US-PATENT-APPL-SN-864020	c 15	N72-17454 *
US-PATENT-APPL-SN-837260	c 37	N78-27423 *	US-PATENT-APPL-SN-8497	c 14	N72-11363 *	US-PATENT-APPL-SN-864039	c 15	N72-22483 *
US-PATENT-APPL-SN-837377	c 15	N71-26148 *	US-PATENT-APPL-SN-8498	c 05	N71-24729 *	US-PATENT-APPL-SN-864097	c 07	N71-33606 *
US-PATENT-APPL-SN-837378	c 15	N71-24865 *	US-PATENT-APPL-SN-850504	c 52	N81-14613 *	US-PATENT-APPL-SN-86417	c 07	N72-25171 *
US-PATENT-APPL-SN-837513	c 44	N81-29525 *	US-PATENT-APPL-SN-850504	c 52	N81-29764 *	US-PATENT-APPL-SN-8650	c 03	N72-25021 *
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US-PATENT-APPL-SN-837794	c 28	N80-20402 *	US-PATENT-APPL-SN-850586	c 31	N71-25434 *	US-PATENT-APPL-SN-865109	c 14	N71-28933 *
US-PATENT-APPL-SN-837794	c 28	N81-14103 *	US-PATENT-APPL-SN-850587	c 08	N72-21199 *	US-PATENT-APPL-SN-865274	c 09	N72-17155 *
US-PATENT-APPL-SN-837795	c 36	N80-14384 *	US-PATENT-APPL-SN-851298	c 15	N72-12409 *	US-PATENT-APPL-SN-865298	c 15	N72-11388 *
US-PATENT-APPL-SN-837796	c 35	N79-14345 *	US-PATENT-APPL-SN-851394	c 09	N71-24892 *	US-PATENT-APPL-SN-865329	c 15	N71-29132 *
US-PATENT-APPL-SN-837825	c 15	N71-27006 *	US-PATENT-APPL-SN-852131	c 15	N71-24836 *	US-PATENT-APPL-SN-86548	c 09	N72-21243 *
US-PATENT-APPL-SN-837830	c 02	N71-27088 *	US-PATENT-APPL-SN-852461	c 27	N89-16042 *	US-PATENT-APPL-SN-865811	c 09	N71-27053 *
US-PATENT-APPL-SN-83816	c 44	N74-14784 *	US-PATENT-APPL-SN-852466	c 37	N87-24689 *	US-PATENT-APPL-SN-865909	c 14	N72-11364 *
US-PATENT-APPL-SN-838278	c 60	N74-20836 *	US-PATENT-APPL-SN-852467	c 27	N87-24564 *	US-PATENT-APPL-SN-866442	c 25	N72-24753 *
US-PATENT-APPL-SN-838308	c 52	N80-27072 *	US-PATENT-APPL-SN-852468	c 72	N87-21661 *	US-PATENT-APPL-SN-867841	c 11	N72-22246 *
US-PATENT-APPL-SN-838336	c 44	N79-11470 *	US-PATENT-APPL-SN-852843	c 09	N72-22195 *	US-PATENT-APPL-SN-867842	c 23	N72-27728 *
US-PATENT-APPL-SN-838337	c 31	N79-17029 *	US-PATENT-APPL-SN-853349	c 35	N81-33448 *	US-PATENT-APPL-SN-867843	c 14	N71-26161 *
US-PATENT-APPL-SN-838630	c 14	N71-28993 *	US-PATENT-APPL-SN-853361	c 37	N87-22977 *	US-PATENT-APPL-SN-867851	c 15	N72-22484 *
US-PATENT-APPL-SN-838648	c 33	N87-23879 *	US-PATENT-APPL-SN-853641	c 33	N72-25913 *	US-PATENT-APPL-SN-867986	c 74	N86-33138 *
US-PATENT-APPL-SN-838649	c 34	N86-26575 *	US-PATENT-APPL-SN-853677	c 34	N79-31523 *	US-PATENT-APPL-SN-867987	c 27	N88-23894 *
US-PATENT-APPL-SN-838654	c 27	N86-24840 *	US-PATENT-APPL-SN-853679	c 35	N79-14346 *	US-PATENT-APPL-SN-868249	c 33	N80-18286 *
US-PATENT-APPL-SN-838655	c 27	N87-22848 *	US-PATENT-APPL-SN-853705	c 45	N79-12584 *	US-PATENT-APPL-SN-868445	c 14	N72-17323 *
US-PATENT-APPL-SN-838934	c 07	N72-20140 *	US-PATENT-APPL-SN-853716	c 09	N71-24904 *	US-PATENT-APPL-SN-868529	c 08	N72-22167 *
US-PATENT-APPL-SN-838935	c 15	N71-24895 *	US-PATENT-APPL-SN-853746	c 02	N72-11018 *	US-PATENT-APPL-SN-868530	c 05	N72-11084 *
US-PATENT-APPL-SN-838941	c 07	N71-26181 *	US-PATENT-APPL-SN-853763	c 07	N70-12616 *	US-PATENT-APPL-SN-868775	c 09	N72-25261 *
US-PATENT-APPL-SN-838963	c 27	N79-33316 *	US-PATENT-APPL-SN-853763	c 07	N72-33146 *	US-PATENT-APPL-SN-868775	c 09	N73-27150 *
US-PATENT-APPL-SN-838963	c 27	N81-14078 *	US-PATENT-APPL-SN-853855	c 17	N72-22530 *	US-PATENT-APPL-SN-869260	c 05	N72-20097 *
US-PATENT-APPL-SN-838994	c 28	N71-28915 *	US-PATENT-APPL-SN-853855	c 17	N72-28535 *	US-PATENT-APPL-SN-869260	c 05	N73-25125 *
US-PATENT-APPL-SN-84002	c 08	N73-20217 *	US-PATENT-APPL-SN-853856	c 16	N71-29131 *	US-PATENT-APPL-SN-870689	c 06	N72-25148 *
US-PATENT-APPL-SN-840176	c 28	N71-27095 *	US-PATENT-APPL-SN-853983	c 14	N70-33254 *	US-PATENT-APPL-SN-871207	c 23	N86-32526 *
US-PATENT-APPL-SN-840308	c 07	N71-33613 *	US-PATENT-APPL-SN-853984	c 21	N70-33181 *	US-PATENT-APPL-SN-87222	c 05	N72-27103 *
US-PATENT-APPL-SN-840359	c 23	N71-29125 *	US-PATENT-APPL-SN-854815	c 09	N71-24807 *	US-PATENT-APPL-SN-872602	c 09	N72-22200 *
US-PATENT-APPL-SN-840816	c 27	N87-28657 *	US-PATENT-APPL-SN-854920	c 15	N79-26100 *	US-PATENT-APPL-SN-872664	c 08	N70-34675 *
US-PATENT-APPL-SN-840870	c 15	N71-26189 *	US-PATENT-APPL-SN-855004	c 24	N72-11595 *	US-PATENT-APPL-SN-873045	c 14	N72-20379 *
US-PATENT-APPL-SN-840900	c 26	N87-25455 *	US-PATENT-APPL-SN-8550364	c 52	N81-27783 *	US-PATENT-APPL-SN-873259	c 08	N72-21200 *
US-PATENT-APPL-SN-840983	c 05	N70-33285 *	US-PATENT-APPL-SN-85585	c 21	N70-35427 *	US-PATENT-APPL-SN-873260	c 33	N72-17948 *
US-PATENT-APPL-SN-841278	c 33	N77-21316 *	US-PATENT-APPL-SN-855879	c 27	N88-18725 *	US-PATENT-APPL-SN-873793	c 14	N72-21407 *
US-PATENT-APPL-SN-841845	c 14	N73-32317 *	US-PATENT-APPL-SN-855982	c 31	N88-14223 *	US-PATENT-APPL-SN-874177	c 11	N72-25284 *
US-PATENT-APPL-SN-84212	c 27	N74-17283 *	US-PATENT-APPL-SN-855983	c 03	N88-14083 *	US-PATENT-APPL-SN-874319	c 35	N88-23966 *
US-PATENT-APPL-SN-842170	c 11	N70-33278 *	US-PATENT-APPL-SN-856253	c 24	N74-19769 *	US-PATENT-APPL-SN-874435	c 11	N71-33612 *
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US-PATENT-APPL-SN-84289	c 15	N73-14469 *	US-PATENT-APPL-SN-856279	c 07	N72-21118 *	US-PATENT-APPL-SN-874674	c 27	N82-29452 *
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US-PATENT-APPL-SN-843032	c 28	N70-41818 *	US-PATENT-APPL-SN-856328	c 14	N72-22441 *	US-PATENT-APPL-SN-874733	c 15	N71-26635 *
US-PATENT-APPL-SN-843090	c 27	N79-22300 *	US-PATENT-APPL-SN-856415	c 09	N71-26182 *	US-PATENT-APPL-SN-874958	c 31	N71-15566 *
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US-PATENT-APPL-SN-843308	c 32	N79-14268 *	US-PATENT-APPL-SN-856461	c 34	N79-12359 *	US-PATENT-APPL-SN-87551	c 33	N73-16918 *
US-PATENT-APPL-SN-844225	c 05	N72-25120 *	US-PATENT-APPL-SN-856462	c 34	N80-24573 *	US-PATENT-APPL-SN-875798	c 37	N88-23978 *
US-PATENT-APPL-SN-844243	c 37	N75-29426 *	US-PATENT-APPL-SN-856462	c 44	N81-24519 *	US-PATENT-APPL-SN-875799	c 34	N87-28867 *
US-PATENT-APPL-SN-844315	c 35	N77-21392 *	US-PATENT-APPL-SN-856464	c 36	N79-14362 *	US-PATENT-APPL-SN-875849	c 07	N71-33696 *
US-PATENT-APPL-SN-844344	c 24	N79-14156 *	US-PATENT-APPL-SN-856465	c 44	N80-14473 *	US-PATENT-APPL-SN-875891	c 31	N86-32589 *
US-PATENT-APPL-SN-844346	c 44	N79-11472 *	US-PATENT-APPL-SN-856466	c 72	N80-14877 *	US-PATENT-APPL-SN-87597	c 33	N74-22864 *
US-PATENT-APPL-SN-844355	c 03	N72-26031 *	US-PATENT-APPL-SN-857241	c 46	N74-23069 *	US-PATENT-APPL-SN-876299	c 44	N80-18552 *
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US-PATENT-APPL-SN-845807	c 15	N72-11391 *	US-PATENT-APPL-SN-858596	c 35	N78-18395 *	US-PATENT-APPL-SN-876438	c 52	N79-26772 *
US-PATENT-APPL-SN-845971	c 11	N71-28629 *	US-PATENT-APPL-SN-858595	c 11	N72-22247 *	US-PATENT-APPL-SN-876440	c 51	N80-16714 *
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US-PATENT-APPL-SN-845973	c 11	N71-24985 *	US-PATENT-APPL-SN-858764	c 33	N79-10338 *	US-PATENT-APPL-SN-876588	c 15	N72-25452 *
US-PATENT-APPL-SN-845974</								

US-PATENT-APPL-SN-877717	c 14	N73-13417 *	US-PATENT-APPL-SN-893382	c 34	N79-24285 *	US-PATENT-APPL-SN-929087	c 35	N80-28687 *
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US-PATENT-APPL-SN-878540	c 24	N82-26384 *	US-PATENT-APPL-SN-893857	c 24	N81-26179 *	US-PATENT-APPL-SN-929869	c 35	N87-23941 *
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US-PATENT-APPL-SN-878542	c 33	N79-28416 *	US-PATENT-APPL-SN-893903	c 60	N81-15706 *	US-PATENT-APPL-SN-929875	c 18	N89-28554 *
US-PATENT-APPL-SN-878730	c 08	N72-22164 *	US-PATENT-APPL-SN-894213	c 37	N80-23655 *	US-PATENT-APPL-SN-930217	c 25	N88-24732 *
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US-PATENT-APPL-SN-878916	c 60	N87-14863 *	US-PATENT-APPL-SN-897828	c 52	N81-29763 *	US-PATENT-APPL-SN-931090	c 37	N82-19540 *
US-PATENT-APPL-SN-879757	c 33	N87-10231 *	US-PATENT-APPL-SN-897829	c 44	N79-25481 *	US-PATENT-APPL-SN-931217	c 37	N80-32716 *
US-PATENT-APPL-SN-879758	c 33	N88-23942 *	US-PATENT-APPL-SN-897830	c 35	N80-21719 *	US-PATENT-APPL-SN-931218	c 20	N80-18097 *
US-PATENT-APPL-SN-880246	c 28	N72-22770 *	US-PATENT-APPL-SN-897831	c 44	N80-20808 *	US-PATENT-APPL-SN-933186	c 27	N80-32515 *
US-PATENT-APPL-SN-880247	c 09	N70-20737 *	US-PATENT-APPL-SN-897832	c 43	N81-26509 *	US-PATENT-APPL-SN-93329	c 09	N73-26195 *
US-PATENT-APPL-SN-880248	c 07	N72-11150 *	US-PATENT-APPL-SN-897840	c 31	N81-14137 *	US-PATENT-APPL-SN-933941	c 33	N89-14385 *
US-PATENT-APPL-SN-880249	c 15	N72-22482 *	US-PATENT-APPL-SN-898449	c 31	N88-29052 *	US-PATENT-APPL-SN-933961	c 76	N87-29360 *
US-PATENT-APPL-SN-880250	c 03	N72-20032 *	US-PATENT-APPL-SN-899123	c 44	N79-14528 *	US-PATENT-APPL-SN-933962	c 25	N88-29002 *
US-PATENT-APPL-SN-880271	c 15	N72-25448 *	US-PATENT-APPL-SN-899683	c 18	N87-14413 *	US-PATENT-APPL-SN-933963	c 05	N88-28914 *
US-PATENT-APPL-SN-880272	c 14	N71-27058 *	US-PATENT-APPL-SN-899828	c 32	N80-18252 *	US-PATENT-APPL-SN-934397	c 18	N88-23827 *
US-PATENT-APPL-SN-880398	c 15	N73-12487 *	US-PATENT-APPL-SN-900659	c 27	N81-17261 *	US-PATENT-APPL-SN-934470	c 23	N87-14433 *
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US-PATENT-APPL-SN-880727	c 35	N79-28527 *	US-PATENT-APPL-SN-900842	c 32	N79-24203 *	US-PATENT-APPL-SN-935827	c 37	N80-18393 *
US-PATENT-APPL-SN-880728	c 37	N80-10494 *	US-PATENT-APPL-SN-900843	c 44	N80-20810 *	US-PATENT-APPL-SN-937114	c 44	N82-28780 *
US-PATENT-APPL-SN-880729	c 35	N80-20563 *	US-PATENT-APPL-SN-901055	c 76	N80-32245 *	US-PATENT-APPL-SN-938293	c 32	N80-32605 *
US-PATENT-APPL-SN-880831	c 11	N72-20244 *	US-PATENT-APPL-SN-901113	c 35	N87-28884 *	US-PATENT-APPL-SN-938297	c 25	N81-14015 *
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US-PATENT-APPL-SN-880885	c 07	N72-12080 *	US-PATENT-APPL-SN-901496	c 23	N87-23698 *	US-PATENT-APPL-SN-938299	c 33	N81-19389 *
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US-PATENT-APPL-SN-881041	c 09	N72-22204 *	US-PATENT-APPL-SN-904128	c 25	N88-23845 *	US-PATENT-APPL-SN-938579	c 76	N80-32244 *
US-PATENT-APPL-SN-882122	c 14	N72-22438 *	US-PATENT-APPL-SN-904132	c 02	N89-14224 *	US-PATENT-APPL-SN-938581	c 04	N80-32359 *
US-PATENT-APPL-SN-882577	c 07	N71-27056 *	US-PATENT-APPL-SN-904134	c 18	N88-26398 *	US-PATENT-APPL-SN-938582	c 37	N80-23653 *
US-PATENT-APPL-SN-883030	c 44	N80-29834 *	US-PATENT-APPL-SN-904513	c 33	N88-14270 *	US-PATENT-APPL-SN-94049	c 14	N73-20476 *
US-PATENT-APPL-SN-883094	c 54	N79-24651 *	US-PATENT-APPL-SN-904812	c 37	N88-14359 *	US-PATENT-APPL-SN-940688	c 24	N79-24062 *
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US-PATENT-APPL-SN-883524	c 09	N72-21246 *	US-PATENT-APPL-SN-906297	c 44	N79-14529 *	US-PATENT-APPL-SN-94070	c 72	N80-27163 *
US-PATENT-APPL-SN-883961	c 25	N80-16116 *	US-PATENT-APPL-SN-906298	c 76	N80-18951 *	US-PATENT-APPL-SN-941711	c 24	N80-26388 *
US-PATENT-APPL-SN-88435	c 35	N74-15090 *	US-PATENT-APPL-SN-906299	c 27	N80-16158 *	US-PATENT-APPL-SN-942158	c 34	N88-29133 *
US-PATENT-APPL-SN-885049	c 33	N79-23345 *	US-PATENT-APPL-SN-907421	c 37	N81-14318 *	US-PATENT-APPL-SN-942159	c 37	N87-18817 *
US-PATENT-APPL-SN-885065	c 35	N79-18296 *	US-PATENT-APPL-SN-907431	c 37	N81-25370 *	US-PATENT-APPL-SN-94259	c 27	N70-35534 *
US-PATENT-APPL-SN-885066	c 33	N80-26599 *	US-PATENT-APPL-SN-907435	c 27	N80-10358 *	US-PATENT-APPL-SN-943086	c 37	N80-32717 *
US-PATENT-APPL-SN-885067	c 33	N79-28415 *	US-PATENT-APPL-SN-907436	c 37	N80-14398 *	US-PATENT-APPL-SN-943087	c 15	N78-32168 *
US-PATENT-APPL-SN-885521	c 03	N72-28025 *	US-PATENT-APPL-SN-907479	c 27	N80-24438 *	US-PATENT-APPL-SN-943088	c 18	N80-14183 *
US-PATENT-APPL-SN-885571	c 09	N71-28886 *	US-PATENT-APPL-SN-909100	c 37	N79-28550 *	US-PATENT-APPL-SN-943089	c 74	N80-21140 *
US-PATENT-APPL-SN-885594	c 15	N71-29133 *	US-PATENT-APPL-SN-909235	c 07	N81-19115 *	US-PATENT-APPL-SN-943346	c 34	N88-29132 *
US-PATENT-APPL-SN-886121	c 39	N87-25601 *	US-PATENT-APPL-SN-909608	c 07	N81-19116 *	US-PATENT-APPL-SN-94347	c 05	N72-25122 *
US-PATENT-APPL-SN-886149	c 27	N87-28656 *	US-PATENT-APPL-SN-910707	c 32	N80-20448 *	US-PATENT-APPL-SN-94369	c 07	N71-28965 *
US-PATENT-APPL-SN-886149	c 27	N89-29538 *	US-PATENT-APPL-SN-910708	c 06	N80-18036 *	US-PATENT-APPL-SN-94374	c 14	N72-25411 *
US-PATENT-APPL-SN-887685	c 10	N72-20223 *	US-PATENT-APPL-SN-910793	c 44	N80-16452 *	US-PATENT-APPL-SN-945040	c 37	N82-24492 *
US-PATENT-APPL-SN-887698	c 09	N72-17153 *	US-PATENT-APPL-SN-910794	c 14	N81-26161 *	US-PATENT-APPL-SN-945041	c 43	N80-18498 *
US-PATENT-APPL-SN-887699	c 15	N72-17452 *	US-PATENT-APPL-SN-910992	c 52	N81-24711 *	US-PATENT-APPL-SN-945043	c 33	N81-33403 *
US-PATENT-APPL-SN-887700	c 07	N71-28980 *	US-PATENT-APPL-SN-91180	c 14	N70-40240 *	US-PATENT-APPL-SN-945044	c 54	N81-26718 *
US-PATENT-APPL-SN-887701	c 08	N71-29034 *	US-PATENT-APPL-SN-911851	c 29	N87-18679 *	US-PATENT-APPL-SN-945436	c 46	N80-24906 *
US-PATENT-APPL-SN-888362	c 33	N80-14330 *	US-PATENT-APPL-SN-912276	c 24	N81-29163 *	US-PATENT-APPL-SN-946990	c 28	N80-23471 *
US-PATENT-APPL-SN-888432	c 74	N81-17886 *	US-PATENT-APPL-SN-913432	c 18	N88-23828 *	US-PATENT-APPL-SN-946991	c 31	N81-27324 *
US-PATENT-APPL-SN-888434	c 51	N83-27569 *	US-PATENT-APPL-SN-913433	c 33	N87-15413 *	US-PATENT-APPL-SN-946992	c 45	N80-14579 *
US-PATENT-APPL-SN-889374	c 08	N72-25207 *	US-PATENT-APPL-SN-913446	c 47	N87-15465 *	US-PATENT-APPL-SN-946994	c 44	N79-31753 *
US-PATENT-APPL-SN-889375	c 10	N72-20222 *	US-PATENT-APPL-SN-914260	c 34	N79-26474 *	US-PATENT-APPL-SN-947000	c 28	N81-15119 *
US-PATENT-APPL-SN-889376	c 18	N71-26285 *	US-PATENT-APPL-SN-915050	c 44	N81-12542 *	US-PATENT-APPL-SN-94952	c 14	N70-34158 *
US-PATENT-APPL-SN-889387	c 09	N71-29035 *	US-PATENT-APPL-SN-91642	c 14	N72-31446 *	US-PATENT-APPL-SN-949886	c 33	N80-18285 *
US-PATENT-APPL-SN-889420	c 14	N72-25413 *	US-PATENT-APPL-SN-916654	c 07	N81-29129 *	US-PATENT-APPL-SN-950876	c 37	N80-31790 *
US-PATENT-APPL-SN-889422	c 09	N72-25259 *	US-PATENT-APPL-SN-916655	c 44	N80-14472 *	US-PATENT-APPL-SN-950877	c 52	N81-25660 *
US-PATENT-APPL-SN-889423	c 10	N72-22236 *	US-PATENT-APPL-SN-917125	c 35	N89-12048 *	US-PATENT-APPL-SN-951422	c 51	N81-14605 *
US-PATENT-APPL-SN-889437	c 15	N72-11392 *	US-PATENT-APPL-SN-918533	c 32	N79-23310 *	US-PATENT-APPL-SN-951423	c 48	N80-18667 *
US-PATENT-APPL-SN-889438	c 15	N72-18477 *	US-PATENT-APPL-SN-918534	c 33	N80-32650 *	US-PATENT-APPL-SN-951828	c 37	N80-29703 *
US-PATENT-APPL-SN-889478	c 08	N71-29138 *	US-PATENT-APPL-SN-918535	c 35	N80-18357 *	US-PATENT-APPL-SN-951829	c 33	N80-18287 *
US-PATENT-APPL-SN-889479	c 14	N72-17325 *	US-PATENT-APPL-SN-918537	c 26	N80-14229 *	US-PATENT-APPL-SN-951830	c 28	N80-28536 *
US-PATENT-APPL-SN-889551	c 21	N72-21624 *	US-PATENT-APPL-SN-918705	c 52	N82-33996 *	US-PATENT-APPL-SN-95183	c 08	N73-12175 *
US-PATENT-APPL-SN-889554	c 15	N72-20444 *	US-PATENT-APPL-SN-920878	c 24	N78-27184 *	US-PATENT-APPL-SN-95189	c 74	N77-21941 *
US-PATENT-APPL-SN-889555	c 09	N72-17154 *	US-PATENT-APPL-SN-920879	c 44	N79-31752 *	US-PATENT-APPL-SN-953313	c 32	N81-14187 *
US-PATENT-APPL-SN-889556	c 14	N72-18411 *	US-PATENT-APPL-SN-921572	c 24	N87-18613 *	US-PATENT-APPL-SN-953314	c 37	N81-14319 *
US-PATENT-APPL-SN-889557	c 11	N72-17183 *	US-PATENT-APPL-SN-921573	c 37	N87-14704 *	US-PATENT-APPL-SN-953389	c 74	N80-27185 *
US-PATENT-APPL-SN-889558	c 15	N72-22491 *	US-PATENT-APPL-SN-921574	c 31	N87-15327 *	US-PATENT-APPL-SN-953390	c 74	N80-21138 *
US-PATENT-APPL-SN-889583	c 15	N72-21464 *	US-PATENT-APPL-SN-921577	c 37	N89-13785 *	US-PATENT-APPL-SN-953391	c 72	N80-33186 *
US-PATENT-APPL-SN-889584	c 08	N72-31226 *	US-PATENT-APPL-SN-921626	c 25	N80-23383 *	US-PATENT-APPL-SN-956160	c 32	N80-18253 *
US-PATENT-APPL-SN-889670	c 39	N79-22537 *	US-PATENT-APPL-SN-921627	c 33	N80-14332 *	US-PATENT-APPL-SN-956161	c 27	N79-11215 *
US-PATENT-APPL-SN-889671	c 24	N81-14000 *	US-PATENT-APPL-SN-923758	c 20	N78-27176 *	US-PATENT-APPL-SN-956166	c 33	N81-19393 *
US-PATENT-APPL-SN-889672	c 24	N81-33235 *	US-PATENT-APPL-SN-923759	c 20	N80-10278 *	US-PATENT-APPL-SN-956168	c 27	N81-25209 *
US-PATENT-APPL-SN-889682	c 15	N72-25447 *	US-PATENT-APPL-SN-924398	c 14	N87-25344 *	US-PATENT-APPL-SN-956529	c 35	N80-26635 *
US-PATENT-APPL-SN-890445	c 18	N87-27713 *	US-PATENT-APPL-SN-924399	c 76	N88-24545 *	US-PATENT-APPL-SN-957452	c 32	N80-24510 *
US-PATENT-APPL-SN-890575	c 09	N87-25334 *	US-PATENT-APPL-SN-924467	c 23	N88-24692 *	US-PATENT-APPL-SN-958573	c 25	N80-20334 *
US-PATENT-APPL-SN-890577	c 27	N88-29040 *	US-PATENT-APPL-SN-924472	c 32	N87-18692 *	US-PATENT-APPL-SN-958575	c 27	N80-24437 *
US-PATENT-APPL-SN-890586	c 32	N87-15390 *	US-PATENT-APPL-SN-924474	c 23	N88-26404 *	US-PATENT-APPL-SN-961831	c 33	N81-25299 *
US-PATENT-APPL-SN-890683	c 37	N88-23981 *	US-PATENT-APPL-SN-925189	c 76	N88-24544 *	US-PATENT-APPL-SN-961832	c 37	N81-24442 *
US-PATENT-APPL-SN-890982	c 35	N88-29150 *	US-PATENT-APPL-SN-9251	c 03	N70-34646 *	US-PATENT-APPL-SN-961833	c 37	N82-21587 *
US-PATENT-APPL-SN-891243	c 44	N79-25482 *	US-PATENT-APPL-SN-927972	c 74	N89-14078 *	US-PATENT-APPL-SN-964009	c 02	N80-20224 *
US-PATENT-APPL-SN-891244	c 05	N79-24976 *	US-PATENT-APPL-SN-927987	c 62	N87-19021 *	US-PATENT-APPL-SN-964754	c 33	N80-20487 *
US-PATENT-APPL-SN-891356	c 35	N80-18359 *	US-PATENT-APPL-SN-927992	c 37	N87-18818 *	US-PATENT-APPL-SN-964754	c 44	N81-29524 *
US-PATENT-APPL-SN-891358	c 44	N80-14474 *	US-PATENT-APPL-SN-928128	c 44	N80-18551 *	US-PATENT-APPL-SN-965367	c 33	N81-14221 *
US-PATENT-APPL-SN-891370	c 20	N79-20179 *	US-PATENT-APPL-SN-928129	c 35	N80-14371 *	US-PATENT-APPL-SN-965368	c 74	N81-17888 *
US-PATENT-APPL-SN-891372	c 37	N79-22474 *	US-PATENT-APPL-SN-928130	c 35	N80-20559 *	US-PATENT-APPL-SN-969755	c 05	N81-19087 *
US-PATENT-APPL-SN-891373	c 31	N80-18231 *	US-PATENT-APPL-SN-928131	c 09	N79-31228 *	US-PATENT-APPL-SN-969756	c 37	N81-14317 *
US-PATENT-APPL-SN-891872	c 25	N82-24312 *	US-PATENT-APPL-SN-928133	c 44	N80-18550 *	US-PATENT-APPL-SN-969757	c 24	N84-16262 *
US-PATENT-APPL-SN-89209	c 09	N72-25248 *	US-PATENT-APPL-SN-928137	c 52	N80-23969 *	US-PATENT-APPL-SN-969759	c 25	N82-11144 *
US-PATENT-APPL-SN-8921								

US-PATENT-APPL-SN-97112	c 21	N70-34539 *	US-PATENT-CLASS-102-70.2R	c 19	N74-15089 *	US-PATENT-CLASS-109-58.5	c 31	N81-19343 *
US-PATENT-APPL-SN-971473	c 23	N81-29160 *	US-PATENT-CLASS-102-70.2	c 09	N71-18599 *	US-PATENT-CLASS-110-186	c 25	N84-16276 *
US-PATENT-APPL-SN-971474	c 20	N82-18314 *	US-PATENT-CLASS-102-70.2R	c 28	N74-27425 *	US-PATENT-CLASS-110-218	c 31	N81-15154 *
US-PATENT-APPL-SN-971475	c 27	N81-24257 *	US-PATENT-CLASS-102-70R	c 20	N78-24275 *	US-PATENT-CLASS-110-229	c 31	N81-15154 *
US-PATENT-APPL-SN-971596	c 27	N80-32516 *	US-PATENT-CLASS-102-90	c 15	N74-27360 *	US-PATENT-CLASS-110-232	c 31	N81-15154 *
US-PATENT-APPL-SN-972252	c 35	N81-33448 *	US-PATENT-CLASS-102-92.1	c 02	N81-14968 *	US-PATENT-CLASS-110-234	c 25	N82-11144 *
US-PATENT-APPL-SN-97343	c 10	N72-27246 *	US-PATENT-CLASS-102-95	c 11	N73-32152 *	US-PATENT-CLASS-110-245	c 25	N82-11144 *
US-PATENT-APPL-SN-974292	c 26	N80-23419 *	US-PATENT-CLASS-102-99	c 28	N77-10213 *	US-PATENT-CLASS-110-255	c 25	N82-11144 *
US-PATENT-APPL-SN-974471	c 32	N81-14185 *	US-PATENT-CLASS-103.5R	c 04	N73-27052 *	US-PATENT-CLASS-110-262	c 25	N84-16276 *
US-PATENT-APPL-SN-974472	c 37	N81-15363 *	US-PATENT-CLASS-103-1	c 26	N71-21824 *	US-PATENT-CLASS-110-263	c 25	N84-16276 *
US-PATENT-APPL-SN-974473	c 60	N81-27814 *	US-PATENT-CLASS-103-37	c 28	N71-14058 *	US-PATENT-CLASS-110-265	c 25	N84-16276 *
US-PATENT-APPL-SN-974474	c 25	N81-19242 *	US-PATENT-CLASS-103-48	c 15	N71-24042 *	US-PATENT-CLASS-110-266	c 25	N82-11144 *
US-PATENT-APPL-SN-974475	c 33	N81-17349 *	US-PATENT-CLASS-104-DIG.4	c 44	N84-23019 *	US-PATENT-CLASS-110-343	c 31	N81-15154 *
US-PATENT-APPL-SN-974476	c 52	N81-14613 *	US-PATENT-CLASS-104-138R	c 85	N74-34672 *	US-PATENT-CLASS-110-347	c 31	N81-15154 *
US-PATENT-APPL-SN-97472	c 14	N73-28487 *	US-PATENT-CLASS-104-139	c 05	N71-28619 *	US-PATENT-CLASS-112-402	c 18	N71-26285 *
US-PATENT-APPL-SN-97829	c 06	N73-13129 *	US-PATENT-CLASS-104-172.1	c 18	N88-26398 *	US-PATENT-CLASS-113-116	c 15	N71-15597 *
US-PATENT-APPL-SN-98517	c 09	N72-25250 *	US-PATENT-CLASS-104-1	c 05	N71-28619 *	US-PATENT-CLASS-114-122	c 02	N73-26006 *
US-PATENT-APPL-SN-98640	c 09	N72-25253 *	US-PATENT-CLASS-104-23FS	c 85	N74-34672 *	US-PATENT-CLASS-114-16.6	c 37	N76-22540 *
US-PATENT-APPL-SN-98772	c 08	N73-12176 *	US-PATENT-CLASS-104-281	c 37	N85-20337 *	US-PATENT-CLASS-114-66.5	c 12	N70-33305 *
US-PATENT-APPL-SN-98773	c 15	N72-22486 *	US-PATENT-CLASS-104-282	c 37	N83-32067 *	US-PATENT-CLASS-114-67R	c 02	N88-14071 *
US-PATENT-APPL-SN-98774	c 14	N73-19419 *	US-PATENT-CLASS-104-284	c 37	N85-20337 *	US-PATENT-CLASS-115-103.5	c 51	N75-13502 *
US-PATENT-APPL-SN-98798	c 09	N73-13209 *	US-PATENT-CLASS-104-290	c 37	N83-32067 *	US-PATENT-CLASS-116-DIG.43	c 02	N89-12551 *
US-PATENT-APPL-SN-99174	c 14	N72-33377 *	US-PATENT-CLASS-104-35	c 18	N88-26398 *	US-PATENT-CLASS-117-114.5	c 35	N75-25122 *
US-PATENT-APPL-SN-99175	c 09	N72-25258 *	US-PATENT-CLASS-104-49	c 18	N88-26398 *	US-PATENT-CLASS-117-114AH	c 14	N72-25411 *
US-PATENT-APPL-SN-99198	c 31	N73-32749 *	US-PATENT-CLASS-104-83	c 37	N82-21587 *	US-PATENT-CLASS-116-114AH	c 35	N75-33367 *
US-PATENT-APPL-SN-99201	c 15	N73-25512 *	US-PATENT-CLASS-105-1A	c 37	N82-21587 *	US-PATENT-CLASS-116-117	c 14	N70-42074 *
US-PATENT-APPL-SN-99201	c 37	N74-20063 *	US-PATENT-CLASS-105-161	c 43	N79-26439 *	US-PATENT-CLASS-116-265	c 02	N89-12551 *
US-PATENT-APPL-SN-99524	c 06	N72-27144 *	US-PATENT-CLASS-105-171	c 37	N82-21587 *	US-PATENT-CLASS-117-104	c 18	N71-26100 *
US-PATENT-APPL-SN-99901	c 37	N74-10474 *	US-PATENT-CLASS-105-180	c 37	N82-21587 *	US-PATENT-CLASS-117-105.2	c 37	N74-11301 *
US-PATENT-APPL-SN-99903	c 11	N73-12265 *	US-PATENT-CLASS-105-2R	c 85	N82-33288 *	US-PATENT-CLASS-117-105.2	c 24	N75-33181 *
			US-PATENT-CLASS-105-218R	c 37	N82-21587 *	US-PATENT-CLASS-117-105.5	c 15	N73-32360 *
US-PATENT-CASE-165-104.25	c 34	N87-28867 *	US-PATENT-CLASS-106-1.2	c 44	N79-31752 *	US-PATENT-CLASS-117-105	c 15	N73-32360 *
US-PATENT-CASE-165-104.26	c 34	N87-28867 *	US-PATENT-CLASS-106-13	c 23	N75-14834 *	US-PATENT-CLASS-117-106A	c 70	N74-13436 *
US-PATENT-CASE-165-13	c 34	N87-28867 *	US-PATENT-CLASS-106-15FP	c 27	N74-27037 *	US-PATENT-CLASS-117-106A	c 37	N75-15992 *
US-PATENT-CASE-165-1	c 34	N87-28867 *	US-PATENT-CLASS-106-15FP	c 27	N76-24405 *	US-PATENT-CLASS-117-106A	c 25	N75-26043 *
US-PATENT-CASE-165-32	c 34	N87-28867 *	US-PATENT-CLASS-106-15FP	c 24	N78-15180 *	US-PATENT-CLASS-117-106	c 33	N71-14032 *
US-PATENT-CASE-165-41	c 34	N87-28867 *	US-PATENT-CLASS-106-15R	c 23	N75-14834 *	US-PATENT-CLASS-117-107.2	c 25	N75-26043 *
US-PATENT-CASE-179-146-R	c 05	N83-27975 *	US-PATENT-CLASS-106-15	c 18	N71-14014 *	US-PATENT-CLASS-117-107	c 15	N72-25447 *
US-PATENT-CASE-179-179	c 05	N83-27975 *	US-PATENT-CLASS-106-15	c 18	N71-15469 *	US-PATENT-CLASS-117-107	c 76	N79-16678 *
US-PATENT-CASE-244-121	c 05	N83-19737 *	US-PATENT-CLASS-106-18.16	c 27	N82-16238 *	US-PATENT-CLASS-117-119	c 18	N71-16105 *
US-PATENT-CASE-244-129.4	c 05	N83-19737 *	US-PATENT-CLASS-106-18.24	c 27	N82-16238 *	US-PATENT-CLASS-117-119	c 76	N79-16678 *
US-PATENT-CASE-292-254	c 05	N83-19737 *	US-PATENT-CLASS-106-197	c 25	N82-29370 *	US-PATENT-CLASS-117-124C	c 15	N72-25452 *
US-PATENT-CASE-356-129	c 36	N83-29680 *	US-PATENT-CLASS-106-1	c 44	N79-31752 *	US-PATENT-CLASS-117-124F	c 23	N75-14834 *
US-PATENT-CASE-367-906	c 05	N83-27975 *	US-PATENT-CLASS-106-209	c 05	N72-25120 *	US-PATENT-CLASS-117-126GM	c 37	N75-26371 *
US-PATENT-CASE-368-10	c 35	N83-29651 *	US-PATENT-CLASS-106-286	c 18	N72-22566 *	US-PATENT-CLASS-117-126GR	c 27	N74-23125 *
US-PATENT-CASE-368-118	c 35	N83-29651 *	US-PATENT-CLASS-106-287SB	c 23	N75-14834 *	US-PATENT-CLASS-117-126R	c 37	N75-26371 *
US-PATENT-CASE-368-119	c 35	N83-29651 *	US-PATENT-CLASS-106-2888	c 18	N72-22566 *	US-PATENT-CLASS-117-129	c 37	N74-21063 *
US-PATENT-CASE-368-120	c 35	N83-29651 *	US-PATENT-CLASS-106-292	c 18	N72-17532 *	US-PATENT-CLASS-117-129	c 27	N75-27160 *
US-PATENT-CASE-368-6	c 35	N83-29651 *	US-PATENT-CLASS-106-292	c 27	N77-30237 *	US-PATENT-CLASS-117-130R	c 15	N73-32360 *
US-PATENT-CASE-368-9	c 35	N83-29651 *	US-PATENT-CLASS-106-296	c 18	N71-26772 *	US-PATENT-CLASS-117-132B	c 27	N74-23125 *
			US-PATENT-CLASS-106-296	c 27	N77-30237 *	US-PATENT-CLASS-117-132	c 06	N72-25150 *
US-PATENT-CLAS-165-27	c 34	N83-34221 *	US-PATENT-CLASS-106-296	c 24	N79-14156 *	US-PATENT-CLASS-117-135.5	c 23	N75-14834 *
US-PATENT-CLAS-361-90	c 33	N83-34190 *	US-PATENT-CLASS-106-299	c 18	N72-17532 *	US-PATENT-CLASS-117-138.8R	c 15	N73-32360 *
			US-PATENT-CLASS-106-299	c 27	N77-30237 *	US-PATENT-CLASS-117-151	c 15	N73-32360 *
US-PATENT-CLASS-D12-76	c 05	N75-25914 *	US-PATENT-CLASS-106-306	c 24	N76-24363 *	US-PATENT-CLASS-117-152	c 15	N72-25452 *
US-PATENT-CLASS-D71-1	c 05	N74-10907 *	US-PATENT-CLASS-106-39.5	c 27	N78-19302 *	US-PATENT-CLASS-117-16R	c 15	N72-25452 *
			US-PATENT-CLASS-106-39R	c 18	N73-14584 *	US-PATENT-CLASS-117-160R	c 15	N73-32360 *
US-PATENT-CLASS-100-299	c 15	N72-20446 *	US-PATENT-CLASS-106-39	c 26	N72-28762 *	US-PATENT-CLASS-117-161P	c 06	N73-27980 *
US-PATENT-CLASS-100-8	c 33	N74-17928 *	US-PATENT-CLASS-106-40	c 18	N71-22998 *	US-PATENT-CLASS-117-161UA	c 25	N75-12087 *
US-PATENT-CLASS-101-395	c 35	N84-22930 *	US-PATENT-CLASS-106-43	c 27	N78-17206 *	US-PATENT-CLASS-117-161UN	c 06	N73-27980 *
US-PATENT-CLASS-101-407BP	c 37	N84-12491 *	US-PATENT-CLASS-106-43	c 37	N81-25371 *	US-PATENT-CLASS-117-161UN	c 27	N74-23125 *
US-PATENT-CLASS-102-101	c 28	N71-26779 *	US-PATENT-CLASS-106-46	c 26	N72-28762 *	US-PATENT-CLASS-117-161UN	c 25	N75-12087 *
US-PATENT-CLASS-102-103	c 20	N78-32179 *	US-PATENT-CLASS-106-48	c 27	N75-27160 *	US-PATENT-CLASS-117-161UZ	c 25	N75-12087 *
US-PATENT-CLASS-102-105	c 33	N72-17947 *	US-PATENT-CLASS-106-48	c 27	N78-32260 *	US-PATENT-CLASS-117-161	c 06	N72-25150 *
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US-PATENT-CLASS-123-148E	c 37	N79-11405 *	US-PATENT-CLASS-126-901	c 44	N83-34449 *	US-PATENT-CLASS-128-2P	c 52	N76-29894 *
US-PATENT-CLASS-123-179R	c 28	N80-10374 *	US-PATENT-CLASS-126-901	c 35	N89-12048 *	US-PATENT-CLASS-128-2R	c 09	N72-22202 *
US-PATENT-CLASS-123-193-P	c 37	N88-23981 *	US-PATENT-CLASS-126-91A	c 25	N79-11151 *	US-PATENT-CLASS-128-2R	c 52	N79-12694 *
US-PATENT-CLASS-123-197R	c 37	N83-36483 *	US-PATENT-CLASS-128-2.06E	c 05	N75-24716 *	US-PATENT-CLASS-128-2S	c 52	N74-10975 *
US-PATENT-CLASS-123-37	c 37	N77-31497 *	US-PATENT-CLASS-128-2.07	c 52	N79-21750 *	US-PATENT-CLASS-128-2S	c 52	N74-27864 *
US-PATENT-CLASS-123-3	c 44	N76-18642 *	US-PATENT-CLASS-128-DIG.12	c 37	N77-28487 *	US-PATENT-CLASS-128-2S	c 33	N75-31329 *
US-PATENT-CLASS-123-3	c 44	N76-29700 *	US-PATENT-CLASS-128-DIG.12	c 51	N81-14605 *	US-PATENT-CLASS-128-2S	c 33	N76-19338 *
US-PATENT-CLASS-123-3	c 44	N77-10636 *	US-PATENT-CLASS-128-DIG.13	c 52	N83-27577 *	US-PATENT-CLASS-128-2S	c 52	N76-29895 *
US-PATENT-CLASS-123-3	c 37	N77-31497 *	US-PATENT-CLASS-128-DIG.16	c 51	N81-14605 *	US-PATENT-CLASS-128-2S	c 52	N76-29896 *
US-PATENT-CLASS-123-3	c 44	N78-33526 *	US-PATENT-CLASS-128-DIG.20	c 52	N78-19785 *	US-PATENT-CLASS-128-2V	c 52	N74-20726 *

US-PATENT-CLASS-128-2V	c 35	N75-12271 *	US-PATENT-CLASS-128-80-E	c 54	N86-22112 *	US-PATENT-CLASS-136-256	c 44	N83-13579 *
US-PATENT-CLASS-128-2V	c 54	N75-27760 *	US-PATENT-CLASS-128-80F	c 52	N81-25661 *	US-PATENT-CLASS-136-256	c 44	N83-14692 *
US-PATENT-CLASS-128-2V	c 52	N79-14751 *	US-PATENT-CLASS-128-804	c 52	N82-33996 *	US-PATENT-CLASS-136-256	c 44	N85-20530 *
US-PATENT-CLASS-128-2V	c 52	N79-18580 *	US-PATENT-CLASS-128-89R	c 52	N81-25662 *	US-PATENT-CLASS-136-256	c 44	N85-30475 *
US-PATENT-CLASS-128-202.11	c 54	N86-28618 *	US-PATENT-CLASS-128-903	c 52	N80-18691 *	US-PATENT-CLASS-136-258	c 44	N81-19558 *
US-PATENT-CLASS-128-203	c 54	N76-24900 *	US-PATENT-CLASS-128-92C	c 27	N78-17215 *	US-PATENT-CLASS-136-258	c 44	N81-29525 *
US-PATENT-CLASS-128-204.18	c 51	N81-14605 *	US-PATENT-CLASS-128-92G	c 27	N78-17215 *	US-PATENT-CLASS-136-259	c 44	N83-13579 *
US-PATENT-CLASS-128-206F	c 14	N73-24473 *	US-PATENT-CLASS-129-16.7	c 08	N71-15908 *	US-PATENT-CLASS-136-259	c 44	N83-14692 *
US-PATENT-CLASS-128-207.14	c 51	N81-14605 *	US-PATENT-CLASS-130-20	c 11	N72-23215 *	US-PATENT-CLASS-136-261	c 44	N82-26777 *
US-PATENT-CLASS-128-207.28	c 51	N81-14605 *	US-PATENT-CLASS-130-20	c 12	N79-26075 *	US-PATENT-CLASS-136-261	c 44	N85-30475 *
US-PATENT-CLASS-128-212	c 54	N80-10799 *	US-PATENT-CLASS-130-22	c 12	N79-26075 *	US-PATENT-CLASS-136-261	c 44	N86-32875 *
US-PATENT-CLASS-128-214D	c 52	N79-14749 *	US-PATENT-CLASS-130-24	c 12	N79-26075 *	US-PATENT-CLASS-136-262	c 44	N81-29525 *
US-PATENT-CLASS-128-214E	c 52	N74-22771 *	US-PATENT-CLASS-130-26	c 33	N71-15625 *	US-PATENT-CLASS-136-262	c 76	N86-20150 *
US-PATENT-CLASS-128-214F	c 37	N77-28487 *	US-PATENT-CLASS-130-26	c 14	N71-23267 *	US-PATENT-CLASS-136-28	c 03	N71-10608 *
US-PATENT-CLASS-128-230	c 52	N75-33640 *	US-PATENT-CLASS-130-31	c 11	N72-23215 *	US-PATENT-CLASS-136-290	c 44	N82-26777 *
US-PATENT-CLASS-128-236	c 51	N81-14605 *	US-PATENT-CLASS-130-31	c 31	N74-27900 *	US-PATENT-CLASS-136-291	c 44	N81-12542 *
US-PATENT-CLASS-128-24-A	c 52	N84-34913 *	US-PATENT-CLASS-130-35	c 33	N71-24145 *	US-PATENT-CLASS-136-30	c 44	N74-19693 *
US-PATENT-CLASS-128-24A	c 05	N73-27062 *	US-PATENT-CLASS-134-137	c 37	N82-12441 *	US-PATENT-CLASS-136-30	c 44	N76-18643 *
US-PATENT-CLASS-128-24A	c 54	N75-27760 *	US-PATENT-CLASS-134-166C	c 37	N87-17035 *	US-PATENT-CLASS-136-30	c 44	N76-29699 *
US-PATENT-CLASS-128-24	c 05	N71-24738 *	US-PATENT-CLASS-134-17	c 43	N81-26509 *	US-PATENT-CLASS-136-36	c 44	N74-19692 *
US-PATENT-CLASS-128-25F	c 37	N74-18127 *	US-PATENT-CLASS-134-21	c 37	N76-18456 *	US-PATENT-CLASS-136-6LF	c 44	N76-18643 *
US-PATENT-CLASS-128-25	c 05	N71-24738 *	US-PATENT-CLASS-134-37	c 37	N76-18456 *	US-PATENT-CLASS-136-6	c 03	N71-26084 *
US-PATENT-CLASS-128-26	c 52	N76-19785 *	US-PATENT-CLASS-134-37	c 37	N85-21652 *	US-PATENT-CLASS-136-6	c 03	N72-15986 *
US-PATENT-CLASS-128-272	c 15	N71-24835 *	US-PATENT-CLASS-134-93	c 37	N87-17035 *	US-PATENT-CLASS-136-6	c 44	N82-24641 *
US-PATENT-CLASS-128-272	c 52	N79-14749 *	US-PATENT-CLASS-135-1	c 32	N70-36536 *	US-PATENT-CLASS-136-6	c 44	N82-24642 *
US-PATENT-CLASS-128-275	c 15	N71-24835 *	US-PATENT-CLASS-135-903	c 37	N87-17036 *	US-PATENT-CLASS-136-6	c 44	N82-24643 *
US-PATENT-CLASS-128-275	c 52	N81-29763 *	US-PATENT-CLASS-136-100R	c 03	N72-20034 *	US-PATENT-CLASS-136-6	c 44	N82-24644 *
US-PATENT-CLASS-128-276	c 52	N80-14684 *	US-PATENT-CLASS-136-114	c 44	N76-14601 *	US-PATENT-CLASS-136-79	c 03	N72-20032 *
US-PATENT-CLASS-128-276	c 52	N80-18690 *	US-PATENT-CLASS-136-132	c 03	N71-11053 *	US-PATENT-CLASS-136-81	c 03	N72-20032 *
US-PATENT-CLASS-128-280	c 24	N82-29362 *	US-PATENT-CLASS-136-132	c 03	N71-22974 *	US-PATENT-CLASS-136-83R	c 03	N72-20034 *
US-PATENT-CLASS-128-283	c 05	N69-23192 *	US-PATENT-CLASS-136-133	c 15	N69-24320 *	US-PATENT-CLASS-136-83R	c 44	N76-18641 *
US-PATENT-CLASS-128-283	c 24	N82-29362 *	US-PATENT-CLASS-136-133	c 03	N71-23006 *	US-PATENT-CLASS-136-83	c 03	N71-28579 *
US-PATENT-CLASS-128-284	c 24	N82-29362 *	US-PATENT-CLASS-136-133	c 03	N72-15986 *	US-PATENT-CLASS-136-86A	c 44	N76-27664 *
US-PATENT-CLASS-128-285	c 24	N82-29362 *	US-PATENT-CLASS-136-135	c 03	N72-15986 *	US-PATENT-CLASS-136-86S	c 44	N76-18641 *
US-PATENT-CLASS-128-288	c 24	N82-29362 *	US-PATENT-CLASS-136-143	c 44	N76-29699 *	US-PATENT-CLASS-136-86	c 03	N71-11052 *
US-PATENT-CLASS-128-291	c 24	N82-29362 *	US-PATENT-CLASS-136-146	c 03	N69-21337 *	US-PATENT-CLASS-136-86	c 03	N71-20904 *
US-PATENT-CLASS-128-295	c 05	N72-22093 *	US-PATENT-CLASS-136-146	c 24	N76-14204 *	US-PATENT-CLASS-136-86	c 15	N71-23022 *
US-PATENT-CLASS-128-295	c 52	N81-24711 *	US-PATENT-CLASS-136-148	c 24	N76-14204 *	US-PATENT-CLASS-136-86	c 03	N71-29044 *
US-PATENT-CLASS-128-295	c 52	N81-28740 *	US-PATENT-CLASS-136-148	c 44	N82-24645 *	US-PATENT-CLASS-136-89AC	c 44	N77-31601 *
US-PATENT-CLASS-128-296	c 24	N82-29362 *	US-PATENT-CLASS-136-162	c 44	N76-14601 *	US-PATENT-CLASS-136-89CA	c 44	N79-25482 *
US-PATENT-CLASS-128-29	c 05	N70-39922 *	US-PATENT-CLASS-136-166	c 03	N71-23336 *	US-PATENT-CLASS-136-89CC	c 44	N78-25527 *
US-PATENT-CLASS-128-2	c 05	N73-27062 *	US-PATENT-CLASS-136-166	c 03	N72-20032 *	US-PATENT-CLASS-136-89CC	c 44	N78-25529 *
US-PATENT-CLASS-128-303B	c 52	N83-25346 *	US-PATENT-CLASS-136-170	c 03	N71-11051 *	US-PATENT-CLASS-136-89CC	c 44	N79-11467 *
US-PATENT-CLASS-128-303R	c 52	N77-28716 *	US-PATENT-CLASS-136-175	c 03	N72-20034 *	US-PATENT-CLASS-136-89CC	c 44	N79-17314 *
US-PATENT-CLASS-128-305	c 05	N73-27062 *	US-PATENT-CLASS-136-179	c 03	N70-41864 *	US-PATENT-CLASS-136-89CC	c 44	N79-25482 *
US-PATENT-CLASS-128-305	c 52	N75-33640 *	US-PATENT-CLASS-136-182	c 03	N71-10728 *	US-PATENT-CLASS-136-89CC	c 44	N79-31752 *
US-PATENT-CLASS-128-305	c 52	N78-14773 *	US-PATENT-CLASS-136-182	c 03	N71-20407 *	US-PATENT-CLASS-136-89H	c 44	N78-25528 *
US-PATENT-CLASS-128-325	c 52	N84-28388 *	US-PATENT-CLASS-136-182	c 03	N71-20491 *	US-PATENT-CLASS-136-89H	c 44	N78-25529 *
US-PATENT-CLASS-128-327	c 52	N82-11770 *	US-PATENT-CLASS-136-182	c 44	N74-27519 *	US-PATENT-CLASS-136-89PC	c 44	N79-25482 *
US-PATENT-CLASS-128-328	c 52	N84-34913 *	US-PATENT-CLASS-136-182	c 44	N76-14601 *	US-PATENT-CLASS-136-89PC	c 44	N79-31753 *
US-PATENT-CLASS-128-329R	c 52	N79-27836 *	US-PATENT-CLASS-136-202	c 09	N72-12136 *	US-PATENT-CLASS-136-89P	c 44	N77-31601 *
US-PATENT-CLASS-128-346	c 52	N81-25660 *	US-PATENT-CLASS-136-202	c 03	N72-26031 *	US-PATENT-CLASS-136-89P	c 44	N78-25528 *
US-PATENT-CLASS-128-346	c 52	N84-11744 *	US-PATENT-CLASS-136-202	c 44	N76-16612 *	US-PATENT-CLASS-136-89P	c 44	N78-25529 *
US-PATENT-CLASS-128-346	c 52	N84-28388 *	US-PATENT-CLASS-136-202	c 35	N77-32454 *	US-PATENT-CLASS-136-89P	c 44	N78-27515 *
US-PATENT-CLASS-128-348	c 52	N80-16725 *	US-PATENT-CLASS-136-202	c 35	N79-14346 *	US-PATENT-CLASS-136-89P	c 44	N79-17314 *
US-PATENT-CLASS-128-379	c 52	N77-14736 *	US-PATENT-CLASS-136-206	c 03	N72-11062 *	US-PATENT-CLASS-136-89P	c 44	N80-14474 *
US-PATENT-CLASS-128-38	c 54	N84-16803 *	US-PATENT-CLASS-136-206	c 09	N72-12136 *	US-PATENT-CLASS-136-89SG	c 44	N78-24609 *
US-PATENT-CLASS-128-400	c 52	N77-14736 *	US-PATENT-CLASS-136-206	c 44	N76-14595 *	US-PATENT-CLASS-136-89SG	c 44	N80-24741 *
US-PATENT-CLASS-128-402	c 05	N72-20096 *	US-PATENT-CLASS-136-206	c 44	N76-31666 *	US-PATENT-CLASS-136-89SJ	c 44	N78-13526 *
US-PATENT-CLASS-128-402	c 52	N77-14736 *	US-PATENT-CLASS-136-20	c 44	N74-19693 *	US-PATENT-CLASS-136-89SJ	c 44	N79-11467 *
US-PATENT-CLASS-128-410	c 52	N77-28717 *	US-PATENT-CLASS-136-210	c 44	N76-16612 *	US-PATENT-CLASS-136-89SJ	c 44	N79-14528 *
US-PATENT-CLASS-128-417	c 05	N72-25120 *	US-PATENT-CLASS-136-211	c 35	N76-15434 *	US-PATENT-CLASS-136-89SJ	c 44	N79-25482 *
US-PATENT-CLASS-128-417	c 05	N72-27103 *	US-PATENT-CLASS-136-212	c 35	N76-15434 *	US-PATENT-CLASS-136-89	c 03	N69-24267 *
US-PATENT-CLASS-128-418	c 52	N76-29896 *	US-PATENT-CLASS-136-213	c 14	N69-27459 *	US-PATENT-CLASS-136-89	c 03	N71-11049 *
US-PATENT-CLASS-128-418	c 52	N77-14738 *	US-PATENT-CLASS-136-213	c 34	N74-27861 *	US-PATENT-CLASS-136-89	c 03	N71-11050 *
US-PATENT-CLASS-128-419P	c 52	N76-29896 *	US-PATENT-CLASS-136-224	c 14	N73-12447 *	US-PATENT-CLASS-136-89	c 03	N71-11056 *
US-PATENT-CLASS-128-421	c 52	N82-29863 *	US-PATENT-CLASS-136-225	c 14	N73-24472 *	US-PATENT-CLASS-136-89	c 03	N71-18698 *
US-PATENT-CLASS-128-422	c 52	N82-33996 *	US-PATENT-CLASS-136-225	c 35	N76-15434 *	US-PATENT-CLASS-136-89	c 03	N71-19545 *
US-PATENT-CLASS-128-62A	c 52	N82-29862 *	US-PATENT-CLASS-136-225	c 44	N85-21768 *	US-PATENT-CLASS-136-89	c 03	N71-20492 *
US-PATENT-CLASS-128-639	c 52	N79-27836 *	US-PATENT-CLASS-136-227	c 09	N72-12136 *	US-PATENT-CLASS-136-89	c 03	N71-20895 *
US-PATENT-CLASS-128-642	c 52	N80-27072 *	US-PATENT-CLASS-136-228	c 33	N71-15568 *	US-PATENT-CLASS-136-89	c 26	N71-23043 *
US-PATENT-CLASS-128-642	c 52	N81-14612 *	US-PATENT-CLASS-136-230	c 14	N71-23039 *	US-PATENT-CLASS-136-89	c 03	N71-23187 *
US-PATENT-CLASS-128-642	c 52	N81-20703 *	US-PATENT-CLASS-136-230	c 34	N74-27861 *	US-PATENT-CLASS-136-89	c 03	N71-23449 *
US-PATENT-CLASS-128-660	c 52	N79-26771 *	US-PATENT-CLASS-136-232	c 35	N77-14409 *	US-PATENT-CLASS-136-89	c 03	N71-33409 *
US-PATENT-CLASS-128-660	c 52	N83-27578 *	US-PATENT-CLASS-136-233	c 14	N72-27410 *	US-PATENT-CLASS-136-89	c 03	N72-20031 *
US-PATENT-CLASS-128-660	c 52	N85-30618 *	US-PATENT-CLASS-136-233	c 14	N73-13417 *	US-PATENT-CLASS-136-89	c 03	N72-22042 *
US-PATENT-CLASS-128-663	c 52	N83-27578 *	US-PATENT-CLASS-136-233	c 34	N74-27861 *	US-PATENT-CLASS-136-89	c 31	N72-22874 *
US-PATENT-CLASS-128-665	c 52	N81-27783 *	US-PATENT-CLASS-136-233	c 35	N77-14409 *	US-PATENT-CLASS-136-89	c 03	N72-24037 *
US-PATENT-CLASS-128-666	c 52	N80-23969 *	US-PATENT-CLASS-136-236R	c 35	N77-32454 *	US-PATENT-CLASS-136-89	c 09	N72-25259 *
US-PATENT-CLASS-128-666	c 52	N82-11770 *	US-PATENT-CLASS-136-236	c 35	N79-14346 *	US-PATENT-CLASS-136-89	c 03	N72-27053 *
US-PATENT-CLASS-128-690	c 52	N80-23969 *	US-PATENT-CLASS-136-240	c 35	N77-32454 *	US-PATENT-CLASS-136-89	c 09	N73-32109 *
US-PATENT-CLASS-128-691	c 52	N82-11770 *	US-PATENT-CLASS-136-246	c 44	N85-21768 *	US-PATENT-CLASS-136-89	c 44	N74-14784 *
US-PATENT-CLASS-128-6	c 52	N80-16725 *	US-PATENT-CLASS-136-249	c 44	N81-12542 *	US-PATENT-CLASS-136-89	c 44	N76-14600 *
US-PATENT-CLASS-128-736	c 52	N85-30618 *	US-PATENT-CLASS-136-249	c 44	N82-29709 *	US-PATENT-CLASS-136-89	c 44	N76-28635 *
US-PATENT-CLASS-128-748	c 52	N80-18691 *	US-PATENT-CLASS-136-249	c 44	N82-31764 *	US-PATENT-CLASS-136-89	c 44	N76-31666 *
US-PATENT-CLASS-128-760	c 52	N80-18690 *	US-PATENT-CLASS-136-249	c 44	N83-32177 *	US-PATENT-CLASS-136-89	c 44	N77-10635 *
US-PATENT-CLASS-128-760	c 52	N81-29763 *	US-PATENT-CLASS-136-249	c 44	N87-17399 *	US-PATENT-CLASS-136-89	c 44	N77-14580 *
US-PATENT-CLASS-128-761	c 52	N81-24711 *	US-PATENT-CLASS-136-249	c 33	N87-23879 *	US-PATENT-CLASS-136-89	c 44	N77-19571 *
US-PATENT-CLASS-128-774	c 52	N80-27072 *	US-PATENT-CLASS-136-24	c 09	N73-32108 *	US-PATENT-CLASS-136-89	c 44	N79-11468 *
US-PATENT-CLASS-128-774	c 52	N81-20703 *	US-PATENT-CLASS-136-253	c 44	N85-34441 *	US-PATENT-CLASS-136-90	c 44	N76-14601 *
US-PATENT-CLASS-128-774	c 52	N83-25346 *	US-PATENT-CLASS-136-255	c 44	N81-29525 *	US-PATENT-CLASS-137-DIG.9	c 54	N76-24900 *
US-PATENT-CLASS-128-778	c 52	N82-22875 *	US-PATENT-CLASS-136-255	c 44	N83-14692 *	US-PATENT-CLASS-137-101	c 07	N72-23106 *
US-PATENT-CLASS-128-782	c 52	N80-27072 *	US-PATENT-CLASS-136-255	c 33	N85-21492 *	US-PATENT-CLASS-137-104	c 37	N78-10467 *
US-PATENT-CLASS-128-782	c 39	N83-20280 *	US-PATENT-CLASS-136-255	c 44	N85-30475 *	US-PATENT-CLASS-137-110	c 54	N76-24900 *
US-PATENT-CLASS-128-782	c 52	N83-25346 *	US-PATENT-CLASS-136-255	c 76	N86-20150 *	US-PATENT-CLASS-137-116.3	c 37	N85-34403 *
US-PATENT-CLASS-128-784	c 52	N82-33996 *	US-PATENT-CLASS-136-255	c 33	N87-23879 *	US-PATENT-CLASS-137-13	c 15	N71-15967 *



US-PATENT-CLASS-137-13	c 15	N72-33477 *	US-PATENT-CLASS-138-114	c 34	N75-12222 *	US-PATENT-CLASS-148-429	c 26	N87-14482 *
US-PATENT-CLASS-137-14	c 37	N79-33468 *	US-PATENT-CLASS-138-119	c 32	N70-41579 *	US-PATENT-CLASS-148-6.11	c 15	N71-24875 *
US-PATENT-CLASS-137-15.1	c 02	N74-20646 *	US-PATENT-CLASS-138-120	c 54	N86-28619 *	US-PATENT-CLASS-148-6.16	c 18	N71-23047 *
US-PATENT-CLASS-137-15.1	c 07	N74-31270 *	US-PATENT-CLASS-138-120	c 54	N86-28620 *	US-PATENT-CLASS-148-6.20	c 17	N71-23828 *
US-PATENT-CLASS-137-15.1	c 07	N75-24736 *	US-PATENT-CLASS-138-120	c 54	N86-29507 *	US-PATENT-CLASS-148-6.3	c 17	N71-33408 *
US-PATENT-CLASS-137-15.1	c 07	N77-18154 *	US-PATENT-CLASS-138-133	c 52	N80-16725 *	US-PATENT-CLASS-148-6.3	c 44	N79-18444 *
US-PATENT-CLASS-137-15.1	c 07	N79-14096 *	US-PATENT-CLASS-138-148	c 34	N75-12222 *	US-PATENT-CLASS-148-6.3	c 26	N87-25455 *
US-PATENT-CLASS-137-15.1	c 05	N79-24976 *	US-PATENT-CLASS-138-178	c 15	N72-20445 *	US-PATENT-CLASS-148-6	c 18	N71-29040 *
US-PATENT-CLASS-137-15.1	c 07	N81-14999 *	US-PATENT-CLASS-138-33	c 52	N80-16725 *	US-PATENT-CLASS-148-6	c 76	N79-16678 *
US-PATENT-CLASS-137-15.2	c 02	N74-20646 *	US-PATENT-CLASS-138-38	c 02	N88-14071 *	US-PATENT-CLASS-149-105	c 28	N78-31255 *
US-PATENT-CLASS-137-15.2	c 35	N76-14431 *	US-PATENT-CLASS-138-38	c 34	N88-29133 *	US-PATENT-CLASS-149-108.4	c 28	N80-23471 *
US-PATENT-CLASS-137-154	c 15	N73-27406 *	US-PATENT-CLASS-138-42	c 15	N71-15608 *	US-PATENT-CLASS-149-108.4	c 28	N81-15119 *
US-PATENT-CLASS-137-177	c 20	N80-10278 *	US-PATENT-CLASS-138-42	c 44	N84-14583 *	US-PATENT-CLASS-149-109	c 27	N70-41897 *
US-PATENT-CLASS-137-197	c 15	N70-41646 *	US-PATENT-CLASS-138-43	c 15	N71-19213 *	US-PATENT-CLASS-149-111	c 28	N78-31255 *
US-PATENT-CLASS-137-197	c 35	N78-12390 *	US-PATENT-CLASS-138-45	c 15	N71-18580 *	US-PATENT-CLASS-149-15	c 44	N80-20808 *
US-PATENT-CLASS-137-1	c 12	N70-38997 *	US-PATENT-CLASS-138-45	c 15	N73-13462 *	US-PATENT-CLASS-149-17	c 28	N73-32029 *
US-PATENT-CLASS-137-1	c 15	N73-27406 *	US-PATENT-CLASS-138-46	c 12	N71-18615 *	US-PATENT-CLASS-149-19.2	c 28	N80-28536 *
US-PATENT-CLASS-137-207	c 34	N77-30399 *	US-PATENT-CLASS-138-4	c 15	N71-18580 *	US-PATENT-CLASS-149-19.4	c 28	N78-31255 *
US-PATENT-CLASS-137-209	c 34	N77-30399 *	US-PATENT-CLASS-138-96R	c 37	N79-22474 *	US-PATENT-CLASS-149-19.4	c 20	N78-32179 *
US-PATENT-CLASS-137-209	c 20	N80-10278 *	US-PATENT-CLASS-138-97	c 37	N86-32736 *	US-PATENT-CLASS-149-19.4	c 28	N79-28342 *
US-PATENT-CLASS-137-340	c 15	N70-34817 *	US-PATENT-CLASS-139-425R	c 28	N72-11708 *	US-PATENT-CLASS-149-19.8	c 28	N78-31255 *
US-PATENT-CLASS-137-340	c 15	N70-35087 *	US-PATENT-CLASS-140-105	c 15	N72-12408 *	US-PATENT-CLASS-149-19.92	c 28	N79-14228 *
US-PATENT-CLASS-137-341	c 12	N71-17661 *	US-PATENT-CLASS-140-123	c 15	N71-15918 *	US-PATENT-CLASS-149-19.9	c 28	N79-14228 *
US-PATENT-CLASS-137-375	c 37	N80-23654 *	US-PATENT-CLASS-140-124	c 15	N71-10809 *	US-PATENT-CLASS-149-19.9	c 28	N79-28342 *
US-PATENT-CLASS-137-397	c 15	N73-26472 *	US-PATENT-CLASS-141-197	c 35	N78-10428 *	US-PATENT-CLASS-149-19.9	c 28	N80-28536 *
US-PATENT-CLASS-137-469	c 05	N72-20097 *	US-PATENT-CLASS-141-198	c 25	N86-27431 *	US-PATENT-CLASS-149-19	c 27	N71-14090 *
US-PATENT-CLASS-137-484.2	c 34	N78-25351 *	US-PATENT-CLASS-141-23	c 15	N72-21465 *	US-PATENT-CLASS-149-19	c 27	N72-25699 *
US-PATENT-CLASS-137-487.5	c 14	N73-13418 *	US-PATENT-CLASS-141-258	c 14	N71-27005 *	US-PATENT-CLASS-149-19	c 27	N73-16764 *
US-PATENT-CLASS-137-491	c 15	N69-21924 *	US-PATENT-CLASS-141-4	c 35	N78-10428 *	US-PATENT-CLASS-149-1	c 23	N71-16212 *
US-PATENT-CLASS-137-493	c 52	N81-25660 *	US-PATENT-CLASS-141-5	c 33	N71-20834 *	US-PATENT-CLASS-149-1	c 06	N73-30097 *
US-PATENT-CLASS-137-495	c 15	N70-38603 *	US-PATENT-CLASS-141-91	c 12	N71-21089 *	US-PATENT-CLASS-149-1	c 28	N80-20402 *
US-PATENT-CLASS-137-496	c 15	N71-22706 *	US-PATENT-CLASS-148-DIG.26	c 76	N85-30922 *	US-PATENT-CLASS-149-1	c 28	N81-14103 *
US-PATENT-CLASS-137-501	c 34	N78-25351 *	US-PATENT-CLASS-148-1.5	c 26	N71-10607 *	US-PATENT-CLASS-149-20	c 27	N72-25699 *
US-PATENT-CLASS-137-505.12	c 14	N71-18625 *	US-PATENT-CLASS-148-1.5	c 26	N71-23854 *	US-PATENT-CLASS-149-20	c 28	N79-14228 *
US-PATENT-CLASS-137-505.16	c 34	N78-25351 *	US-PATENT-CLASS-148-1.5	c 76	N74-20329 *	US-PATENT-CLASS-149-20	c 28	N79-28342 *
US-PATENT-CLASS-137-505.25	c 37	N78-25426 *	US-PATENT-CLASS-148-1.5	c 44	N80-29835 *	US-PATENT-CLASS-149-20	c 28	N80-28536 *
US-PATENT-CLASS-137-505.38	c 37	N75-15050 *	US-PATENT-CLASS-148-1.5	c 33	N81-26360 *	US-PATENT-CLASS-149-2	c 12	N70-40124 *
US-PATENT-CLASS-137-505.42	c 37	N75-15050 *	US-PATENT-CLASS-148-1.5	c 44	N82-26777 *	US-PATENT-CLASS-149-36	c 27	N72-25699 *
US-PATENT-CLASS-137-515.3	c 37	N76-14463 *	US-PATENT-CLASS-148-1.5	c 44	N82-29709 *	US-PATENT-CLASS-149-36	c 27	N73-16764 *
US-PATENT-CLASS-137-516.27	c 15	N73-30459 *	US-PATENT-CLASS-148-1.5	c 44	N86-32875 *	US-PATENT-CLASS-149-36	c 06	N73-30097 *
US-PATENT-CLASS-137-535	c 15	N73-30459 *	US-PATENT-CLASS-148-11.5R	c 15	N73-13465 *	US-PATENT-CLASS-149-36	c 24	N76-14203 *
US-PATENT-CLASS-137-535	c 05	N73-32014 *	US-PATENT-CLASS-148-12.4	c 26	N79-22271 *	US-PATENT-CLASS-149-37	c 44	N80-20808 *
US-PATENT-CLASS-137-538	c 05	N73-25125 *	US-PATENT-CLASS-148-12.7A	c 26	N78-24333 *	US-PATENT-CLASS-149-42	c 20	N78-32179 *
US-PATENT-CLASS-137-539	c 15	N70-41811 *	US-PATENT-CLASS-148-12.7N	c 26	N77-20201 *	US-PATENT-CLASS-149-43	c 20	N78-32179 *
US-PATENT-CLASS-137-549	c 37	N81-17433 *	US-PATENT-CLASS-148-12F	c 26	N79-22271 *	US-PATENT-CLASS-149-44	c 20	N78-32179 *
US-PATENT-CLASS-137-550	c 37	N76-14463 *	US-PATENT-CLASS-148-121	c 76	N79-16678 *	US-PATENT-CLASS-149-60	c 28	N74-33209 *
US-PATENT-CLASS-137-554	c 09	N71-23191 *	US-PATENT-CLASS-148-125	c 26	N78-24333 *	US-PATENT-CLASS-149-76	c 28	N74-33209 *
US-PATENT-CLASS-137-559	c 11	N73-12265 *	US-PATENT-CLASS-148-126	c 17	N71-24142 *	US-PATENT-CLASS-149-76	c 20	N78-32179 *
US-PATENT-CLASS-137-574	c 20	N80-10278 *	US-PATENT-CLASS-148-126	c 18	N71-26153 *	US-PATENT-CLASS-149-83	c 20	N78-32179 *
US-PATENT-CLASS-137-576	c 20	N80-10278 *	US-PATENT-CLASS-148-126	c 18	N71-28729 *	US-PATENT-CLASS-149-85	c 20	N78-32179 *
US-PATENT-CLASS-137-582	c 32	N71-16103 *	US-PATENT-CLASS-148-126	c 26	N74-10521 *	US-PATENT-CLASS-149-88	c 28	N78-31255 *
US-PATENT-CLASS-137-582	c 32	N71-16106 *	US-PATENT-CLASS-148-127	c 26	N75-29236 *	US-PATENT-CLASS-149-92	c 27	N72-25699 *
US-PATENT-CLASS-137-582	c 15	N71-19569 *	US-PATENT-CLASS-148-131	c 26	N80-28492 *	US-PATENT-CLASS-149-92	c 28	N78-31255 *
US-PATENT-CLASS-137-582	c 15	N73-26472 *	US-PATENT-CLASS-148-13	c 14	N71-25892 *	US-PATENT-CLASS-149-93	c 28	N78-31255 *
US-PATENT-CLASS-137-590	c 20	N80-10278 *	US-PATENT-CLASS-148-159	c 26	N89-28621 *	US-PATENT-CLASS-15-143	c 15	N72-11390 *
US-PATENT-CLASS-137-594	c 12	N71-18615 *	US-PATENT-CLASS-148-16.6	c 26	N88-14179 *	US-PATENT-CLASS-15-210	c 15	N72-11390 *
US-PATENT-CLASS-137-604	c 15	N73-27406 *	US-PATENT-CLASS-148-162	c 26	N77-20201 *	US-PATENT-CLASS-15-230.16	c 37	N79-10422 *
US-PATENT-CLASS-137-606	c 37	N87-21332 *	US-PATENT-CLASS-148-162	c 26	N87-28647 *	US-PATENT-CLASS-15-230.17	c 37	N79-10422 *
US-PATENT-CLASS-137-608	c 15	N73-13462 *	US-PATENT-CLASS-148-173	c 76	N83-20789 *	US-PATENT-CLASS-15-406	c 37	N85-21652 *
US-PATENT-CLASS-137-614.06	c 37	N79-11402 *	US-PATENT-CLASS-148-174	c 26	N71-29156 *	US-PATENT-CLASS-15-415	c 14	N73-30395 *
US-PATENT-CLASS-137-614.11	c 37	N87-25573 *	US-PATENT-CLASS-148-174	c 44	N76-28635 *	US-PATENT-CLASS-150-11	c 37	N81-14317 *
US-PATENT-CLASS-137-614.18	c 37	N87-25573 *	US-PATENT-CLASS-148-174	c 44	N78-24609 *	US-PATENT-CLASS-150-1	c 52	N79-14749 *
US-PATENT-CLASS-137-614	c 15	N70-36492 *	US-PATENT-CLASS-148-174	c 76	N85-30922 *	US-PATENT-CLASS-151-41.76	c 37	N80-23653 *
US-PATENT-CLASS-137-615	c 12	N71-16031 *	US-PATENT-CLASS-148-174	c 76	N87-15882 *	US-PATENT-CLASS-152-11	c 31	N71-18611 *
US-PATENT-CLASS-137-624.11	c 35	N78-19466 *	US-PATENT-CLASS-148-175	c 25	N75-26043 *	US-PATENT-CLASS-152-225	c 15	N71-27091 *
US-PATENT-CLASS-137-624.14	c 03	N69-21469 *	US-PATENT-CLASS-148-175	c 76	N76-25049 *	US-PATENT-CLASS-152-250	c 15	N71-27091 *
US-PATENT-CLASS-137-625.38	c 37	N78-25426 *	US-PATENT-CLASS-148-175	c 44	N76-28635 *	US-PATENT-CLASS-152-300R	c 37	N81-24443 *
US-PATENT-CLASS-137-625.3	c 37	N78-25426 *	US-PATENT-CLASS-148-175	c 44	N82-28780 *	US-PATENT-CLASS-152-353R	c 37	N81-24443 *
US-PATENT-CLASS-137-625.4	c 37	N80-23654 *	US-PATENT-CLASS-148-175	c 76	N83-20789 *	US-PATENT-CLASS-152-353R	c 37	N81-24443 *
US-PATENT-CLASS-137-625.5	c 15	N71-23051 *	US-PATENT-CLASS-148-175	c 76	N85-30922 *	US-PATENT-CLASS-152-379.4	c 37	N81-24443 *
US-PATENT-CLASS-137-625.69	c 15	N70-36908 *	US-PATENT-CLASS-148-175	c 76	N87-15882 *	US-PATENT-CLASS-156-307.7	c 27	N82-11206 *
US-PATENT-CLASS-137-628	c 37	N74-21065 *	US-PATENT-CLASS-148-187	c 26	N72-17820 *	US-PATENT-CLASS-156-DIG.6-8	c 76	N79-23798 *
US-PATENT-CLASS-137-637.05	c 37	N79-11402 *	US-PATENT-CLASS-148-187	c 14	N72-28438 *	US-PATENT-CLASS-156-DIG.62	c 76	N77-32919 *
US-PATENT-CLASS-137-81.5	c 12	N69-21466 *	US-PATENT-CLASS-148-187	c 33	N81-26360 *	US-PATENT-CLASS-156-DIG.62	c 35	N83-24828 *
US-PATENT-CLASS-137-81.5	c 15	N71-15609 *	US-PATENT-CLASS-148-187	c 35	N87-14671 *	US-PATENT-CLASS-156-DIG.62	c 33	N85-29142 *
US-PATENT-CLASS-137-81.5	c 12	N71-17578 *	US-PATENT-CLASS-148-188	c 24	N71-10560 *	US-PATENT-CLASS-156-DIG.64	c 76	N79-11920 *
US-PATENT-CLASS-137-81.5	c 12	N71-17579 *	US-PATENT-CLASS-148-188	c 09	N71-12513 *	US-PATENT-CLASS-156-DIG.64	c 44	N80-24741 *
US-PATENT-CLASS-137-81.5	c 10	N71-25899 *	US-PATENT-CLASS-148-188	c 44	N79-11468 *	US-PATENT-CLASS-156-DIG.64	c 76	N80-32245 *
US-PATENT-CLASS-137-81.5	c 12	N71-27332 *	US-PATENT-CLASS-148-188	c 35	N87-14671 *	US-PATENT-CLASS-156-DIG.64	c 76	N84-35113 *
US-PATENT-CLASS-137-81.5	c 12	N71-28741 *	US-PATENT-CLASS-148-189	c 35	N87-14671 *	US-PATENT-CLASS-156-DIG.65	c 76	N79-11920 *
US-PATENT-CLASS-137-81.5	c 28	N72-22772 *	US-PATENT-CLASS-148-190	c 35	N87-14671 *	US-PATENT-CLASS-156-DIG.65	c 76	N85-30922 *
US-PATENT-CLASS-137-81.5	c 15	N72-33477 *	US-PATENT-CLASS-148-20.3	c 26	N77-20201 *	US-PATENT-CLASS-156-DIG.6	c 76	N83-35888 *
US-PATENT-CLASS-137-81.5	c 15	N73-13462 *	US-PATENT-CLASS-148-2	c 26	N77-20201 *	US-PATENT-CLASS-156-DIG.70	c 76	N88-24544 *
US-PATENT-CLASS-137-81.5	c 28	N73-13773 *	US-PATENT-CLASS-148-2	c 26	N79-22271 *	US-PATENT-CLASS-156-DIG.70	c 76	N88-24545 *
US-PATENT-CLASS-137-819	c 33	N74-11050 *	US-PATENT-CLASS-148-32	c 26	N78-18183 *	US-PATENT-CLASS-156-DIG.72	c 76	N88-24545 *
US-PATENT-CLASS-137-819	c 05	N72-20097 *	US-PATENT-CLASS-148-32.5	c 17	N72-22535 *	US-PATENT-CLASS-156-DIG.72	c 76	N88-24545 *
US-PATENT-CLASS-137-81	c 14	N73-13418 *	US-PATENT-CLASS-148-32.5	c 26	N77-20201 *	US-PATENT-CLASS-156-DIG.73	c 76	N83-35888 *
US-PATENT-CLASS-137-833	c 33	N74-11050 *	US-PATENT-CLASS-148-32.5	c 26	N77-32280 *	US-PATENT-CLASS-156-DIG.73	c 27	N83-36220 *
US-PATENT-CLASS-137-838	c 71	N84-28568 *	US-PATENT-CLASS-148-32.5	c 26	N78-18183 *	US-PATENT-CLASS-156-DIG.82	c 76	N88-24544 *
US-PATENT-CLASS-137-840	c 33	N74-11050 *	US-PATENT-CLASS-148-32	c 26	N77-32279 *	US-PATENT-CLASS-156-DIG.82	c 76	N88-24545 *
US-PATENT-CLASS-137-886	c 37	N81-17433 *	US-PATENT-CLASS-148-32	c 26	N80-23419 *	US-PATENT-CLASS-156-DIG.84	c 76	N88-24545 *
US-PATENT-CLASS-137-887	c 37	N81-17433 *	US-PATENT-CLASS-148-32.2	c 76	N85-30922 *	US-PATENT-CLASS-156-DIG.88	c 76	N79-11920 *
US-PATENT-CLASS-137-99	c 37	N85-34403 *	US-PATENT-CLASS-148-410	c 26	N87-28647 *	US-PATENT-CLASS-156-DIG.88	c 76	N80-32245 *
US-PATENT-CLASS-138-8R	c 27	N81-15104 *	US-PATENT-CLASS-148-416	c 26	N89-28621 *	US-PATENT-CLASS-156-DIG.88	c 76	N84-35113 *
US-PATENT-CLASS-138-103	c 52	N80-16725 *	US-PATENT-CLASS-148-417	c 26	N89-28621 *	US-PATENT-CLASS-156-DIG.88	c 76	N85-30922 *
US-PATENT-CLASS-138-113	c 34	N75-12222 *	US-PATENT-CLASS-148-428	c 26	N82-31505 *	US-PATENT-CLASS-156-DIG.88	c 76	N86-28760 *



US-PATENT-CLASS-156-DIG.89	c 27	N83-36220 *	US-PATENT-CLASS-156-307.7	c 37	N87-23981 *	US-PATENT-CLASS-156-648	c 33	N81-26360 *
US-PATENT-CLASS-156-DIG.89	c 76	N88-24545 *	US-PATENT-CLASS-156-307.7	c 35	N88-30108 *	US-PATENT-CLASS-156-649	c 33	N81-26360 *
US-PATENT-CLASS-156-DIG.92	c 76	N88-24545 *	US-PATENT-CLASS-156-307	c 27	N86-20561 *	US-PATENT-CLASS-156-654	c 76	N83-20789 *
US-PATENT-CLASS-156-DIG.96	c 76	N80-32244 *	US-PATENT-CLASS-156-308	c 05	N72-25121 *	US-PATENT-CLASS-156-654	c 35	N84-22930 *
US-PATENT-CLASS-156-DIG.96	c 33	N81-19389 *	US-PATENT-CLASS-156-309.9	c 27	N86-20561 *	US-PATENT-CLASS-156-659.1	c 31	N87-21160 *
US-PATENT-CLASS-156-DIG.98	c 76	N84-35113 *	US-PATENT-CLASS-156-309	c 31	N74-18089 *	US-PATENT-CLASS-156-661.1	c 31	N87-21160 *
US-PATENT-CLASS-156-104	c 44	N80-18550 *	US-PATENT-CLASS-156-309	c 27	N78-17205 *	US-PATENT-CLASS-156-662	c 76	N83-20789 *
US-PATENT-CLASS-156-154	c 24	N78-17150 *	US-PATENT-CLASS-156-311	c 24	N78-17150 *	US-PATENT-CLASS-156-663	c 27	N77-32308 *
US-PATENT-CLASS-156-154	c 27	N81-14077 *	US-PATENT-CLASS-156-312	c 44	N80-18550 *	US-PATENT-CLASS-156-668	c 52	N84-23095 *
US-PATENT-CLASS-156-157	c 33	N82-26571 *	US-PATENT-CLASS-156-315	c 27	N82-24340 *	US-PATENT-CLASS-156-66	c 15	N72-11392 *
US-PATENT-CLASS-156-160	c 27	N81-14077 *	US-PATENT-CLASS-156-320	c 15	N72-11392 *	US-PATENT-CLASS-156-71	c 33	N82-26571 *
US-PATENT-CLASS-156-161	c 24	N81-29163 *	US-PATENT-CLASS-156-323	c 27	N81-14077 *	US-PATENT-CLASS-156-71	c 35	N84-12443 *
US-PATENT-CLASS-156-163	c 27	N81-14077 *	US-PATENT-CLASS-156-329	c 27	N82-29456 *	US-PATENT-CLASS-156-74	c 24	N81-29163 *
US-PATENT-CLASS-156-163	c 74	N87-28416 *	US-PATENT-CLASS-156-330	c 24	N81-14000 *	US-PATENT-CLASS-156-7	c 74	N75-12732 *
US-PATENT-CLASS-156-165	c 24	N81-29163 *	US-PATENT-CLASS-156-331.5	c 27	N82-11206 *	US-PATENT-CLASS-156-81	c 27	N84-22748 *
US-PATENT-CLASS-156-166	c 74	N85-29749 *	US-PATENT-CLASS-156-331.5	c 27	N86-20561 *	US-PATENT-CLASS-156-84	c 15	N72-16330 *
US-PATENT-CLASS-156-166	c 74	N75-12732 *	US-PATENT-CLASS-156-331	c 37	N74-18126 *	US-PATENT-CLASS-156-84	c 37	N82-24491 *
US-PATENT-CLASS-156-172	c 15	N71-17651 *	US-PATENT-CLASS-156-331	c 27	N78-17205 *	US-PATENT-CLASS-156-85	c 37	N82-24491 *
US-PATENT-CLASS-156-17	c 76	N79-21910 *	US-PATENT-CLASS-156-331	c 24	N79-16915 *	US-PATENT-CLASS-156-86	c 15	N72-16330 *
US-PATENT-CLASS-156-18	c 26	N73-26752 *	US-PATENT-CLASS-156-331	c 27	N81-14077 *	US-PATENT-CLASS-156-86	c 37	N82-24491 *
US-PATENT-CLASS-156-18	c 74	N75-12732 *	US-PATENT-CLASS-156-338	c 27	N82-24340 *	US-PATENT-CLASS-156-87	c 37	N87-23981 *
US-PATENT-CLASS-156-191	c 52	N84-28389 *	US-PATENT-CLASS-156-344	c 28	N81-14103 *	US-PATENT-CLASS-156-89	c 37	N75-15992 *
US-PATENT-CLASS-156-212	c 03	N71-26726 *	US-PATENT-CLASS-156-344	c 31	N83-34073 *	US-PATENT-CLASS-156-89	c 24	N79-25143 *
US-PATENT-CLASS-156-212	c 24	N80-26388 *	US-PATENT-CLASS-156-345	c 15	N70-42033 *	US-PATENT-CLASS-156-89	c 27	N84-22748 *
US-PATENT-CLASS-156-212	c 27	N81-14077 *	US-PATENT-CLASS-156-345	c 31	N87-21160 *	US-PATENT-CLASS-156-904	c 31	N87-21160 *
US-PATENT-CLASS-156-213	c 24	N80-26388 *	US-PATENT-CLASS-156-379.7	c 33	N82-26571 *	US-PATENT-CLASS-156-905	c 35	N84-22930 *
US-PATENT-CLASS-156-215	c 35	N84-12443 *	US-PATENT-CLASS-156-380.2	c 31	N85-29083 *	US-PATENT-CLASS-156-94	c 32	N74-27612 *
US-PATENT-CLASS-156-218	c 54	N74-32546 *	US-PATENT-CLASS-156-382	c 37	N76-21554 *	US-PATENT-CLASS-156-94	c 24	N74-30001 *
US-PATENT-CLASS-156-229	c 24	N77-28225 *	US-PATENT-CLASS-156-382	c 52	N84-28389 *	US-PATENT-CLASS-156-99	c 37	N75-15992 *
US-PATENT-CLASS-156-229	c 74	N87-28416 *	US-PATENT-CLASS-156-382	c 74	N87-28416 *	US-PATENT-CLASS-159-3	c 25	N88-23846 *
US-PATENT-CLASS-156-230	c 35	N84-12443 *	US-PATENT-CLASS-156-391	c 35	N84-12443 *	US-PATENT-CLASS-159-48.2	c 25	N88-23846 *
US-PATENT-CLASS-156-233	c 35	N88-30108 *	US-PATENT-CLASS-156-3	c 17	N71-16044 *	US-PATENT-CLASS-159-900	c 25	N88-23846 *
US-PATENT-CLASS-156-235	c 35	N84-12443 *	US-PATENT-CLASS-156-3	c 15	N71-21404 *	US-PATENT-CLASS-16-242	c 31	N86-19479 *
US-PATENT-CLASS-156-242	c 15	N69-24322 *	US-PATENT-CLASS-156-3	c 15	N71-24047 *	US-PATENT-CLASS-16-292	c 18	N88-23827 *
US-PATENT-CLASS-156-242	c 37	N76-24575 *	US-PATENT-CLASS-156-3	c 06	N72-21094 *	US-PATENT-CLASS-16-294	c 37	N86-19605 *
US-PATENT-CLASS-156-242	c 24	N81-33235 *	US-PATENT-CLASS-156-423	c 35	N84-12443 *	US-PATENT-CLASS-16-294	c 18	N87-14373 *
US-PATENT-CLASS-156-245	c 31	N74-18089 *	US-PATENT-CLASS-156-494	c 74	N87-28416 *	US-PATENT-CLASS-16-297	c 18	N88-23827 *
US-PATENT-CLASS-156-245	c 24	N78-17149 *	US-PATENT-CLASS-156-499	c 27	N84-22748 *	US-PATENT-CLASS-16-326	c 18	N88-23827 *
US-PATENT-CLASS-156-245	c 24	N81-33235 *	US-PATENT-CLASS-156-510	c 15	N71-17687 *	US-PATENT-CLASS-16-332	c 18	N88-23827 *
US-PATENT-CLASS-156-247	c 31	N74-18089 *	US-PATENT-CLASS-156-510	c 03	N72-25019 *	US-PATENT-CLASS-16-345	c 18	N88-23827 *
US-PATENT-CLASS-156-247	c 35	N88-30108 *	US-PATENT-CLASS-156-52	c 31	N79-21226 *	US-PATENT-CLASS-16-347	c 18	N88-23827 *
US-PATENT-CLASS-156-250	c 03	N72-25019 *	US-PATENT-CLASS-156-540	c 35	N84-12443 *	US-PATENT-CLASS-16-349	c 18	N88-23827 *
US-PATENT-CLASS-156-252	c 24	N81-33235 *	US-PATENT-CLASS-156-545	c 15	N71-24164 *	US-PATENT-CLASS-16-370	c 18	N87-14373 *
US-PATENT-CLASS-156-264	c 05	N72-25121 *	US-PATENT-CLASS-156-556	c 37	N76-21554 *	US-PATENT-CLASS-16-390	c 31	N86-19479 *
US-PATENT-CLASS-156-264	c 24	N78-17150 *	US-PATENT-CLASS-156-59	c 31	N83-34073 *	US-PATENT-CLASS-160-23R	c 37	N87-17036 *
US-PATENT-CLASS-156-264	c 24	N81-33235 *	US-PATENT-CLASS-156-600	c 27	N83-36220 *	US-PATENT-CLASS-160-265	c 37	N87-17036 *
US-PATENT-CLASS-156-264	c 31	N83-34073 *	US-PATENT-CLASS-156-601	c 76	N77-32919 *	US-PATENT-CLASS-161-115	c 18	N70-41583 *
US-PATENT-CLASS-156-267	c 27	N81-14077 *	US-PATENT-CLASS-156-601	c 76	N80-32245 *	US-PATENT-CLASS-161-116	c 37	N74-23064 *
US-PATENT-CLASS-156-272.4	c 31	N85-29083 *	US-PATENT-CLASS-156-602	c 76	N82-30105 *	US-PATENT-CLASS-161-127	c 18	N72-25540 *
US-PATENT-CLASS-156-272.4	c 35	N88-30108 *	US-PATENT-CLASS-156-605	c 44	N80-24741 *	US-PATENT-CLASS-161-127	c 18	N72-25541 *
US-PATENT-CLASS-156-272	c 27	N80-32516 *	US-PATENT-CLASS-156-607	c 76	N87-23286 *	US-PATENT-CLASS-161-161	c 33	N71-25351 *
US-PATENT-CLASS-156-272	c 33	N82-26571 *	US-PATENT-CLASS-156-607	c 76	N88-24544 *	US-PATENT-CLASS-161-182	c 15	N69-39735 *
US-PATENT-CLASS-156-273.7	c 27	N85-20125 *	US-PATENT-CLASS-156-608	c 76	N79-11920 *	US-PATENT-CLASS-161-182	c 37	N74-18126 *
US-PATENT-CLASS-156-273.9	c 31	N85-29083 *	US-PATENT-CLASS-156-608	c 33	N81-19389 *	US-PATENT-CLASS-161-189	c 23	N71-15978 *
US-PATENT-CLASS-156-274.8	c 35	N88-30108 *	US-PATENT-CLASS-156-608	c 76	N82-30105 *	US-PATENT-CLASS-161-192	c 37	N74-18126 *
US-PATENT-CLASS-156-275.5	c 35	N88-30108 *	US-PATENT-CLASS-156-608	c 76	N83-20789 *	US-PATENT-CLASS-161-196	c 37	N74-10663 *
US-PATENT-CLASS-156-278	c 44	N80-18550 *	US-PATENT-CLASS-156-608	c 76	N83-35888 *	US-PATENT-CLASS-161-214	c 06	N73-27980 *
US-PATENT-CLASS-156-285	c 15	N71-23052 *	US-PATENT-CLASS-156-608	c 76	N84-35113 *	US-PATENT-CLASS-161-227	c 06	N73-27980 *
US-PATENT-CLASS-156-285	c 18	N73-30532 *	US-PATENT-CLASS-156-610	c 15	N71-22713 *	US-PATENT-CLASS-161-42	c 37	N74-18126 *
US-PATENT-CLASS-156-285	c 31	N74-18089 *	US-PATENT-CLASS-156-610	c 76	N76-25049 *	US-PATENT-CLASS-161-43	c 37	N74-18126 *
US-PATENT-CLASS-156-285	c 24	N74-27035 *	US-PATENT-CLASS-156-610	c 27	N83-36220 *	US-PATENT-CLASS-161-67	c 33	N72-17947 *
US-PATENT-CLASS-156-285	c 24	N78-17149 *	US-PATENT-CLASS-156-610	c 76	N86-28760 *	US-PATENT-CLASS-161-68	c 18	N71-21651 *
US-PATENT-CLASS-156-285	c 24	N78-17150 *	US-PATENT-CLASS-156-612	c 76	N76-25049 *	US-PATENT-CLASS-161-68	c 18	N72-25540 *
US-PATENT-CLASS-156-285	c 44	N80-18550 *	US-PATENT-CLASS-156-612	c 44	N76-28635 *	US-PATENT-CLASS-161-68	c 18	N72-25541 *
US-PATENT-CLASS-156-285	c 24	N80-26388 *	US-PATENT-CLASS-156-612	c 76	N85-30922 *	US-PATENT-CLASS-161-69	c 33	N71-24858 *
US-PATENT-CLASS-156-285	c 24	N81-29163 *	US-PATENT-CLASS-156-613	c 76	N76-25049 *	US-PATENT-CLASS-161-7	c 18	N72-25540 *
US-PATENT-CLASS-156-285	c 24	N81-33235 *	US-PATENT-CLASS-156-613	c 44	N76-28635 *	US-PATENT-CLASS-161-7	c 18	N72-25541 *
US-PATENT-CLASS-156-285	c 52	N84-28389 *	US-PATENT-CLASS-156-614	c 44	N76-28635 *	US-PATENT-CLASS-161-89	c 17	N71-28747 *
US-PATENT-CLASS-156-286	c 37	N76-21554 *	US-PATENT-CLASS-156-617-H	c 76	N87-23286 *	US-PATENT-CLASS-161-92	c 37	N75-26371 *
US-PATENT-CLASS-156-286	c 37	N76-24575 *	US-PATENT-CLASS-156-617-SP	c 76	N84-35113 *	US-PATENT-CLASS-161-93	c 18	N73-12604 *
US-PATENT-CLASS-156-286	c 24	N78-17150 *	US-PATENT-CLASS-156-617-SP	c 76	N87-23286 *	US-PATENT-CLASS-161-93	c 37	N74-18126 *
US-PATENT-CLASS-156-286	c 37	N87-23981 *	US-PATENT-CLASS-156-617-V	c 76	N84-35113 *	US-PATENT-CLASS-161-93	c 37	N75-26371 *
US-PATENT-CLASS-156-286	c 74	N87-28416 *	US-PATENT-CLASS-156-617SP	c 76	N79-11920 *	US-PATENT-CLASS-162-102	c 24	N76-14204 *
US-PATENT-CLASS-156-289	c 24	N78-17149 *	US-PATENT-CLASS-156-617SP	c 76	N79-23798 *	US-PATENT-CLASS-162-14	c 85	N79-17747 *
US-PATENT-CLASS-156-289	c 24	N78-17150 *	US-PATENT-CLASS-156-617SP	c 44	N80-24741 *	US-PATENT-CLASS-162-153	c 24	N76-14204 *
US-PATENT-CLASS-156-289	c 52	N84-28389 *	US-PATENT-CLASS-156-617SP	c 76	N80-32245 *	US-PATENT-CLASS-162-222	c 24	N76-14204 *
US-PATENT-CLASS-156-289	c 37	N87-23981 *	US-PATENT-CLASS-156-619	c 76	N77-32919 *	US-PATENT-CLASS-162-228	c 24	N76-14204 *
US-PATENT-CLASS-156-290	c 24	N81-33235 *	US-PATENT-CLASS-156-620.76	c 76	N88-24545 *	US-PATENT-CLASS-162-29	c 85	N79-17747 *
US-PATENT-CLASS-156-292	c 27	N80-32516 *	US-PATENT-CLASS-156-620	c 76	N77-32919 *	US-PATENT-CLASS-164-105	c 20	N79-21123 *
US-PATENT-CLASS-156-292	c 24	N81-17170 *	US-PATENT-CLASS-156-621	c 76	N88-14835 *	US-PATENT-CLASS-164-119	c 24	N84-16262 *
US-PATENT-CLASS-156-294	c 37	N81-14317 *	US-PATENT-CLASS-156-621	c 76	N88-24544 *	US-PATENT-CLASS-164-132	c 37	N76-23570 *
US-PATENT-CLASS-156-294	c 24	N81-29163 *	US-PATENT-CLASS-156-622	c 76	N88-14835 *	US-PATENT-CLASS-164-331.12	c 27	N83-34041 *
US-PATENT-CLASS-156-294	c 35	N84-12443 *	US-PATENT-CLASS-156-623Q	c 76	N85-29800 *	US-PATENT-CLASS-164-60	c 24	N77-27187 *
US-PATENT-CLASS-156-295	c 27	N81-14077 *	US-PATENT-CLASS-156-624	c 76	N83-20789 *	US-PATENT-CLASS-165-DIG.6	c 34	N84-22903 *
US-PATENT-CLASS-156-297	c 27	N89-12741 *	US-PATENT-CLASS-156-624	c 76	N86-28760 *	US-PATENT-CLASS-165-104.1	c 05	N81-26114 *
US-PATENT-CLASS-156-298	c 37	N87-23981 *	US-PATENT-CLASS-156-624	c 76	N88-14835 *	US-PATENT-CLASS-165-104.14	c 34	N85-29179 *
US-PATENT-CLASS-156-299	c 27	N89-12741 *	US-PATENT-CLASS-156-624	c 76	N88-24544 *	US-PATENT-CLASS-165-104.14	c 34	N86-27593 *
US-PATENT-CLASS-156-300	c 24	N78-17150 *	US-PATENT-CLASS-156-630	c 35	N84-22930 *	US-PATENT-CLASS-165-104.14	c 34	N87-22950 *
US-PATENT-CLASS-156-303	c 44	N80-18550 *	US-PATENT-CLASS-156-633	c 44	N78-25529 *	US-PATENT-CLASS-165-104.14	c 34	N88-23958 *
US-PATENT-CLASS-156-304.3	c 27	N84-22748 *	US-PATENT-CLASS-156-635	c 76	N83-20789 *	US-PATENT-CLASS-165-104.25	c 34	N87-22950 *
US-PATENT-CLASS-156-304.6	c 27	N84-22748 *	US-PATENT-CLASS-156-643	c 52	N84-23095 *	US-PATENT-CLASS-165-104.26	c 74	N83-19596 *
US-PATENT-CLASS-156-306	c 24	N78-17150 *	US-PATENT-CLASS-156-643	c 31	N87-21160 *	US-PATENT-CLASS-165-104.26	c 34	N83-35307 *
US-PATENT-CLASS-156-307.1	c 37	N87-23981 *	US-PATENT-CLASS-156-644	c 52	N84-23095 *	US-PATENT-CLASS-165-104.26	c 34	N85-21568 *
US-PATENT-CLASS-156-307.3	c 27	N82-11206 *	US-PATENT-CLASS-156-645	c 27	N77-32308 *	US-PATENT-CLASS-165-104.26	c 34	N85-29180 *
US-PATENT-CLASS-156-307.3	c 37	N87-23981 *	US-PATENT-CLASS-156-646	c 31	N87-21160 *	US-PATENT-CLASS-165-104.26	c 34	N86-27593 *
US-PATENT-CLASS-156-307.5	c 27	N82-11206 *	US-PATENT-CLASS-156-647	c 33	N81-26360 *			

US-PATENT-CLASS-165-104.26 .. c 34	N87-22950 *	US-PATENT-CLASS-165-47 ..... c 34	N75-12222 *	US-PATENT-CLASS-177-260 ..... c 35	N85-20294 *
US-PATENT-CLASS-165-104.26 .. c 34	N88-29133 *	US-PATENT-CLASS-165-48R ..... c 35	N85-29214 *	US-PATENT-CLASS-178-DIG.12 .. c 07	N72-12081 *
US-PATENT-CLASS-165-104.26 .. c 34	N89-14392 *	US-PATENT-CLASS-165-58 ..... c 27	N83-36220 *	US-PATENT-CLASS-178-DIG.12 .. c 32	N75-21485 *
US-PATENT-CLASS-165-104 ..... c 33	N71-25353 *	US-PATENT-CLASS-165-61 ..... c 34	N83-34221 *	US-PATENT-CLASS-178-DIG.1 ..... c 36	N74-20009 *
US-PATENT-CLASS-165-105 ..... c 09	N71-24807 *	US-PATENT-CLASS-165-61 ..... c 35	N85-29214 *	US-PATENT-CLASS-178-DIG.1 ..... c 33	N75-30431 *
US-PATENT-CLASS-165-105 ..... c 33	N71-25353 *	US-PATENT-CLASS-165-61 ..... c 35	N86-20750 *	US-PATENT-CLASS-178-DIG.1 ..... c 45	N76-17656 *
US-PATENT-CLASS-165-105 ..... c 33	N72-17948 *	US-PATENT-CLASS-165-61 ..... c 31	N89-12785 *	US-PATENT-CLASS-178-DIG.20 .. c 18	N76-14186 *
US-PATENT-CLASS-165-105 ..... c 31	N73-30829 *	US-PATENT-CLASS-165-64 ..... c 35	N85-29214 *	US-PATENT-CLASS-178-DIG.20 .. c 23	N72-27728 *
US-PATENT-CLASS-165-105 ..... c 28	N73-32606 *	US-PATENT-CLASS-165-65 ..... c 35	N86-20750 *	US-PATENT-CLASS-178-DIG.20 .. c 35	N75-19613 *
US-PATENT-CLASS-165-105 ..... c 34	N74-18552 *	US-PATENT-CLASS-165-76 ..... c 34	N83-28356 *	US-PATENT-CLASS-178-DIG.21 .. c 16	N72-13437 *
US-PATENT-CLASS-165-105 ..... c 34	N75-12222 *	US-PATENT-CLASS-165-76 ..... c 37	N86-32736 *	US-PATENT-CLASS-178-DIG.23 .. c 07	N73-30115 *
US-PATENT-CLASS-165-105 ..... c 44	N75-32581 *	US-PATENT-CLASS-165-80E ..... c 34	N83-34221 *	US-PATENT-CLASS-178-DIG.25 .. c 74	N75-25706 *
US-PATENT-CLASS-165-105 ..... c 44	N76-16612 *	US-PATENT-CLASS-165-81 ..... c 34	N88-29132 *	US-PATENT-CLASS-178-DIG.28 .. c 08	N72-22164 *
US-PATENT-CLASS-165-105 ..... c 34	N76-17317 *	US-PATENT-CLASS-165-86 ..... c 15	N71-26611 *	US-PATENT-CLASS-178-DIG.29 .. c 35	N75-25123 *
US-PATENT-CLASS-165-105 ..... c 34	N76-27515 *	US-PATENT-CLASS-165-86 ..... c 33	N71-29046 *	US-PATENT-CLASS-178-DIG.32 .. c 71	N74-21014 *
US-PATENT-CLASS-165-105 ..... c 34	N77-32413 *	US-PATENT-CLASS-165-904 ..... c 35	N89-12048 *	US-PATENT-CLASS-178-DIG.35 .. c 09	N76-24280 *
US-PATENT-CLASS-165-105 ..... c 25	N78-10224 *	US-PATENT-CLASS-165-905 ..... c 34	N88-29133 *	US-PATENT-CLASS-178-DIG.36 .. c 08	N72-22164 *
US-PATENT-CLASS-165-105 ..... c 34	N78-17336 *	US-PATENT-CLASS-165-96 ..... c 33	N70-36847 *	US-PATENT-CLASS-178-DIG.6 ..... c 10	N73-13235 *
US-PATENT-CLASS-165-105 ..... c 34	N78-17337 *	US-PATENT-CLASS-165-96 ..... c 33	N71-22890 *	US-PATENT-CLASS-178-DIG.8 ..... c 14	N72-25412 *
US-PATENT-CLASS-165-105 ..... c 44	N79-18443 *	US-PATENT-CLASS-165-96 ..... c 31	N73-30829 *	US-PATENT-CLASS-178-DIG.8 ..... c 45	N76-17656 *
US-PATENT-CLASS-165-105 ..... c 37	N79-28549 *	US-PATENT-CLASS-165-96 ..... c 33	N73-32818 *	US-PATENT-CLASS-178-15 ..... c 33	N75-19517 *
US-PATENT-CLASS-165-105 ..... c 34	N79-31523 *	US-PATENT-CLASS-165-96 ..... c 34	N78-17337 *	US-PATENT-CLASS-178-18 ..... c 10	N73-32143 *
US-PATENT-CLASS-165-105 ..... c 35	N81-14287 *	US-PATENT-CLASS-165-96 ..... c 34	N84-14461 *	US-PATENT-CLASS-178-22.16 ..... c 32	N82-31583 *
US-PATENT-CLASS-165-106 ..... c 33	N73-32818 *	US-PATENT-CLASS-165-96 ..... c 31	N89-12785 *	US-PATENT-CLASS-178-22.17 ..... c 32	N82-31583 *
US-PATENT-CLASS-165-106 ..... c 34	N76-17317 *	US-PATENT-CLASS-166-222 ..... c 43	N81-26509 *	US-PATENT-CLASS-178-5.2R ..... c 09	N71-28618 *
US-PATENT-CLASS-165-107 ..... c 09	N71-24807 *	US-PATENT-CLASS-166-248 ..... c 43	N78-14452 *	US-PATENT-CLASS-178-5.2R ..... c 07	N72-17109 *
US-PATENT-CLASS-165-107 ..... c 44	N77-32581 *	US-PATENT-CLASS-166-259 ..... c 43	N78-14452 *	US-PATENT-CLASS-178-5.4 ..... c 07	N72-17109 *
US-PATENT-CLASS-165-109 ..... c 35	N74-15093 *	US-PATENT-CLASS-166-267 ..... c 25	N82-23282 *	US-PATENT-CLASS-178-5.8R ..... c 71	N74-21014 *
US-PATENT-CLASS-165-10 ..... c 44	N76-31667 *	US-PATENT-CLASS-166-303 ..... c 25	N82-23282 *	US-PATENT-CLASS-178-50 ..... c 08	N72-18184 *
US-PATENT-CLASS-165-110 ..... c 77	N75-20139 *	US-PATENT-CLASS-166-63 ..... c 46	N79-22679 *	US-PATENT-CLASS-178-50 ..... c 08	N72-25208 *
US-PATENT-CLASS-165-111 ..... c 77	N75-20139 *	US-PATENT-CLASS-166-77 ..... c 43	N81-26509 *	US-PATENT-CLASS-178-52 ..... c 08	N72-22162 *
US-PATENT-CLASS-165-12 ..... c 33	N71-24276 *	US-PATENT-CLASS-169-28 ..... c 12	N72-21310 *	US-PATENT-CLASS-178-54CF ..... c 09	N71-28618 *
US-PATENT-CLASS-165-12 ..... c 34	N83-34221 *	US-PATENT-CLASS-169-36 ..... c 12	N72-21310 *	US-PATENT-CLASS-178-54PE ..... c 09	N71-28618 *
US-PATENT-CLASS-165-133 ..... c 33	N71-16277 *	US-PATENT-CLASS-169-47 ..... c 25	N83-36118 *	US-PATENT-CLASS-178-58A ..... c 32	N75-21486 *
US-PATENT-CLASS-165-133 ..... c 33	N71-25353 *	US-PATENT-CLASS-169-62 ..... c 31	N81-14137 *	US-PATENT-CLASS-178-58R ..... c 32	N80-18252 *
US-PATENT-CLASS-165-133 ..... c 33	N72-20915 *	US-PATENT-CLASS-169-70 ..... c 31	N81-14137 *	US-PATENT-CLASS-178-6.5 ..... c 23	N72-27728 *
US-PATENT-CLASS-165-133 ..... c 44	N76-23675 *	US-PATENT-CLASS-173-131 ..... c 15	N73-13463 *	US-PATENT-CLASS-178-6.6DD ..... c 07	N73-30115 *
US-PATENT-CLASS-165-134R ..... c 74	N83-19596 *	US-PATENT-CLASS-173-132 ..... c 37	N76-18454 *	US-PATENT-CLASS-178-6.6DD ..... c 35	N74-11283 *
US-PATENT-CLASS-165-134 ..... c 34	N78-17336 *	US-PATENT-CLASS-174-DIG.6 ..... c 26	N73-26752 *	US-PATENT-CLASS-178-6.6 ..... c 07	N71-11300 *
US-PATENT-CLASS-165-135 ..... c 34	N84-22903 *	US-PATENT-CLASS-174-DIG.6 ..... c 26	N73-32571 *	US-PATENT-CLASS-178-6.6 ..... c 07	N71-26102 *
US-PATENT-CLASS-165-138 ..... c 09	N71-24807 *	US-PATENT-CLASS-174-DIG.8 ..... c 33	N74-22865 *	US-PATENT-CLASS-178-6.7R ..... c 35	N74-15831 *
US-PATENT-CLASS-165-13 ..... c 34	N88-23958 *	US-PATENT-CLASS-174-106R ..... c 09	N72-22198 *	US-PATENT-CLASS-178-6.7 ..... c 07	N72-17109 *
US-PATENT-CLASS-165-141 ..... c 28	N73-32606 *	US-PATENT-CLASS-174-110.3 ..... c 14	N71-27186 *	US-PATENT-CLASS-178-6.8 ..... c 08	N72-22164 *
US-PATENT-CLASS-165-146 ..... c 34	N79-13289 *	US-PATENT-CLASS-174-111 ..... c 33	N74-27683 *	US-PATENT-CLASS-178-6.8 ..... c 14	N72-25412 *
US-PATENT-CLASS-165-155 ..... c 33	N72-20915 *	US-PATENT-CLASS-174-115 ..... c 09	N70-38201 *	US-PATENT-CLASS-178-6.8 ..... c 07	N73-30115 *
US-PATENT-CLASS-165-158 ..... c 33	N72-20915 *	US-PATENT-CLASS-174-117FF ..... c 09	N72-22198 *	US-PATENT-CLASS-178-6.8 ..... c 33	N75-30431 *
US-PATENT-CLASS-165-161 ..... c 33	N72-20915 *	US-PATENT-CLASS-174-126CP ..... c 26	N73-32571 *	US-PATENT-CLASS-178-6.8 ..... c 45	N76-17656 *
US-PATENT-CLASS-165-164 ..... c 34	N77-10463 *	US-PATENT-CLASS-174-142 ..... c 33	N80-18286 *	US-PATENT-CLASS-178-66R ..... c 32	N75-24981 *
US-PATENT-CLASS-165-166 ..... c 54	N77-32722 *	US-PATENT-CLASS-174-145 ..... c 33	N76-16332 *	US-PATENT-CLASS-178-66 ..... c 09	N71-25866 *
US-PATENT-CLASS-165-169 ..... c 34	N79-13288 *	US-PATENT-CLASS-174-148 ..... c 33	N76-16332 *	US-PATENT-CLASS-178-66 ..... c 08	N72-18184 *
US-PATENT-CLASS-165-169 ..... c 34	N79-13289 *	US-PATENT-CLASS-174-15CA ..... c 31	N79-17029 *	US-PATENT-CLASS-178-67 ..... c 08	N70-41961 *
US-PATENT-CLASS-165-16 ..... c 31	N80-32583 *	US-PATENT-CLASS-174-15C ..... c 33	N74-27683 *	US-PATENT-CLASS-178-67 ..... c 32	N74-26654 *
US-PATENT-CLASS-165-170 ..... c 34	N77-10463 *	US-PATENT-CLASS-174-18 ..... c 09	N69-21542 *	US-PATENT-CLASS-178-69.1 ..... c 32	N78-15323 *
US-PATENT-CLASS-165-170 ..... c 34	N88-29132 *	US-PATENT-CLASS-174-28 ..... c 07	N71-27191 *	US-PATENT-CLASS-178-69.4R ..... c 32	N74-10132 *
US-PATENT-CLASS-165-174 ..... c 33	N72-20915 *	US-PATENT-CLASS-174-28 ..... c 33	N74-27683 *	US-PATENT-CLASS-178-69.5R ..... c 07	N72-20140 *
US-PATENT-CLASS-165-185 ..... c 28	N73-32606 *	US-PATENT-CLASS-174-35 ..... c 07	N71-19436 *	US-PATENT-CLASS-178-69.5R ..... c 32	N75-26195 *
US-PATENT-CLASS-165-185 ..... c 34	N83-28356 *	US-PATENT-CLASS-174-36 ..... c 09	N72-22198 *	US-PATENT-CLASS-178-69.5R ..... c 33	N76-14371 *
US-PATENT-CLASS-165-1 ..... c 09	N70-41717 *	US-PATENT-CLASS-174-52-PE ..... c 33	N88-23941 *	US-PATENT-CLASS-178-69.5R ..... c 60	N77-19760 *
US-PATENT-CLASS-165-1 ..... c 34	N75-12222 *	US-PATENT-CLASS-174-52-R ..... c 33	N88-23941 *	US-PATENT-CLASS-178-69.5 ..... c 07	N71-11281 *
US-PATENT-CLASS-165-1 ..... c 34	N85-29180 *	US-PATENT-CLASS-174-52-S ..... c 33	N88-23941 *	US-PATENT-CLASS-178-69.5 ..... c 10	N71-19468 *
US-PATENT-CLASS-165-1 ..... c 34	N87-22950 *	US-PATENT-CLASS-174-52S ..... c 15	N73-14469 *	US-PATENT-CLASS-178-69.5 ..... c 10	N71-25866 *
US-PATENT-CLASS-165-1 ..... c 34	N88-23958 *	US-PATENT-CLASS-174-68.5 ..... c 15	N70-41960 *	US-PATENT-CLASS-178-69.5 ..... c 10	N71-33407 *
US-PATENT-CLASS-165-20 ..... c 03	N72-28025 *	US-PATENT-CLASS-174-69 ..... c 33	N74-22865 *	US-PATENT-CLASS-178-69.5 ..... c 07	N72-25173 *
US-PATENT-CLASS-165-2 ..... c 33	N71-24876 *	US-PATENT-CLASS-174-70R ..... c 33	N74-22865 *	US-PATENT-CLASS-178-69.5 ..... c 07	N73-13149 *
US-PATENT-CLASS-165-2 ..... c 35	N74-15093 *	US-PATENT-CLASS-174-72 ..... c 03	N69-21539 *	US-PATENT-CLASS-178-69.5 ..... c 09	N73-28084 *
US-PATENT-CLASS-165-2 ..... c 44	N77-32581 *	US-PATENT-CLASS-174-73R ..... c 33	N80-18286 *	US-PATENT-CLASS-178-69.5 ..... c 17	N76-22245 *
US-PATENT-CLASS-165-2 ..... c 44	N78-17460 *	US-PATENT-CLASS-174-84 ..... c 15	N72-17455 *	US-PATENT-CLASS-178-69A ..... c 35	N75-21582 *
US-PATENT-CLASS-165-2 ..... c 51	N79-10694 *	US-PATENT-CLASS-175-1 ..... c 46	N79-22679 *	US-PATENT-CLASS-178-69C ..... c 32	N76-16249 *
US-PATENT-CLASS-165-2 ..... c 27	N83-36220 *	US-PATENT-CLASS-175-26 ..... c 15	N73-32362 *	US-PATENT-CLASS-178-6 ..... c 07	N71-19433 *
US-PATENT-CLASS-165-30 ..... c 51	N79-10694 *	US-PATENT-CLASS-175-310 ..... c 15	N70-42034 *	US-PATENT-CLASS-178-6 ..... c 09	N71-19449 *
US-PATENT-CLASS-165-30 ..... c 31	N79-17029 *	US-PATENT-CLASS-175-323 ..... c 14	N69-21923 *	US-PATENT-CLASS-178-6 ..... c 07	N71-23026 *
US-PATENT-CLASS-165-30 ..... c 35	N86-20750 *	US-PATENT-CLASS-175-45 ..... c 35	N84-33768 *	US-PATENT-CLASS-178-6 ..... c 07	N71-26579 *
US-PATENT-CLASS-165-32 ..... c 31	N73-30829 *	US-PATENT-CLASS-175-78 ..... c 46	N80-10709 *	US-PATENT-CLASS-178-6 ..... c 07	N72-12081 *
US-PATENT-CLASS-165-32 ..... c 33	N73-32818 *	US-PATENT-CLASS-176-11 ..... c 24	N72-33681 *	US-PATENT-CLASS-178-6 ..... c 16	N72-13437 *
US-PATENT-CLASS-165-32 ..... c 34	N78-17337 *	US-PATENT-CLASS-176-11 ..... c 25	N76-27383 *	US-PATENT-CLASS-178-6 ..... c 10	N73-13235 *
US-PATENT-CLASS-165-32 ..... c 34	N79-31523 *	US-PATENT-CLASS-176-11 ..... c 25	N76-29379 *	US-PATENT-CLASS-178-6 ..... c 36	N74-20009 *
US-PATENT-CLASS-165-32 ..... c 44	N80-20810 *	US-PATENT-CLASS-176-11 ..... c 25	N78-27226 *	US-PATENT-CLASS-178-7.1 ..... c 07	N71-24612 *
US-PATENT-CLASS-165-32 ..... c 33	N82-24419 *	US-PATENT-CLASS-176-14 ..... c 25	N76-29379 *	US-PATENT-CLASS-178-7.1 ..... c 07	N71-27341 *
US-PATENT-CLASS-165-32 ..... c 34	N83-28356 *	US-PATENT-CLASS-176-169 ..... c 22	N73-32528 *	US-PATENT-CLASS-178-7.1 ..... c 09	N72-17156 *
US-PATENT-CLASS-165-32 ..... c 34	N83-35307 *	US-PATENT-CLASS-176-16 ..... c 25	N76-27383 *	US-PATENT-CLASS-178-7.1 ..... c 32	N74-19790 *
US-PATENT-CLASS-165-32 ..... c 34	N84-14461 *	US-PATENT-CLASS-176-16 ..... c 25	N76-29379 *	US-PATENT-CLASS-178-7.1 ..... c 36	N75-19652 *
US-PATENT-CLASS-165-32 ..... c 34	N85-29179 *	US-PATENT-CLASS-176-16 ..... c 25	N78-27226 *	US-PATENT-CLASS-178-7.2R ..... c 08	N72-22164 *
US-PATENT-CLASS-165-34 ..... c 34	N87-22950 *	US-PATENT-CLASS-176-22 ..... c 73	N78-28913 *	US-PATENT-CLASS-178-7.2 ..... c 14	N70-41807 *
US-PATENT-CLASS-165-3 ..... c 03	N72-28025 *	US-PATENT-CLASS-176-33 ..... c 73	N78-28913 *	US-PATENT-CLASS-178-7.2 ..... c 71	N74-21014 *
US-PATENT-CLASS-165-41 ..... c 34	N84-14461 *	US-PATENT-CLASS-176-39 ..... c 73	N78-19920 *	US-PATENT-CLASS-178-7.2 ..... c 35	N75-25123 *
US-PATENT-CLASS-165-41 ..... c 34	N86-27593 *	US-PATENT-CLASS-176-39 ..... c 73	N78-28913 *	US-PATENT-CLASS-178-7.3 ..... c 07	N71-27341 *
US-PATENT-CLASS-165-41 ..... c 34	N88-23958 *	US-PATENT-CLASS-176-39 ..... c 75	N75-13625 *	US-PATENT-CLASS-178-7.3 ..... c 07	N72-12081 *
US-PATENT-CLASS-165-41 ..... c 35	N89-12048 *	US-PATENT-CLASS-176-45 ..... c 22	N71-28759 *	US-PATENT-CLASS-178-7.5E ..... c 10	N72-31273 *
US-PATENT-CLASS-165-44 ..... c 15	N71-26611 *	US-PATENT-CLASS-176-86G ..... c 22	N72-20597 *	US-PATENT-CLASS-178-7.6 ..... c 36	N74-20009 *
US-PATENT-CLASS-165-46 ..... c 05	N71-19439 *	US-PATENT-CLASS-177-147 ..... c 35	N85-20294 *	US-PATENT-CLASS-178-7.7 ..... c 09	N71-12539 *
US-PATENT-CLASS-165-46 ..... c 05	N71-24147 *	US-PATENT-CLASS-177-1 ..... c 35	N77-19385 *	US-PATENT-CLASS-178-7.7 ..... c 32	N74-20813 *
US-PATENT-CLASS-165-46 ..... c 05	N73-20137 *	US-PATENT-CLASS-177-200 ..... c 35	N74-26945 *	US-PATENT-CLASS-178-7.89 ..... c 09	N76-24280 *
US-PATENT-CLASS-165-46 ..... c 05	N73-26071 *	US-PATENT-CLASS-177-208 ..... c 35	N77-19385 *	US-PATENT-CLASS-178-7.92 ..... c 14	N72-25414 *
US-PATENT-CLASS-165-46 ..... c 54	N82-29002 *	US-PATENT-CLASS-177-210 ..... c 14	N71-10773 *	US-PATENT-CLASS-178-79 ..... c 32	N75-21486 *
US-PATENT-CLASS-165-47 ..... c 33	N71-29052 *	US-PATENT-CLASS-177-211 ..... c 35	N74-26945 *	US-PATENT-CLASS-178-88 ..... c 07	N71-12392 *
US-PATENT-CLASS-165-47 ..... c 31	N73-30829 *	US-PATENT-CLASS-177-246 ..... c 35	N74-26945 *	US-PATENT-CLASS-178-88 ..... c 33	N74-12887 *

US-PATENT-CLASS-178-88	c 32	N74-20809 *	US-PATENT-CLASS-181-105	c 39	N80-10507 *	US-PATENT-CLASS-195-120	c 51	N75-13502 *
US-PATENT-CLASS-178-88	c 33	N74-27705 *	US-PATENT-CLASS-181-106	c 46	N79-22679 *	US-PATENT-CLASS-195-120	c 35	N75-27330 *
US-PATENT-CLASS-178-88	c 33	N76-14371 *	US-PATENT-CLASS-181-115	c 46	N79-23555 *	US-PATENT-CLASS-195-127	c 15	N72-21465 *
US-PATENT-CLASS-178-88	c 32	N76-16249 *	US-PATENT-CLASS-181-117	c 46	N79-22679 *	US-PATENT-CLASS-195-127	c 11	N72-25284 *
US-PATENT-CLASS-178-88	c 32	N77-10392 *	US-PATENT-CLASS-181-120	c 46	N79-23555 *	US-PATENT-CLASS-195-127	c 14	N72-25413 *
US-PATENT-CLASS-178-88	c 32	N77-24331 *	US-PATENT-CLASS-181-121	c 35	N84-22933 *	US-PATENT-CLASS-195-127	c 15	N73-20514 *
US-PATENT-CLASS-179-1DM	c 71	N79-23753 *	US-PATENT-CLASS-181-148	c 71	N79-23753 *	US-PATENT-CLASS-195-127	c 05	N73-32011 *
US-PATENT-CLASS-179-1MF	c 71	N79-23753 *	US-PATENT-CLASS-181-190	c 71	N79-14871 *	US-PATENT-CLASS-195-127	c 35	N75-12272 *
US-PATENT-CLASS-179-1MN	c 32	N79-23310 *	US-PATENT-CLASS-181-213	c 71	N79-14871 *	US-PATENT-CLASS-195-127	c 51	N75-13502 *
US-PATENT-CLASS-179-1P	c 10	N73-12244 *	US-PATENT-CLASS-181-213	c 07	N83-33884 *	US-PATENT-CLASS-195-127	c 35	N75-27330 *
US-PATENT-CLASS-179-1R	c 07	N71-33108 *	US-PATENT-CLASS-181-214	c 07	N81-14999 *	US-PATENT-CLASS-195-127	c 25	N79-22235 *
US-PATENT-CLASS-179-1SA	c 10	N73-25240 *	US-PATENT-CLASS-181-214	c 71	N82-16800 *	US-PATENT-CLASS-195-127	c 25	N79-24073 *
US-PATENT-CLASS-179-1SA	c 32	N76-31372 *	US-PATENT-CLASS-181-222	c 71	N79-14871 *	US-PATENT-CLASS-195-141	c 35	N75-27330 *
US-PATENT-CLASS-179-1SA	c 32	N77-30309 *	US-PATENT-CLASS-181-293	c 71	N79-14871 *	US-PATENT-CLASS-195-28N	c 06	N72-25149 *
US-PATENT-CLASS-179-1SP	c 32	N77-30309 *	US-PATENT-CLASS-181-33C	c 07	N74-32418 *	US-PATENT-CLASS-195-66R	c 06	N73-27086 *
US-PATENT-CLASS-179-1VC	c 07	N71-33108 *	US-PATENT-CLASS-181-33F	c 07	N74-32418 *	US-PATENT-CLASS-195-68	c 04	N69-27487 *
US-PATENT-CLASS-179-100.2A	c 21	N73-13644 *	US-PATENT-CLASS-181-33HB	c 07	N74-27490 *	US-PATENT-CLASS-195-99	c 06	N71-17705 *
US-PATENT-CLASS-179-100.2A	c 32	N74-27612 *	US-PATENT-CLASS-181-33HC	c 07	N74-33218 *	US-PATENT-CLASS-197-188	c 37	N77-19457 *
US-PATENT-CLASS-179-100.2B	c 32	N74-27612 *	US-PATENT-CLASS-181-33HC	c 07	N76-18117 *	US-PATENT-CLASS-197-190	c 37	N77-19457 *
US-PATENT-CLASS-179-100.2CH	c 36	N74-13205 *	US-PATENT-CLASS-181-33H	c 07	N74-32418 *	US-PATENT-CLASS-198-847	c 37	N80-32717 *
US-PATENT-CLASS-179-100.2CH	c 35	N78-29421 *	US-PATENT-CLASS-181-33L	c 07	N74-32418 *	US-PATENT-CLASS-198-848	c 37	N80-32717 *
US-PATENT-CLASS-179-100.2CH	c 35	N79-16246 *	US-PATENT-CLASS-181-42	c 07	N74-32418 *	US-PATENT-CLASS-1	c 14	N71-27005 *
US-PATENT-CLASS-179-100.2C	c 35	N77-21392 *	US-PATENT-CLASS-181-43	c 07	N74-15453 *	US-PATENT-CLASS-2-115	c 05	N72-25119 *
US-PATENT-CLASS-179-100.2K	c 07	N72-21119 *	US-PATENT-CLASS-181-52	c 28	N70-41582 *	US-PATENT-CLASS-2-14	c 05	N71-23096 *
US-PATENT-CLASS-179-100.2MD	c 35	N74-11283 *	US-PATENT-CLASS-182-103	c 18	N89-12621 *	US-PATENT-CLASS-2-161R	c 54	N84-23113 *
US-PATENT-CLASS-179-100.2T	c 35	N74-11283 *	US-PATENT-CLASS-182-10	c 15	N71-27067 *	US-PATENT-CLASS-2-161R	c 54	N84-28484 *
US-PATENT-CLASS-179-100.2	c 09	N69-24329 *	US-PATENT-CLASS-182-152	c 31	N87-25492 *	US-PATENT-CLASS-2-161	c 54	N78-17677 *
US-PATENT-CLASS-179-100.2	c 09	N71-25866 *	US-PATENT-CLASS-182-178	c 39	N87-31562 *	US-PATENT-CLASS-2-164	c 54	N84-28484 *
US-PATENT-CLASS-179-100.2	c 08	N71-27210 *	US-PATENT-CLASS-182-191	c 05	N71-11199 *	US-PATENT-CLASS-2-167	c 54	N84-23113 *
US-PATENT-CLASS-179-100.2	c 08	N71-27255 *	US-PATENT-CLASS-182-223	c 54	N87-29118 *	US-PATENT-CLASS-2-167	c 54	N84-28484 *
US-PATENT-CLASS-179-100.2CA	c 09	N72-11224 *	US-PATENT-CLASS-182-5	c 15	N73-25512 *	US-PATENT-CLASS-2-2.1A	c 05	N72-22092 *
US-PATENT-CLASS-179-100.2MD	c 09	N72-11224 *	US-PATENT-CLASS-182-62.5	c 31	N81-27324 *	US-PATENT-CLASS-2-2.1A	c 05	N73-25125 *
US-PATENT-CLASS-179-107R	c 33	N78-10375 *	US-PATENT-CLASS-182-63	c 54	N87-29118 *	US-PATENT-CLASS-2-2.1A	c 05	N73-32012 *
US-PATENT-CLASS-179-15.55R	c 08	N72-11171 *	US-PATENT-CLASS-182-82	c 54	N87-29118 *	US-PATENT-CLASS-2-2.1A	c 54	N74-32546 *
US-PATENT-CLASS-179-15.55R	c 08	N72-33172 *	US-PATENT-CLASS-184-1	c 15	N71-23048 *	US-PATENT-CLASS-2-2.1A	c 54	N77-32721 *
US-PATENT-CLASS-179-15AN	c 07	N73-16121 *	US-PATENT-CLASS-185-38	c 37	N78-16369 *	US-PATENT-CLASS-2-2.1A	c 54	N78-17675 *
US-PATENT-CLASS-179-15AT	c 32	N74-30524 *	US-PATENT-CLASS-187-1	c 15	N72-25453 *	US-PATENT-CLASS-2-2.1A	c 54	N78-31735 *
US-PATENT-CLASS-179-15A	c 08	N72-22162 *	US-PATENT-CLASS-187-20	c 15	N72-25453 *	US-PATENT-CLASS-2-2.1A	c 54	N78-31736 *
US-PATENT-CLASS-179-15A	c 07	N73-26118 *	US-PATENT-CLASS-187-7.1	c 07	N71-24742 *	US-PATENT-CLASS-2-2.1A	c 54	N79-24651 *
US-PATENT-CLASS-179-15BA	c 60	N77-12721 *	US-PATENT-CLASS-187-95	c 15	N72-25453 *	US-PATENT-CLASS-2-2.1A	c 54	N86-28618 *
US-PATENT-CLASS-179-15BA	c 32	N80-18252 *	US-PATENT-CLASS-188-1B	c 15	N72-20443 *	US-PATENT-CLASS-2-2.1A	c 54	N86-28619 *
US-PATENT-CLASS-179-15BC	c 08	N72-25208 *	US-PATENT-CLASS-188-1B	c 19	N76-22284 *	US-PATENT-CLASS-2-2.1A	c 54	N86-28620 *
US-PATENT-CLASS-179-15BC	c 07	N73-16121 *	US-PATENT-CLASS-188-1C	c 15	N72-17450 *	US-PATENT-CLASS-2-2.1A	c 54	N86-29507 *
US-PATENT-CLASS-179-15BC	c 32	N74-30523 *	US-PATENT-CLASS-188-1C	c 15	N72-20443 *	US-PATENT-CLASS-2-2.1R	c 54	N86-28618 *
US-PATENT-CLASS-179-15BC	c 33	N75-26243 *	US-PATENT-CLASS-188-1C	c 15	N73-30460 *	US-PATENT-CLASS-2-2.1	c 54	N86-28619 *
US-PATENT-CLASS-179-15BL	c 08	N72-22162 *	US-PATENT-CLASS-188-1C	c 11	N73-32152 *	US-PATENT-CLASS-2-2.1	c 05	N71-11194 *
US-PATENT-CLASS-179-15BM	c 07	N73-26118 *	US-PATENT-CLASS-188-1C	c 37	N79-10420 *	US-PATENT-CLASS-2-2.1	c 05	N71-11195 *
US-PATENT-CLASS-179-15BS	c 10	N71-33407 *	US-PATENT-CLASS-188-103	c 15	N71-27146 *	US-PATENT-CLASS-2-2.1	c 05	N71-12335 *
US-PATENT-CLASS-179-15BS	c 07	N72-20140 *	US-PATENT-CLASS-188-129	c 15	N72-17450 *	US-PATENT-CLASS-2-2.1	c 05	N71-12344 *
US-PATENT-CLASS-179-15BS	c 07	N73-30115 *	US-PATENT-CLASS-188-134	c 37	N81-15364 *	US-PATENT-CLASS-2-2.1	c 05	N71-23161 *
US-PATENT-CLASS-179-15BS	c 32	N75-26195 *	US-PATENT-CLASS-188-151A	c 44	N79-14527 *	US-PATENT-CLASS-2-2.1	c 05	N71-24623 *
US-PATENT-CLASS-179-15BS	c 60	N77-19760 *	US-PATENT-CLASS-188-163	c 37	N74-26976 *	US-PATENT-CLASS-2-2.1	c 05	N71-24730 *
US-PATENT-CLASS-179-15BV	c 07	N72-25172 *	US-PATENT-CLASS-188-171	c 37	N74-26976 *	US-PATENT-CLASS-2-2.1	c 05	N72-20096 *
US-PATENT-CLASS-179-15BY	c 32	N74-30524 *	US-PATENT-CLASS-188-180	c 37	N81-15364 *	US-PATENT-CLASS-2-2.1	c 05	N72-20098 *
US-PATENT-CLASS-179-15FD	c 08	N72-25208 *	US-PATENT-CLASS-188-184	c 37	N81-15364 *	US-PATENT-CLASS-2-2.1	c 05	N72-25119 *
US-PATENT-CLASS-179-15FS	c 07	N73-28012 *	US-PATENT-CLASS-188-1	c 15	N70-34861 *	US-PATENT-CLASS-2-2.1	c 05	N73-26071 *
US-PATENT-CLASS-179-15	c 07	N69-39978 *	US-PATENT-CLASS-188-1	c 15	N70-38601 *	US-PATENT-CLASS-2-2.1	c 34	N78-17337 *
US-PATENT-CLASS-179-15	c 07	N71-20814 *	US-PATENT-CLASS-188-1	c 15	N70-40354 *	US-PATENT-CLASS-2-2.1	c 54	N78-17678 *
US-PATENT-CLASS-179-15	c 07	N71-24621 *	US-PATENT-CLASS-188-1	c 14	N71-17626 *	US-PATENT-CLASS-2-2.1	c 54	N78-18761 *
US-PATENT-CLASS-179-15	c 07	N71-24622 *	US-PATENT-CLASS-188-1	c 15	N71-22877 *	US-PATENT-CLASS-2-201	c 54	N89-29953 *
US-PATENT-CLASS-179-15	c 08	N72-18184 *	US-PATENT-CLASS-188-1	c 14	N71-23092 *	US-PATENT-CLASS-2-275	c 18	N71-26285 *
US-PATENT-CLASS-179-175.1A	c 14	N73-27379 *	US-PATENT-CLASS-188-1	c 15	N71-26243 *	US-PATENT-CLASS-2-6	c 05	N71-26333 *
US-PATENT-CLASS-179-175.1A	c 33	N78-10375 *	US-PATENT-CLASS-188-1	c 15	N71-27146 *	US-PATENT-CLASS-2-6	c 54	N78-17680 *
US-PATENT-CLASS-179-18BC	c 32	N86-27513 *	US-PATENT-CLASS-188-1	c 15	N71-27169 *	US-PATENT-CLASS-2-81	c 18	N71-26285 *
US-PATENT-CLASS-179-18GF	c 33	N82-29538 *	US-PATENT-CLASS-188-218-XL	c 37	N88-29181 *	US-PATENT-CLASS-2-81	c 05	N73-32012 *
US-PATENT-CLASS-179-1	c 07	N71-26181 *	US-PATENT-CLASS-188-251-A	c 37	N88-29181 *	US-PATENT-CLASS-2-82	c 54	N74-32546 *
US-PATENT-CLASS-179-1	c 31	N71-33160 *	US-PATENT-CLASS-188-266	c 15	N73-25513 *	US-PATENT-CLASS-200-114	c 33	N79-33393 *
US-PATENT-CLASS-179-27CA	c 32	N79-23310 *	US-PATENT-CLASS-188-268	c 15	N72-20443 *	US-PATENT-CLASS-200-129	c 33	N75-27249 *
US-PATENT-CLASS-179-78	c 33	N81-27397 *	US-PATENT-CLASS-188-269	c 44	N79-14527 *	US-PATENT-CLASS-200-152	c 09	N71-19610 *
US-PATENT-CLASS-179-84VF	c 32	N79-23310 *	US-PATENT-CLASS-188-291	c 54	N77-21844 *	US-PATENT-CLASS-200-153S	c 33	N80-18285 *
US-PATENT-CLASS-179-91R	c 74	N78-14889 *	US-PATENT-CLASS-188-371	c 37	N82-18601 *	US-PATENT-CLASS-200-157	c 08	N86-27288 *
US-PATENT-CLASS-18-26	c 06	N71-22975 *	US-PATENT-CLASS-188-373	c 37	N88-23982 *	US-PATENT-CLASS-200-19	c 09	N70-39915 *
US-PATENT-CLASS-18-39	c 27	N70-34783 *	US-PATENT-CLASS-188-65.1	c 15	N73-25512 *	US-PATENT-CLASS-200-304	c 33	N80-18285 *
US-PATENT-CLASS-18-6	c 15	N71-26721 *	US-PATENT-CLASS-188-65.5	c 15	N71-27067 *	US-PATENT-CLASS-200-39	c 03	N70-38713 *
US-PATENT-CLASS-180-105E	c 11	N72-20244 *	US-PATENT-CLASS-188-87	c 12	N71-16894 *	US-PATENT-CLASS-200-46	c 74	N79-12890 *
US-PATENT-CLASS-180-118	c 31	N71-15689 *	US-PATENT-CLASS-188-88	c 15	N71-26611 *	US-PATENT-CLASS-200-61.05	c 25	N86-27431 *
US-PATENT-CLASS-180-121	c 31	N71-15689 *	US-PATENT-CLASS-189-36	c 15	N70-36947 *	US-PATENT-CLASS-200-61.42	c 09	N71-12518 *
US-PATENT-CLASS-180-125	c 15	N72-17451 *	US-PATENT-CLASS-19-205	c 37	N76-18456 *	US-PATENT-CLASS-200-61.45	c 14	N70-41812 *
US-PATENT-CLASS-180-127	c 15	N72-17451 *	US-PATENT-CLASS-191-12.2-R	c 33	N86-20669 *	US-PATENT-CLASS-200-61	c 74	N79-12890 *
US-PATENT-CLASS-180-168	c 35	N84-33769 *	US-PATENT-CLASS-192-43.1	c 15	N71-17805 *	US-PATENT-CLASS-200-64	c 15	N72-17455 *
US-PATENT-CLASS-180-19.2	c 85	N87-21755 *	US-PATENT-CLASS-192-46	c 37	N87-17037 *	US-PATENT-CLASS-200-6	c 10	N71-15909 *
US-PATENT-CLASS-180-305	c 85	N87-21755 *	US-PATENT-CLASS-192-67R	c 37	N87-17037 *	US-PATENT-CLASS-200-6	c 09	N71-16089 *
US-PATENT-CLASS-180-41	c 11	N73-26238 *	US-PATENT-CLASS-194-902	c 37	N89-13785 *	US-PATENT-CLASS-200-81.9M	c 09	N72-20199 *
US-PATENT-CLASS-180-6.5	c 11	N73-26238 *	US-PATENT-CLASS-195-1.8	c 51	N77-25769 *	US-PATENT-CLASS-200-81R	c 09	N72-22204 *
US-PATENT-CLASS-180-7R	c 11	N73-26238 *	US-PATENT-CLASS-195-1.8	c 51	N79-10694 *	US-PATENT-CLASS-200-82C	c 09	N72-22204 *
US-PATENT-CLASS-180-79.3	c 37	N74-18125 *	US-PATENT-CLASS-195-1.8	c 52	N79-14749 *	US-PATENT-CLASS-200-82	c 10	N71-23663 *
US-PATENT-CLASS-180-8.6	c 18	N88-23828 *	US-PATENT-CLASS-195-103.5K	c 51	N77-22794 *	US-PATENT-CLASS-200-83N	c 35	N75-15931 *
US-PATENT-CLASS-180-8A	c 11	N73-26238 *	US-PATENT-CLASS-195-103.5K	c 52	N79-14750 *	US-PATENT-CLASS-200-83	c 33	N79-33392 *
US-PATENT-CLASS-180-9.2R	c 11	N73-26238 *	US-PATENT-CLASS-195-103.5L	c 52	N79-14750 *	US-PATENT-CLASS-201-10	c 27	N81-17261 *
US-PATENT-CLASS-180-9.5	c 11	N73-26238 *	US-PATENT-CLASS-195-103.5R	c 06	N72-25149 *	US-PATENT-CLASS-201-17	c 44	N78-31527 *
US-PATENT-CLASS-181.5R	c 71	N74-31148 *	US-PATENT-CLASS-195-103.5R	c 25	N75-12086 *	US-PATENT-CLASS-201-17	c 25	N81-33246 *
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US-PATENT-CLASS-23-302R	c 28	N80-23471 *	US-PATENT-CLASS-235-61.6	c 15	N71-21179 *	US-PATENT-CLASS-239-403	c 20	N87-14420 *
US-PATENT-CLASS-23-302T	c 28	N80-23471 *	US-PATENT-CLASS-235-61NV	c 08	N72-11172 *	US-PATENT-CLASS-239-416	c 15	N69-23185 *
US-PATENT-CLASS-23-313R	c 71	N85-22104 *	US-PATENT-CLASS-235-61NV	c 35	N76-29552 *	US-PATENT-CLASS-239-416	c 15	N71-17654 *
US-PATENT-CLASS-23-55	c 06	N72-17093 *	US-PATENT-CLASS-235-70	c 04	N78-17031 *	US-PATENT-CLASS-239-418	c 28	N72-23809 *
US-PATENT-CLASS-23-88	c 06	N72-17093 *	US-PATENT-CLASS-235-78M	c 35	N76-29552 *	US-PATENT-CLASS-239-424	c 15	N72-25455 *
US-PATENT-CLASS-23-927	c 51	N80-16714 *	US-PATENT-CLASS-235-88M	c 35	N76-29552 *	US-PATENT-CLASS-239-425	c 20	N87-14420 *
US-PATENT-CLASS-23-97	c 06	N72-17093 *	US-PATENT-CLASS-235-92CA	c 33	N74-10223 *	US-PATENT-CLASS-239-426	c 34	N84-12406 *
US-PATENT-CLASS-230-162	c 33	N71-17610 *	US-PATENT-CLASS-235-92CA	c 38	N77-17495 *	US-PATENT-CLASS-239-426	c 34	N87-21255 *
US-PATENT-CLASS-230-221	c 11	N72-22245 *	US-PATENT-CLASS-235-92CC	c 08	N72-20176 *	US-PATENT-CLASS-239-433	c 28	N72-23809 *
US-PATENT-CLASS-230-54	c 11	N72-22245 *	US-PATENT-CLASS-235-92CT	c 38	N77-17495 *	US-PATENT-CLASS-239-433	c 37	N87-24689 *
US-PATENT-CLASS-233-DIG.1	c 34	N75-26282 *	US-PATENT-CLASS-235-92CV	c 08	N73-25206 *	US-PATENT-CLASS-239-434	c 34	N87-21255 *
US-PATENT-CLASS-233-11	c 15	N71-16079 *	US-PATENT-CLASS-235-92DE	c 08	N72-20176 *	US-PATENT-CLASS-239-499	c 34	N82-13376 *
US-PATENT-CLASS-233-20RP	c 34	N75-26282 *	US-PATENT-CLASS-235-92DM	c 08	N72-20176 *	US-PATENT-CLASS-239-543	c 28	N72-23809 *
US-PATENT-CLASS-233-25	c 34	N75-26282 *	US-PATENT-CLASS-235-92DM	c 33	N74-10223 *	US-PATENT-CLASS-239-545	c 34	N87-21255 *
US-PATENT-CLASS-233-46	c 34	N75-26282 *	US-PATENT-CLASS-235-92DM	c 33	N75-19519 *	US-PATENT-CLASS-239-562	c 43	N81-26509 *
US-PATENT-CLASS-233-6	c 34	N75-26282 *	US-PATENT-CLASS-235-92DN	c 08	N73-25206 *	US-PATENT-CLASS-239-568	c 37	N84-16561 *
US-PATENT-CLASS-235-150.27	c 04	N74-13420 *	US-PATENT-CLASS-235-92DN	c 38	N77-17495 *	US-PATENT-CLASS-239-589	c 34	N82-13376 *
US-PATENT-CLASS-235-150.2	c 08	N73-25206 *	US-PATENT-CLASS-235-92EA	c 08	N73-25206 *	US-PATENT-CLASS-239-590	c 37	N85-29283 *
US-PATENT-CLASS-235-150.1	c 08	N71-29033 *	US-PATENT-CLASS-235-92EV	c 08	N73-25206 *	US-PATENT-CLASS-239-591	c 43	N81-26509 *
US-PATENT-CLASS-235-150.1	c 08	N72-31226 *	US-PATENT-CLASS-235-92FQ	c 08	N73-20217 *	US-PATENT-CLASS-239-596	c 37	N87-24689 *
US-PATENT-CLASS-235-150.1	c 32	N77-10392 *	US-PATENT-CLASS-235-92LG	c 08	N72-20176 *	US-PATENT-CLASS-239-600	c 37	N87-24689 *
US-PATENT-CLASS-235-150.22	c 02	N71-13421 *	US-PATENT-CLASS-235-92LG	c 33	N75-19519 *	US-PATENT-CLASS-239-601	c 34	N82-13376 *
US-PATENT-CLASS-235-150.22	c 04	N74-13420 *	US-PATENT-CLASS-235-92MT	c 08	N72-31226 *	US-PATENT-CLASS-239-690	c 28	N82-18401 *
US-PATENT-CLASS-235-150.25	c 21	N71-21688 *	US-PATENT-CLASS-235-92MT	c 32	N73-26910 *	US-PATENT-CLASS-24-126	c 15	N71-22994 *
US-PATENT-CLASS-235-150.25	c 35	N77-20399 *	US-PATENT-CLASS-235-92PC	c 35	N82-11431 *	US-PATENT-CLASS-24-134R	c 15	N73-25512 *
US-PATENT-CLASS-235-150.26	c 04	N74-13420 *	US-PATENT-CLASS-235-92PE	c 37	N74-21056 *	US-PATENT-CLASS-24-205.17	c 15	N71-25975 *
US-PATENT-CLASS-235-150.27	c 08	N71-29033 *	US-PATENT-CLASS-235-92R	c 08	N72-20176 *	US-PATENT-CLASS-24-211N	c 15	N72-11385 *
US-PATENT-CLASS-235-150.2	c 08	N71-29033 *	US-PATENT-CLASS-235-92R	c 08	N73-20217 *	US-PATENT-CLASS-24-211	c 15	N71-17653 *
US-PATENT-CLASS-235-150.2	c 35	N77-20399 *	US-PATENT-CLASS-235-92R	c 08	N73-25206 *	US-PATENT-CLASS-24-214	c 31	N83-31895 *
US-PATENT-CLASS-235-150.3	c 33	N74-10223 *	US-PATENT-CLASS-235-92R	c 33	N75-19519 *	US-PATENT-CLASS-24-263	c 15	N71-21076 *
US-PATENT-CLASS-235-150.52	c 08	N72-22165 *	US-PATENT-CLASS-235-92R	c 38	N77-17495 *	US-PATENT-CLASS-24-263	c 15	N71-26162 *
US-PATENT-CLASS-235-150.53	c 08	N72-22165 *	US-PATENT-CLASS-235-92SB	c 37	N74-21056 *	US-PATENT-CLASS-24-304	c 27	N85-20125 *
US-PATENT-CLASS-235-150.53	c 07	N73-13149 *	US-PATENT-CLASS-235-92SH	c 33	N76-14373 *	US-PATENT-CLASS-24-447	c 27	N85-20125 *
US-PATENT-CLASS-235-150.53	c 33	N75-26243 *	US-PATENT-CLASS-235-92T	c 03	N72-25020 *	US-PATENT-CLASS-24-450	c 27	N85-20125 *
US-PATENT-CLASS-235-151.13	c 25	N76-18245 *	US-PATENT-CLASS-235-92T	c 08	N73-20217 *	US-PATENT-CLASS-24-560	c 52	N84-28388 *
US-PATENT-CLASS-235-151.1	c 08	N71-29033 *	US-PATENT-CLASS-235-92T	c 33	N75-19519 *	US-PATENT-CLASS-24-68B	c 54	N89-29953 *
US-PATENT-CLASS-235-151.1	c 08	N72-31226 *	US-PATENT-CLASS-235-92VA	c 33	N75-19519 *	US-PATENT-CLASS-24-693	c 27	N85-20125 *
US-PATENT-CLASS-235-151.27	c 08	N73-25206 *	US-PATENT-CLASS-235-92	c 08	N71-22897 *	US-PATENT-CLASS-240-1.2	c 11	N70-33329 *
US-PATENT-CLASS-235-151.31	c 10	N73-25240 *	US-PATENT-CLASS-235-92	c 08	N71-24891 *	US-PATENT-CLASS-240-11.2	c 09	N71-26787 *
US-PATENT-CLASS-235-151.34	c 35	N76-14431 *	US-PATENT-CLASS-235-92	c 10	N71-27137 *	US-PATENT-CLASS-240-11.4	c 09	N71-26787 *
US-PATENT-CLASS-235-151.3	c 52	N74-22771 *	US-PATENT-CLASS-235-92	c 14	N71-27215 *	US-PATENT-CLASS-240-41.35R	c 74	N77-21941 *
US-PATENT-CLASS-235-151.3	c 38	N78-17395 *	US-PATENT-CLASS-236-1F	c 35	N81-26431 *	US-PATENT-CLASS-240-41B	c 36	N75-27364 *
US-PATENT-CLASS-235-151.3	c 38	N78-17396 *	US-PATENT-CLASS-236-13	c 31	N80-32583 *	US-PATENT-CLASS-240-41R	c 74	N77-21941 *
US-PATENT-CLASS-235-151	c 37	N74-21056 *	US-PATENT-CLASS-236-15-E	c 25	N88-29002 *	US-PATENT-CLASS-240-46.13	c 74	N77-21941 *
US-PATENT-CLASS-235-152IE	c 08	N73-32081 *	US-PATENT-CLASS-236-1	c 33	N71-16357 *	US-PATENT-CLASS-240-47	c 34	N74-23066 *
US-PATENT-CLASS-235-152	c 07	N71-24741 *	US-PATENT-CLASS-236-44C	c 31	N80-32583 *	US-PATENT-CLASS-240-51.11	c 09	N71-26787 *
US-PATENT-CLASS-235-152	c 08	N72-20176 *	US-PATENT-CLASS-236-49	c 31	N74-27902 *	US-PATENT-CLASS-241-95	c 37	N84-16561 *
US-PATENT-CLASS-235-152	c 08	N72-22167 *	US-PATENT-CLASS-236-49	c 31	N80-32583 *	US-PATENT-CLASS-242-107	c 33	N86-20669 *
US-PATENT-CLASS-235-152	c 08	N72-25210 *	US-PATENT-CLASS-236-68	c 15	N72-12409 *	US-PATENT-CLASS-242-128	c 15	N82-24272 *
US-PATENT-CLASS-235-152	c 08	N73-12175 *	US-PATENT-CLASS-237-1A	c 44	N76-14602 *	US-PATENT-CLASS-242-187	c 37	N77-14479 *



US-PATENT-CLASS-242-192	c 14	N71-23698 *	US-PATENT-CLASS-244-132	c 24	N82-32417 *	US-PATENT-CLASS-244-165	c 35	N80-21719 *
US-PATENT-CLASS-242-193	c 37	N77-14479 *	US-PATENT-CLASS-244-134-D	c 33	N86-20671 *	US-PATENT-CLASS-244-165	c 08	N88-23808 *
US-PATENT-CLASS-242-204	c 37	N77-14479 *	US-PATENT-CLASS-244-134-F	c 35	N87-28833 *	US-PATENT-CLASS-244-165	c 35	N89-15379 *
US-PATENT-CLASS-242-210	c 37	N77-14479 *	US-PATENT-CLASS-244-135	c 30	N88-29149 *	US-PATENT-CLASS-244-167	c 15	N78-25119 *
US-PATENT-CLASS-242-54-R	c 33	N86-20669 *	US-PATENT-CLASS-244-135R	c 34	N76-17317 *	US-PATENT-CLASS-244-168	c 04	N82-23231 *
US-PATENT-CLASS-242-54	c 15	N72-18477 *	US-PATENT-CLASS-244-135R	c 30	N80-10278 *	US-PATENT-CLASS-244-169	c 15	N77-10113 *
US-PATENT-CLASS-242-55.19	c 14	N70-41647 *	US-PATENT-CLASS-244-135	c 21	N70-42015 *	US-PATENT-CLASS-244-169	c 18	N83-28064 *
US-PATENT-CLASS-242-55.19	c 07	N71-10609 *	US-PATENT-CLASS-244-135	c 15	N73-12486 *	US-PATENT-CLASS-244-169	c 20	N86-26368 *
US-PATENT-CLASS-242-57	c 37	N77-14479 *	US-PATENT-CLASS-244-135	c 14	N73-27378 *	US-PATENT-CLASS-244-16	c 02	N70-41863 *
US-PATENT-CLASS-244.12.2	c 05	N82-26277 *	US-PATENT-CLASS-244-137-A	c 05	N87-14314 *	US-PATENT-CLASS-244-17.13	c 02	N73-19004 *
US-PATENT-CLASS-244-1SS	c 03	N72-20031 *	US-PATENT-CLASS-244-137P	c 31	N73-26876 *	US-PATENT-CLASS-244-17.13	c 08	N79-23097 *
US-PATENT-CLASS-244-1.55	c 03	N73-20040 *	US-PATENT-CLASS-244-137P	c 37	N76-22540 *	US-PATENT-CLASS-244-17.19	c 08	N88-23809 *
US-PATENT-CLASS-244-1-R	c 06	N87-22678 *	US-PATENT-CLASS-244-137P	c 01	N83-35992 *	US-PATENT-CLASS-244-17.25	c 05	N81-19087 *
US-PATENT-CLASS-244-1A	c 33	N77-10429 *	US-PATENT-CLASS-244-137R	c 08	N82-32373 *	US-PATENT-CLASS-244-17.27	c 05	N87-14314 *
US-PATENT-CLASS-244-1R	c 34	N79-31523 *	US-PATENT-CLASS-244-138	c 01	N69-39981 *	US-PATENT-CLASS-244-170	c 35	N80-21719 *
US-PATENT-CLASS-244-1SA	c 21	N72-21624 *	US-PATENT-CLASS-244-138	c 02	N70-41630 *	US-PATENT-CLASS-244-170	c 18	N83-28064 *
US-PATENT-CLASS-244-1SA	c 21	N72-25595 *	US-PATENT-CLASS-244-138	c 31	N71-16085 *	US-PATENT-CLASS-244-171	c 15	N77-10113 *
US-PATENT-CLASS-244-1SA	c 03	N73-20039 *	US-PATENT-CLASS-244-138	c 31	N71-25434 *	US-PATENT-CLASS-244-171	c 35	N77-20399 *
US-PATENT-CLASS-244-1SA	c 15	N73-25513 *	US-PATENT-CLASS-244-138	c 31	N71-28851 *	US-PATENT-CLASS-244-172	c 18	N76-17185 *
US-PATENT-CLASS-244-1SA	c 21	N73-30640 *	US-PATENT-CLASS-244-139	c 31	N73-13898 *	US-PATENT-CLASS-244-172	c 16	N84-27784 *
US-PATENT-CLASS-244-1SA	c 19	N74-15089 *	US-PATENT-CLASS-244-139	c 02	N76-16014 *	US-PATENT-CLASS-244-172	c 18	N84-27787 *
US-PATENT-CLASS-244-1SA	c 35	N74-28097 *	US-PATENT-CLASS-244-139	c 05	N85-21147 *	US-PATENT-CLASS-244-172	c 05	N86-19310 *
US-PATENT-CLASS-244-1SB	c 15	N73-12486 *	US-PATENT-CLASS-244-139	c 08	N85-35200 *	US-PATENT-CLASS-244-173	c 44	N75-32581 *
US-PATENT-CLASS-244-1SC	c 31	N73-32750 *	US-PATENT-CLASS-244-13	c 01	N71-23497 *	US-PATENT-CLASS-244-173	c 37	N81-15364 *
US-PATENT-CLASS-244-1SD	c 34	N75-12222 *	US-PATENT-CLASS-244-13	c 02	N73-26005 *	US-PATENT-CLASS-244-173	c 07	N83-20944 *
US-PATENT-CLASS-244-1SD	c 31	N73-26876 *	US-PATENT-CLASS-244-13	c 05	N75-25914 *	US-PATENT-CLASS-244-173	c 37	N86-25789 *
US-PATENT-CLASS-244-1SD	c 37	N74-27903 *	US-PATENT-CLASS-244-13	c 05	N84-12154 *	US-PATENT-CLASS-244-175	c 04	N82-23231 *
US-PATENT-CLASS-244-1SS	c 15	N77-10112 *	US-PATENT-CLASS-244-140	c 02	N70-38009 *	US-PATENT-CLASS-244-181	c 08	N81-24106 *
US-PATENT-CLASS-244-1SS	c 11	N73-13257 *	US-PATENT-CLASS-244-145	c 02	N74-10034 *	US-PATENT-CLASS-244-181	c 08	N81-26152 *
US-PATENT-CLASS-244-1SS	c 03	N73-20039 *	US-PATENT-CLASS-244-147	c 05	N85-21147 *	US-PATENT-CLASS-244-181	c 06	N86-27280 *
US-PATENT-CLASS-244-1SS	c 14	N73-27378 *	US-PATENT-CLASS-244-14	c 14	N70-33322 *	US-PATENT-CLASS-244-182	c 08	N81-26152 *
US-PATENT-CLASS-244-1SS	c 31	N73-30829 *	US-PATENT-CLASS-244-15.5	c 31	N72-18859 *	US-PATENT-CLASS-244-190	c 04	N82-23231 *
US-PATENT-CLASS-244-1SS	c 31	N73-32750 *	US-PATENT-CLASS-244-150	c 15	N71-24600 *	US-PATENT-CLASS-244-194	c 60	N82-29013 *
US-PATENT-CLASS-244-1SS	c 33	N73-32818 *	US-PATENT-CLASS-244-151R	c 33	N74-22865 *	US-PATENT-CLASS-244-195	c 08	N79-23097 *
US-PATENT-CLASS-244-1SS	c 18	N74-22136 *	US-PATENT-CLASS-244-152	c 02	N70-36804 *	US-PATENT-CLASS-244-195	c 08	N81-24106 *
US-PATENT-CLASS-244-1SS	c 18	N74-27397 *	US-PATENT-CLASS-244-155	c 30	N73-12884 *	US-PATENT-CLASS-244-199	c 07	N85-35194 *
US-PATENT-CLASS-244-1SS	c 73	N75-30876 *	US-PATENT-CLASS-244-155	c 31	N73-14854 *	US-PATENT-CLASS-244-199	c 02	N88-14071 *
US-PATENT-CLASS-244-100	c 15	N70-34850 *	US-PATENT-CLASS-244-158-R	c 20	N86-26368 *	US-PATENT-CLASS-244-1	c 31	N69-27499 *
US-PATENT-CLASS-244-100	c 31	N70-36654 *	US-PATENT-CLASS-244-158-A	c 37	N85-30335 *	US-PATENT-CLASS-244-1	c 03	N70-33343 *
US-PATENT-CLASS-244-100	c 31	N70-36845 *	US-PATENT-CLASS-244-158-A	c 05	N86-19310 *	US-PATENT-CLASS-244-1	c 33	N70-33344 *
US-PATENT-CLASS-244-100	c 02	N70-41589 *	US-PATENT-CLASS-244-158-A	c 24	N88-18628 *	US-PATENT-CLASS-244-1	c 03	N70-34157 *
US-PATENT-CLASS-244-103R	c 37	N81-24443 *	US-PATENT-CLASS-244-158-R	c 05	N86-19310 *	US-PATENT-CLASS-244-1	c 31	N70-34176 *
US-PATENT-CLASS-244-103	c 02	N70-36825 *	US-PATENT-CLASS-244-158-R	c 18	N86-20469 *	US-PATENT-CLASS-244-1	c 21	N70-34295 *
US-PATENT-CLASS-244-110B	c 07	N82-26293 *	US-PATENT-CLASS-244-158A	c 27	N82-24339 *	US-PATENT-CLASS-244-1	c 31	N70-34296 *
US-PATENT-CLASS-244-110C	c 37	N82-18601 *	US-PATENT-CLASS-244-158A	c 27	N82-29456 *	US-PATENT-CLASS-244-1	c 21	N70-35395 *
US-PATENT-CLASS-244-113	c 02	N70-37939 *	US-PATENT-CLASS-244-158A	c 24	N82-32417 *	US-PATENT-CLASS-244-1	c 31	N70-36410 *
US-PATENT-CLASS-244-113	c 31	N71-25434 *	US-PATENT-CLASS-244-158A	c 24	N83-13172 *	US-PATENT-CLASS-244-1	c 33	N70-36617 *
US-PATENT-CLASS-244-113	c 02	N77-10001 *	US-PATENT-CLASS-244-158A	c 16	N84-22601 *	US-PATENT-CLASS-244-1	c 21	N70-36943 *
US-PATENT-CLASS-244-113	c 37	N82-16408 *	US-PATENT-CLASS-244-158A	c 27	N84-27886 *	US-PATENT-CLASS-244-1	c 31	N70-37924 *
US-PATENT-CLASS-244-113	c 08	N85-35200 *	US-PATENT-CLASS-244-158R	c 31	N81-25258 *	US-PATENT-CLASS-244-1	c 31	N70-37938 *
US-PATENT-CLASS-244-114R	c 04	N82-16059 *	US-PATENT-CLASS-244-158R	c 16	N84-27784 *	US-PATENT-CLASS-244-1	c 31	N70-37986 *
US-PATENT-CLASS-244-114	c 21	N72-22619 *	US-PATENT-CLASS-244-158R	c 18	N85-29991 *	US-PATENT-CLASS-244-1	c 31	N70-38676 *
US-PATENT-CLASS-244-115	c 18	N83-29303 *	US-PATENT-CLASS-244-158R	c 37	N85-34401 *	US-PATENT-CLASS-244-1	c 30	N70-40016 *
US-PATENT-CLASS-244-117-A	c 24	N88-18628 *	US-PATENT-CLASS-244-158R	c 37	N87-17036 *	US-PATENT-CLASS-244-1	c 31	N70-41373 *
US-PATENT-CLASS-244-117A	c 33	N73-25952 *	US-PATENT-CLASS-244-158	c 37	N76-22540 *	US-PATENT-CLASS-244-1	c 31	N70-41588 *
US-PATENT-CLASS-244-117A	c 34	N76-17317 *	US-PATENT-CLASS-244-158	c 27	N79-12221 *	US-PATENT-CLASS-244-1	c 31	N70-41631 *
US-PATENT-CLASS-244-117A	c 37	N76-19437 *	US-PATENT-CLASS-244-159	c 18	N79-11108 *	US-PATENT-CLASS-244-1	c 31	N70-41855 *
US-PATENT-CLASS-244-117A	c 34	N77-18382 *	US-PATENT-CLASS-244-159	c 07	N83-20944 *	US-PATENT-CLASS-244-1	c 21	N70-41856 *
US-PATENT-CLASS-244-117A	c 05	N81-26114 *	US-PATENT-CLASS-244-159	c 31	N83-31895 *	US-PATENT-CLASS-244-1	c 31	N70-42075 *
US-PATENT-CLASS-244-117A	c 27	N84-27886 *	US-PATENT-CLASS-244-159	c 18	N86-24729 *	US-PATENT-CLASS-244-1	c 03	N71-11058 *
US-PATENT-CLASS-244-117	c 31	N70-33242 *	US-PATENT-CLASS-244-159	c 37	N86-25789 *	US-PATENT-CLASS-244-1	c 33	N71-14035 *
US-PATENT-CLASS-244-117	c 33	N72-17947 *	US-PATENT-CLASS-244-159	c 18	N86-26398 *	US-PATENT-CLASS-244-1	c 21	N71-14132 *
US-PATENT-CLASS-244-118.1	c 08	N82-32373 *	US-PATENT-CLASS-244-159	c 18	N89-25266 *	US-PATENT-CLASS-244-1	c 21	N71-14159 *
US-PATENT-CLASS-244-118.1	c 18	N85-29991 *	US-PATENT-CLASS-244-159	c 18	N89-28553 *	US-PATENT-CLASS-244-1	c 21	N71-15583 *
US-PATENT-CLASS-244-118.1	c 37	N85-34401 *	US-PATENT-CLASS-244-15	c 05	N75-25914 *	US-PATENT-CLASS-244-1	c 31	N71-15663 *
US-PATENT-CLASS-244-118.1	c 05	N87-14314 *	US-PATENT-CLASS-244-15	c 05	N88-23765 *	US-PATENT-CLASS-244-1	c 31	N71-15674 *
US-PATENT-CLASS-244-119	c 02	N81-14968 *	US-PATENT-CLASS-244-160	c 27	N79-12221 *	US-PATENT-CLASS-244-1	c 31	N71-15676 *
US-PATENT-CLASS-244-119	c 24	N82-24296 *	US-PATENT-CLASS-244-160	c 43	N81-17499 *	US-PATENT-CLASS-244-1	c 02	N71-16087 *
US-PATENT-CLASS-244-119	c 24	N82-26384 *	US-PATENT-CLASS-244-160	c 14	N81-26161 *	US-PATENT-CLASS-244-1	c 31	N71-16222 *
US-PATENT-CLASS-244-119	c 24	N84-11214 *	US-PATENT-CLASS-244-160	c 27	N82-24339 *	US-PATENT-CLASS-244-1	c 31	N71-16345 *
US-PATENT-CLASS-244-119	c 05	N88-23765 *	US-PATENT-CLASS-244-160	c 27	N82-29456 *	US-PATENT-CLASS-244-1	c 31	N71-16346 *
US-PATENT-CLASS-244-12.3	c 05	N88-28914 *	US-PATENT-CLASS-244-161	c 18	N76-14186 *	US-PATENT-CLASS-244-1	c 31	N71-16779 *
US-PATENT-CLASS-244-12.3	c 05	N88-28914 *	US-PATENT-CLASS-244-161	c 37	N76-22540 *	US-PATENT-CLASS-244-1	c 15	N71-17693 *
US-PATENT-CLASS-244-12.5	c 08	N81-19130 *	US-PATENT-CLASS-244-161	c 37	N77-23483 *	US-PATENT-CLASS-244-1	c 31	N71-17729 *
US-PATENT-CLASS-244-120	c 05	N88-23765 *	US-PATENT-CLASS-244-161	c 15	N78-25119 *	US-PATENT-CLASS-244-1	c 15	N71-19214 *
US-PATENT-CLASS-244-121	c 27	N79-12221 *	US-PATENT-CLASS-244-161	c 37	N80-14398 *	US-PATENT-CLASS-244-1	c 03	N71-20273 *
US-PATENT-CLASS-244-121	c 24	N79-25142 *	US-PATENT-CLASS-244-161	c 37	N81-14320 *	US-PATENT-CLASS-244-1	c 31	N71-20396 *
US-PATENT-CLASS-244-121	c 15	N79-26100 *	US-PATENT-CLASS-244-161	c 37	N81-27519 *	US-PATENT-CLASS-244-1	c 31	N71-21064 *
US-PATENT-CLASS-244-121	c 27	N82-24339 *	US-PATENT-CLASS-244-161	c 18	N83-29303 *	US-PATENT-CLASS-244-1	c 14	N71-21082 *
US-PATENT-CLASS-244-121	c 27	N82-29456 *	US-PATENT-CLASS-244-161	c 18	N84-22605 *	US-PATENT-CLASS-244-1	c 21	N71-21708 *
US-PATENT-CLASS-244-121	c 37	N87-17036 *	US-PATENT-CLASS-244-161	c 16	N86-26352 *	US-PATENT-CLASS-244-1	c 31	N71-21881 *
US-PATENT-CLASS-244-122	c 05	N71-20718 *	US-PATENT-CLASS-244-161	c 37	N87-25582 *	US-PATENT-CLASS-244-1	c 33	N71-22792 *
US-PATENT-CLASS-244-123	c 24	N77-28225 *	US-PATENT-CLASS-244-161	c 18	N89-25266 *	US-PATENT-CLASS-244-1	c 31	N71-22968 *
US-PATENT-CLASS-244-123	c 24	N82-24296 *	US-PATENT-CLASS-244-161	c 18	N89-28553 *	US-PATENT-CLASS-244-1	c 31	N71-22969 *
US-PATENT-CLASS-244-123	c 24	N82-26384 *	US-PATENT-CLASS-244-162	c 18	N75-19329 *	US-PATENT-CLASS-244-1	c 31	N71-23009 *
US-PATENT-CLASS-244-123	c 24	N84-11214 *	US-PATENT-CLASS-244-162	c 18	N76-17185 *	US-PATENT-CLASS-244-1	c 14	N71-23040 *
US-PATENT-CLASS-244-127	c 34	N74-23039 *	US-PATENT-CLASS-244-163	c 37	N76-19437 *	US-PATENT-CLASS-244-1	c 31	N71-23912 *
US-PATENT-CLASS-244-12	c 02	N70-33332 *	US-PATENT-CLASS-244-163	c 24	N79-25142 *	US-PATENT-CLASS-244-1	c 31	N71-24315 *
US-PATENT-CLASS-244-130	c 02	N77-10001 *	US-PATENT-CLASS-244-163	c 34	N79-31523 *	US-PATENT-CLASS-244-1	c 15	N71-24600 *
US-PATENT-CLASS-244-130	c 02	N81-14968 *	US-PATENT-CLASS-244-163	c 05	N81-26114 *	US-PATENT-CLASS-244-1	c 05	N71-24728 *
US-PATENT-CLASS-244-130	c 37	N81-24443 *	US-PATENT-CLASS-244-163	c 37	N82-16408 *	US-PATENT-CLASS-244-1	c 33	N71-25353 *
US-PATENT-CLASS-244-130	c 02	N87-16793 *	US-PATENT-CLASS-244-163	c 27	N82-29456 *	US-PATENT-CLASS-244-1	c 31	N71-25434 *
US-PATENT-CLASS-244-130	c 07	N87-16828 *	US-PATENT-CLASS-244-163	c 35	N85-29214 *	US-PATENT-CLASS-244-1	c 31	N71-26537 *
US-PATENT-CLASS-244-130	c 02	N88-14071 *	US-PATENT-CLASS-244-164	c 35	N89-15379 *	US-PATENT-CLASS-244-1	c 15	N71-26611 *
US-PATENT-CLASS-244-130	c 05	N88-23765 *	US-PATENT-CLASS-244-165	c 15	N76-14158 *	US-PATENT-CLASS-244-1	c 28	N71-27095 *
US-PATENT-CLASS-244-132	c 24	N82-26384 *	US-PATENT-CLASS-244-165	c 35	N77-20399 *	US-PATENT-CLASS-244-1	c 21	N71-27324 *

US-PATENT-CLASS-244-1	c 33	N71-28903 *	US-PATENT-CLASS-244-63	c 09	N77-19076 *	US-PATENT-CLASS-250-199	c 16	N69-27491 * #
US-PATENT-CLASS-244-1	c 15	N71-28936 *	US-PATENT-CLASS-244-63	c 14	N81-26161 *	US-PATENT-CLASS-250-199	c 07	N71-12389 *
US-PATENT-CLASS-244-1	c 31	N71-29050 *	US-PATENT-CLASS-244-63	c 16	N84-27784 *	US-PATENT-CLASS-250-199	c 16	N71-22895 *
US-PATENT-CLASS-244-1	c 31	N71-33160 *	US-PATENT-CLASS-244-63	c 18	N84-27787 *	US-PATENT-CLASS-250-199	c 16	N71-25914 *
US-PATENT-CLASS-244-200	c 02	N87-16793 *	US-PATENT-CLASS-244-75-R	c 08	N85-35200 *	US-PATENT-CLASS-250-199	c 16	N71-27183 *
US-PATENT-CLASS-244-200	c 02	N88-14071 *	US-PATENT-CLASS-244-75-R	c 05	N89-11738 *	US-PATENT-CLASS-250-199	c 16	N73-16536 *
US-PATENT-CLASS-244-204	c 02	N87-16793 *	US-PATENT-CLASS-244-75A	c 02	N73-26004 *	US-PATENT-CLASS-250-199	c 07	N73-26119 *
US-PATENT-CLASS-244-207	c 05	N88-28914 *	US-PATENT-CLASS-244-75R	c 05	N75-12930 *	US-PATENT-CLASS-250-199	c 74	N76-18913 *
US-PATENT-CLASS-244-212	c 05	N84-22551 *	US-PATENT-CLASS-244-75R	c 05	N85-21147 *	US-PATENT-CLASS-250-199	c 74	N76-30053 *
US-PATENT-CLASS-244-213	c 08	N82-24205 *	US-PATENT-CLASS-244-76-R	c 08	N87-20999 *	US-PATENT-CLASS-250-199	c 74	N77-26942 *
US-PATENT-CLASS-244-214	c 08	N85-19985 *	US-PATENT-CLASS-244-76C	c 02	N73-26004 *	US-PATENT-CLASS-250-199	c 32	N77-28346 *
US-PATENT-CLASS-244-215	c 05	N84-22551 *	US-PATENT-CLASS-244-76	c 21	N70-34539 *	US-PATENT-CLASS-250-199	c 60	N77-32731 *
US-PATENT-CLASS-244-216	c 05	N84-22551 *	US-PATENT-CLASS-244-76	c 02	N71-13422 *	US-PATENT-CLASS-250-199	c 74	N78-14889 *
US-PATENT-CLASS-244-217	c 37	N82-16408 *	US-PATENT-CLASS-244-76	c 02	N71-20570 *	US-PATENT-CLASS-250-201	c 14	N70-40238 *
US-PATENT-CLASS-244-218	c 05	N78-32086 *	US-PATENT-CLASS-244-77A	c 04	N74-13420 *	US-PATENT-CLASS-250-201	c 35	N75-15014 *
US-PATENT-CLASS-244-218	c 08	N79-14108 *	US-PATENT-CLASS-244-77B	c 04	N74-13420 *	US-PATENT-CLASS-250-201	c 74	N78-17866 *
US-PATENT-CLASS-244-219	c 05	N84-22551 *	US-PATENT-CLASS-244-77D	c 02	N73-19004 *	US-PATENT-CLASS-250-203R	c 14	N72-27409 *
US-PATENT-CLASS-244-226	c 08	N82-24205 *	US-PATENT-CLASS-244-77F	c 02	N73-26004 *	US-PATENT-CLASS-250-203R	c 14	N73-25462 *
US-PATENT-CLASS-244-23A	c 21	N72-25595 *	US-PATENT-CLASS-244-77G	c 02	N73-26004 *	US-PATENT-CLASS-250-203R	c 14	N73-28490 *
US-PATENT-CLASS-244-23C	c 05	N82-26277 *	US-PATENT-CLASS-244-77	c 32	N71-23971 *	US-PATENT-CLASS-250-203R	c 21	N73-30640 *
US-PATENT-CLASS-244-23D	c 34	N76-18364 *	US-PATENT-CLASS-244-78	c 08	N82-24205 *	US-PATENT-CLASS-250-203R	c 19	N74-15089 *
US-PATENT-CLASS-244-234	c 08	N86-27288 *	US-PATENT-CLASS-244-78	c 05	N89-11738 *	US-PATENT-CLASS-250-203R	c 89	N74-30886 *
US-PATENT-CLASS-244-23A	c 02	N71-11039 *	US-PATENT-CLASS-244-79	c 04	N76-26175 *	US-PATENT-CLASS-250-203R	c 35	N77-20401 *
US-PATENT-CLASS-244-2	c 14	N81-26161 *	US-PATENT-CLASS-244-82	c 05	N79-12061 *	US-PATENT-CLASS-250-203R	c 74	N77-22951 *
US-PATENT-CLASS-244-2	c 18	N84-27787 *	US-PATENT-CLASS-244-83G	c 08	N79-23097 *	US-PATENT-CLASS-250-203R	c 44	N81-24520 *
US-PATENT-CLASS-244-3.14	c 31	N71-17691 *	US-PATENT-CLASS-244-83R	c 05	N75-12930 *	US-PATENT-CLASS-250-203R	c 32	N83-18975 *
US-PATENT-CLASS-244-3.16	c 19	N74-15089 *	US-PATENT-CLASS-244-83	c 21	N70-33279 *	US-PATENT-CLASS-250-203R	c 47	N83-32232 *
US-PATENT-CLASS-244-3.21	c 30	N72-17873 *	US-PATENT-CLASS-244-83	c 15	N71-23255 *	US-PATENT-CLASS-250-203R	c 44	N88-14492 *
US-PATENT-CLASS-244-3.21	c 15	N76-14158 *	US-PATENT-CLASS-244-83	c 31	N71-33160 *	US-PATENT-CLASS-250-203X	c 16	N72-13437 *
US-PATENT-CLASS-244-3.21	c 15	N77-10113 *	US-PATENT-CLASS-244-83	c 08	N74-10942 *	US-PATENT-CLASS-250-203	c 14	N69-27432 * #
US-PATENT-CLASS-244-3.21	c 35	N77-20399 *	US-PATENT-CLASS-244-87	c 08	N81-19130 *	US-PATENT-CLASS-250-203	c 14	N69-27485 * #
US-PATENT-CLASS-244-3.22	c 31	N71-17629 *	US-PATENT-CLASS-244-90R	c 08	N74-30421 *	US-PATENT-CLASS-250-203	c 07	N69-39736 * #
US-PATENT-CLASS-244-3.22	c 28	N72-22769 *	US-PATENT-CLASS-244-90R	c 05	N79-12061 *	US-PATENT-CLASS-250-203	c 14	N70-34158 *
US-PATENT-CLASS-244-3.22	c 20	N76-21275 *	US-PATENT-CLASS-244-90R	c 08	N79-14108 *	US-PATENT-CLASS-250-203	c 21	N70-35089 *
US-PATENT-CLASS-244-31	c 02	N71-11037 *	US-PATENT-CLASS-244-90R	c 08	N85-19985 *	US-PATENT-CLASS-250-203	c 14	N70-40239 *
US-PATENT-CLASS-244-31	c 31	N71-16081 *	US-PATENT-CLASS-244-90	c 02	N71-27088 *	US-PATENT-CLASS-250-203	c 21	N71-10678 *
US-PATENT-CLASS-244-31	c 34	N74-23039 *	US-PATENT-CLASS-244-91	c 08	N74-30421 *	US-PATENT-CLASS-250-203	c 21	N71-10771 *
US-PATENT-CLASS-244-327	c 08	N74-30421 *	US-PATENT-CLASS-244-91	c 05	N84-12154 *	US-PATENT-CLASS-250-203	c 21	N71-15642 *
US-PATENT-CLASS-244-32	c 02	N73-13008 *	US-PATENT-CLASS-244-91	c 08	N88-23809 *	US-PATENT-CLASS-250-203	c 14	N71-19568 *
US-PATENT-CLASS-244-34A	c 05	N82-26277 *	US-PATENT-CLASS-244-93	c 05	N82-26277 *	US-PATENT-CLASS-250-203	c 14	N71-23269 *
US-PATENT-CLASS-244-35-R	c 02	N89-14224 *	US-PATENT-CLASS-244-161	c 37	N87-22985 *	US-PATENT-CLASS-250-203	c 14	N71-23797 *
US-PATENT-CLASS-244-35A	c 02	N84-11136 *	US-PATENT-CLASS-247-171	c 35	N75-23910 *	US-PATENT-CLASS-250-203	c 14	N72-22444 *
US-PATENT-CLASS-244-35R	c 02	N76-22154 *	US-PATENT-CLASS-248-DIG-1	c 18	N89-28554 *	US-PATENT-CLASS-250-203	c 14	N73-30393 *
US-PATENT-CLASS-244-35R	c 02	N84-11136 *	US-PATENT-CLASS-248-119	c 11	N70-35383 *	US-PATENT-CLASS-250-203	c 35	N75-23910 *
US-PATENT-CLASS-244-35R	c 02	N84-28732 *	US-PATENT-CLASS-248-14	c 15	N72-17454 *	US-PATENT-CLASS-250-204	c 36	N74-21091 *
US-PATENT-CLASS-244-35R	c 02	N87-16793 *	US-PATENT-CLASS-248-16	c 18	N74-27397 *	US-PATENT-CLASS-250-205	c 14	N72-27411 *
US-PATENT-CLASS-244-35R	c 01	N71-13410 *	US-PATENT-CLASS-248-178	c 15	N70-41310 *	US-PATENT-CLASS-250-205	c 09	N73-14214 *
US-PATENT-CLASS-244-40R	c 02	N76-22154 *	US-PATENT-CLASS-248-178	c 37	N78-27425 *	US-PATENT-CLASS-250-205	c 36	N74-13205 *
US-PATENT-CLASS-244-42CG	c 33	N77-10429 *	US-PATENT-CLASS-248-183	c 14	N71-26627 *	US-PATENT-CLASS-250-206	c 10	N71-20782 *
US-PATENT-CLASS-244-42DA	c 05	N75-25914 *	US-PATENT-CLASS-248-183	c 15	N72-11386 *	US-PATENT-CLASS-250-207	c 14	N72-17328 *
US-PATENT-CLASS-244-42	c 02	N70-42016 *	US-PATENT-CLASS-248-186	c 37	N78-27425 *	US-PATENT-CLASS-250-207	c 14	N73-32317 *
US-PATENT-CLASS-244-42	c 02	N71-26110 *	US-PATENT-CLASS-248-188.4	c 15	N72-27484 *	US-PATENT-CLASS-250-207	c 33	N74-27682 *
US-PATENT-CLASS-244-43	c 02	N70-33255 *	US-PATENT-CLASS-248-188.9	c 31	N70-34159 *	US-PATENT-CLASS-250-208	c 14	N72-20379 *
US-PATENT-CLASS-244-43	c 02	N71-11043 *	US-PATENT-CLASS-248-18	c 14	N69-27486 * #	US-PATENT-CLASS-250-209	c 07	N69-39980 * #
US-PATENT-CLASS-244-44	c 02	N71-11038 *	US-PATENT-CLASS-248-18	c 15	N72-11391 *	US-PATENT-CLASS-250-209	c 20	N71-16340 *
US-PATENT-CLASS-244-45-A	c 05	N88-28914 *	US-PATENT-CLASS-248-20	c 15	N72-11391 *	US-PATENT-CLASS-250-209	c 10	N72-17173 *
US-PATENT-CLASS-244-45A	c 05	N78-32086 *	US-PATENT-CLASS-248-228	c 37	N84-16560 *	US-PATENT-CLASS-250-209	c 14	N72-25409 *
US-PATENT-CLASS-244-45R	c 05	N84-12154 *	US-PATENT-CLASS-248-22	c 19	N76-22284 *	US-PATENT-CLASS-250-209	c 14	N73-16483 *
US-PATENT-CLASS-244-45	c 02	N71-12243 *	US-PATENT-CLASS-248-23	c 18	N74-27397 *	US-PATENT-CLASS-250-209	c 14	N73-26432 *
US-PATENT-CLASS-244-46	c 02	N70-33266 *	US-PATENT-CLASS-248-278	c 15	N72-11386 *	US-PATENT-CLASS-250-209	c 14	N73-28490 *
US-PATENT-CLASS-244-46	c 02	N70-33286 *	US-PATENT-CLASS-248-27	c 15	N71-20813 *	US-PATENT-CLASS-250-209	c 21	N73-30640 *
US-PATENT-CLASS-244-46	c 02	N70-34178 *	US-PATENT-CLASS-248-316.4	c 37	N87-21333 *	US-PATENT-CLASS-250-209	c 44	N81-24520 *
US-PATENT-CLASS-244-46	c 02	N70-34858 *	US-PATENT-CLASS-248-317	c 11	N69-27466 * #	US-PATENT-CLASS-250-211J	c 09	N72-17152 *
US-PATENT-CLASS-244-46	c 31	N70-38010 *	US-PATENT-CLASS-248-346	c 14	N70-39898 *	US-PATENT-CLASS-250-211J	c 09	N73-14214 *
US-PATENT-CLASS-244-46	c 02	N70-38011 *	US-PATENT-CLASS-248-358R	c 37	N75-18573 *	US-PATENT-CLASS-250-211J	c 35	N74-15090 *
US-PATENT-CLASS-244-46	c 02	N71-11041 * #	US-PATENT-CLASS-248-358R	c 19	N76-22284 *	US-PATENT-CLASS-250-211K	c 74	N77-22951 *
US-PATENT-CLASS-244-46	c 02	N73-26005 *	US-PATENT-CLASS-248-358	c 15	N70-40156 *	US-PATENT-CLASS-250-211K	c 44	N80-18552 *
US-PATENT-CLASS-244-46	c 05	N76-29217 *	US-PATENT-CLASS-248-358	c 23	N71-15673 *	US-PATENT-CLASS-250-211K	c 08	N86-27288 *
US-PATENT-CLASS-244-46	c 05	N78-32086 *	US-PATENT-CLASS-248-358	c 15	N71-24694 *	US-PATENT-CLASS-250-211R	c 36	N75-19652 *
US-PATENT-CLASS-244-46	c 08	N79-14108 *	US-PATENT-CLASS-248-36.3	c 37	N78-17383 *	US-PATENT-CLASS-250-211R	c 35	N75-23910 *
US-PATENT-CLASS-244-48	c 05	N79-12061 *	US-PATENT-CLASS-248-360	c 15	N71-17649 *	US-PATENT-CLASS-250-212	c 03	N71-23354 *
US-PATENT-CLASS-244-48	c 05	N82-28279 *	US-PATENT-CLASS-248-361	c 05	N71-28619 *	US-PATENT-CLASS-250-212	c 03	N73-20040 *
US-PATENT-CLASS-244-49	c 43	N81-17499 *	US-PATENT-CLASS-248-362	c 37	N76-21554 *	US-PATENT-CLASS-250-212	c 09	N73-32109 *
US-PATENT-CLASS-244-4	c 05	N69-21380 * #	US-PATENT-CLASS-248-363	c 37	N76-21554 *	US-PATENT-CLASS-250-213VT	c 74	N78-18905 *
US-PATENT-CLASS-244-4	c 05	N71-12336 *	US-PATENT-CLASS-248-425	c 37	N82-21587 *	US-PATENT-CLASS-250-214AL	c 74	N79-12890 *
US-PATENT-CLASS-244-4	c 28	N71-27585 *	US-PATENT-CLASS-248-487	c 15	N72-11386 *	US-PATENT-CLASS-250-214A	c 33	N77-14335 *
US-PATENT-CLASS-244-50	c 02	N70-34160 *	US-PATENT-CLASS-248-503	c 18	N85-29991 *	US-PATENT-CLASS-250-214R	c 14	N73-28490 *
US-PATENT-CLASS-244-51	c 02	N70-34856 *	US-PATENT-CLASS-248-548	c 37	N88-23982 *	US-PATENT-CLASS-250-214R	c 74	N79-12890 *
US-PATENT-CLASS-244-52	c 08	N81-19130 *	US-PATENT-CLASS-248-550	c 37	N85-34401 *	US-PATENT-CLASS-250-214	c 14	N73-25462 *
US-PATENT-CLASS-244-53A	c 07	N78-18066 *	US-PATENT-CLASS-248-550	c 37	N87-21333 *	US-PATENT-CLASS-250-214	c 14	N73-25462 *
US-PATENT-CLASS-244-53B	c 02	N74-20646 *	US-PATENT-CLASS-248-555	c 18	N85-29991 *	US-PATENT-CLASS-250-214	c 35	N74-15090 *
US-PATENT-CLASS-244-53B	c 07	N75-24736 *	US-PATENT-CLASS-248-608	c 37	N88-23982 *	US-PATENT-CLASS-250-214	c 33	N82-28545 *
US-PATENT-CLASS-244-53B	c 07	N77-18154 *	US-PATENT-CLASS-248-636	c 35	N83-32026 *	US-PATENT-CLASS-250-215	c 14	N73-16483 *
US-PATENT-CLASS-244-53B	c 05	N79-24976 *	US-PATENT-CLASS-248-638	c 35	N83-32026 *	US-PATENT-CLASS-250-216	c 74	N79-34011 *
US-PATENT-CLASS-244-53B	c 85	N82-33288 *	US-PATENT-CLASS-248-638	c 05	N87-14314 *	US-PATENT-CLASS-250-216	c 74	N82-24072 *
US-PATENT-CLASS-244-53R	c 05	N84-12154 *	US-PATENT-CLASS-248	c 25	N79-28253 *	US-PATENT-CLASS-250-216	c 74	N89-14077 *
US-PATENT-CLASS-244-53	c 28	N71-15563 *	US-PATENT-CLASS-249-144	c 31	N75-13111 *	US-PATENT-CLASS-250-217F	c 14	N73-16484 *
US-PATENT-CLASS-244-54	c 07	N78-18066 *	US-PATENT-CLASS-249-145	c 31	N74-32920 *	US-PATENT-CLASS-250-217R	c 14	N73-19419 *
US-PATENT-CLASS-244-54	c 07	N79-14096 *	US-PATENT-CLASS-249-145	c 31	N75-13111 *	US-PATENT-CLASS-250-217SS	c 09	N73-14214 *
US-PATENT-CLASS-244-55	c 02	N73-26005 *	US-PATENT-CLASS-249-184	c 31	N74-32920 *	US-PATENT-CLASS-250-217SS	c 36	N74-15145 *
US-PATENT-CLASS-244-55	c 05	N75-25914 *	US-PATENT-CLASS-249-59	c 31	N75-13111 *	US-PATENT-CLASS-250-217	c 14	N69-39896 * #
US-PATENT-CLASS-244-55	c 05	N84-12154 *	US-PATENT-CLASS-249-83	c 31	N74-32920 *	US-PATENT-CLASS-250-217	c 14	N73-16483 *
US-PATENT-CLASS-244-55	c 07	N85-35194 *	US-PATENT-CLASS-249-95	c 31	N74-32920 *	US-PATENT-CLASS-250-217	c 36	N74-13205 *
US-PATENT-CLASS-244-55	c 07	N87-16828 *	US-PATENT-CLASS-25-156	c 15	N71-16076 *	US-PATENT-CLASS-250-218	c 14	N71-22996 *
US-PATENT-CLASS-244-55	c 05	N88-28914 *	US-PATENT-CLASS-250-105	c 14	N70-40240 *	US-PATENT-CLASS-250-218	c 14	N71-28994 *
US-PATENT-CLASS-244-57	c 15	N71-26611 *	US-PATENT-CLASS-250-105	c 14	N73-30389 *	US-PATENT-CLASS-250-218	c 74	N78-33913 *

US-PATENT-CLASS-250-219DF .. c 91	N74-13130 *	US-PATENT-CLASS-250-338 ..... c 35	N77-10493 *	US-PATENT-CLASS-250-400 ..... c 25	N76-29379 *
US-PATENT-CLASS-250-219TH .. c 26	N73-26751 *	US-PATENT-CLASS-250-338 ..... c 47	N77-10753 *	US-PATENT-CLASS-250-400 ..... c 25	N78-27226 *
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US-PATENT-CLASS-250-221 ..... c 33	N82-28545 *	US-PATENT-CLASS-250-338 ..... c 35	N83-21311 *	US-PATENT-CLASS-250-41.9G .. c 14	N73-12444 *
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US-PATENT-CLASS-250-83.3UV	c 14	N72-25409 *	US-PATENT-CLASS-252-514	c 05	N72-25120 *	US-PATENT-CLASS-260-240G	c 27	N76-32315 *
US-PATENT-CLASS-250-83.3UV	c 06	N73-16106 *	US-PATENT-CLASS-252-514	c 44	N79-31752 *	US-PATENT-CLASS-260-245.75	c 27	N86-19455 *
US-PATENT-CLASS-250-83.3	c 21	N70-33181 *	US-PATENT-CLASS-252-518	c 25	N82-26396 *	US-PATENT-CLASS-260-245.9	c 27	N86-19455 *
US-PATENT-CLASS-250-83.3	c 21	N70-34297 *	US-PATENT-CLASS-252-549	c 23	N75-14834 *	US-PATENT-CLASS-260-28.5	c 27	N78-33228 *
US-PATENT-CLASS-250-83.3	c 14	N71-15599 *	US-PATENT-CLASS-252-58	c 18	N70-39897 *	US-PATENT-CLASS-260-29.1R	c 24	N78-24290 *
US-PATENT-CLASS-250-83.3	c 14	N71-18699 *	US-PATENT-CLASS-252-5	c 25	N83-33977 *	US-PATENT-CLASS-260-29.6RB	c 25	N81-19242 *
US-PATENT-CLASS-250-83.3	c 14	N71-21088 *	US-PATENT-CLASS-252-5	c 25	N83-36118 *	US-PATENT-CLASS-260-29.6S	c 27	N74-17283 *
US-PATENT-CLASS-250-83.3	c 09	N71-22985 *	US-PATENT-CLASS-252-62.3E	c 44	N80-24741 *	US-PATENT-CLASS-260-29.6	c 26	N75-27125 *
US-PATENT-CLASS-250-83.3	c 14	N71-25901 *	US-PATENT-CLASS-252-62.3E	c 44	N81-19558 *	US-PATENT-CLASS-260-2	c 06	N71-11243 *
US-PATENT-CLASS-250-83.3	c 14	N71-26475 *	US-PATENT-CLASS-252-62.3GA	c 25	N75-26043 *	US-PATENT-CLASS-260-2	c 06	N71-20717 *
US-PATENT-CLASS-250-83.3	c 14	N71-27323 *	US-PATENT-CLASS-252-62.3	c 26	N71-23292 *	US-PATENT-CLASS-260-2	c 06	N71-20905 *
US-PATENT-CLASS-250-83.3	c 14	N72-17328 *	US-PATENT-CLASS-252-62.3	c 76	N76-25049 *	US-PATENT-CLASS-260-2	c 06	N71-27363 *
US-PATENT-CLASS-250-83.3	c 35	N75-27329 *	US-PATENT-CLASS-252-62	c 27	N74-27037 *	US-PATENT-CLASS-260-2	c 06	N73-30102 *
US-PATENT-CLASS-250-83.6R	c 14	N71-27090 *	US-PATENT-CLASS-252-70	c 23	N75-14834 *	US-PATENT-CLASS-260-2	c 27	N79-21190 *
US-PATENT-CLASS-250-83.6R	c 14	N72-20381 *	US-PATENT-CLASS-252-8.1	c 18	N73-26572 *	US-PATENT-CLASS-260-30.2	c 06	N73-27980 *
US-PATENT-CLASS-250-83.6R	c 25	N72-33696 *	US-PATENT-CLASS-252-8.1	c 27	N74-27037 *	US-PATENT-CLASS-260-30.4N	c 27	N78-17205 *
US-PATENT-CLASS-250-83.6R	c 74	N81-19898 *	US-PATENT-CLASS-252-8.1	c 24	N78-14096 *	US-PATENT-CLASS-260-30.8DS	c 06	N73-27980 *
US-PATENT-CLASS-250-83.6	c 10	N70-41991 *	US-PATENT-CLASS-252-8.1	c 44	N77-22606 *	US-PATENT-CLASS-260-307G	c 27	N79-22300 *
US-PATENT-CLASS-250-83CD	c 91	N74-13130 *	US-PATENT-CLASS-253-39.15	c 15	N70-33226 *	US-PATENT-CLASS-260-32.2R	c 27	N78-17205 *
US-PATENT-CLASS-250-83R	c 14	N73-12445 *	US-PATENT-CLASS-253-39.15	c 15	N70-33264 *	US-PATENT-CLASS-260-32.6NT	c 27	N78-17205 *
US-PATENT-CLASS-250-83R	c 14	N73-20477 *	US-PATENT-CLASS-253-39.15	c 28	N70-33372 *	US-PATENT-CLASS-260-32.6N	c 06	N73-27980 *
US-PATENT-CLASS-250-83	c 14	N69-27484 *	US-PATENT-CLASS-253-39.1	c 33	N71-29152 *	US-PATENT-CLASS-260-32.6N	c 23	N76-15268 *
US-PATENT-CLASS-250-83	c 14	N69-39937 *	US-PATENT-CLASS-253-66	c 15	N70-36412 *	US-PATENT-CLASS-260-32.8N	c 23	N76-15268 *
US-PATENT-CLASS-250-83	c 09	N71-18830 *	US-PATENT-CLASS-253-66	c 28	N70-39895 *	US-PATENT-CLASS-260-326N	c 27	N81-17260 *
US-PATENT-CLASS-250-83	c 05	N71-19440 *	US-PATENT-CLASS-253-77	c 28	N71-28928 *	US-PATENT-CLASS-260-326S	c 27	N81-17260 *
US-PATENT-CLASS-250-83	c 14	N71-20430 *	US-PATENT-CLASS-253-77	c 28	N71-29154 *	US-PATENT-CLASS-260-33.4R	c 06	N73-27980 *
US-PATENT-CLASS-250-83	c 14	N71-23401 *	US-PATENT-CLASS-253	c 25	N79-28253 *	US-PATENT-CLASS-260-33.4R	c 27	N78-17205 *
US-PATENT-CLASS-250-83	c 09	N71-27232 *	US-PATENT-CLASS-254-124	c 20	N76-22296 *	US-PATENT-CLASS-260-33.4R	c 27	N81-19296 *
US-PATENT-CLASS-250-84	c 14	N71-24809 *	US-PATENT-CLASS-254-131	c 60	N82-24839 *	US-PATENT-CLASS-260-33.6EP	c 24	N78-27180 *
US-PATENT-CLASS-251-118	c 15	N71-18580 *	US-PATENT-CLASS-254-150	c 15	N71-24599 *	US-PATENT-CLASS-260-33.6PQ	c 24	N78-27180 *
US-PATENT-CLASS-251-118	c 15	N70-35407 *	US-PATENT-CLASS-254-156	c 15	N73-25512 *	US-PATENT-CLASS-260-33.6R	c 06	N73-27980 *
US-PATENT-CLASS-251-120	c 37	N74-21065 *	US-PATENT-CLASS-254-158	c 54	N77-21844 *	US-PATENT-CLASS-260-33.6UB	c 27	N81-15104 *
US-PATENT-CLASS-251-121	c 15	N71-18580 *	US-PATENT-CLASS-254-173	c 15	N71-24599 *	US-PATENT-CLASS-260-33.8EP	c 24	N78-27180 *
US-PATENT-CLASS-251-122	c 15	N73-13462 *	US-PATENT-CLASS-254-186	c 15	N71-24599 *	US-PATENT-CLASS-260-33.8F	c 27	N76-24405 *
US-PATENT-CLASS-251-122	c 37	N74-21065 *	US-PATENT-CLASS-254-190	c 15	N72-25453 *	US-PATENT-CLASS-260-33.8F	c 25	N81-14016 *
US-PATENT-CLASS-251-127	c 12	N71-18615 *	US-PATENT-CLASS-254-29A	c 15	N73-30457 *	US-PATENT-CLASS-260-33.8UA	c 24	N78-27180 *
US-PATENT-CLASS-251-127	c 44	N84-14583 *	US-PATENT-CLASS-254-93-H	c 35	N88-24927 *	US-PATENT-CLASS-260-340.9R	c 23	N82-16174 *
US-PATENT-CLASS-251-129.15	c 37	N87-25573 *	US-PATENT-CLASS-254-93-R	c 35	N88-24927 *	US-PATENT-CLASS-260-346.3	c 23	N75-30256 *
US-PATENT-CLASS-251-129	c 15	N72-20442 *	US-PATENT-CLASS-254-93R	c 35	N74-13129 *	US-PATENT-CLASS-260-346.3	c 23	N76-15268 *
US-PATENT-CLASS-251-138	c 37	N80-23854 *	US-PATENT-CLASS-254-93R	c 20	N76-22296 *	US-PATENT-CLASS-260-346.3	c 27	N80-32515 *
US-PATENT-CLASS-251-148	c 15	N71-23024 *	US-PATENT-CLASS-256-13.1	c 37	N79-10420 *	US-PATENT-CLASS-260-348SC	c 06	N72-25148 *
US-PATENT-CLASS-251-149.6	c 37	N76-14463 *	US-PATENT-CLASS-256-1	c 37	N79-10420 *	US-PATENT-CLASS-260-37EP	c 24	N78-24290 *
US-PATENT-CLASS-251-149.9	c 37	N79-11402 *	US-PATENT-CLASS-256-308.2	c 27	N86-20561 *	US-PATENT-CLASS-260-37EP	c 24	N78-27180 *
US-PATENT-CLASS-251-165	c 37	N87-21332 *	US-PATENT-CLASS-259-DIG.18	c 35	N74-15093 *	US-PATENT-CLASS-260-37EP	c 15	N79-26100 *
US-PATENT-CLASS-251-172	c 15	N71-21234 *	US-PATENT-CLASS-259-4AC	c 37	N76-19436 *	US-PATENT-CLASS-260-37EP	c 27	N81-17260 *
US-PATENT-CLASS-251-172	c 37	N79-33469 *	US-PATENT-CLASS-259-4	c 15	N73-19458 *	US-PATENT-CLASS-260-37N	c 27	N79-28307 *
US-PATENT-CLASS-251-173	c 15	N70-33376 *	US-PATENT-CLASS-259-60	c 35	N74-15093 *	US-PATENT-CLASS-260-37	c 18	N71-25881 *
US-PATENT-CLASS-251-175	c 37	N87-25573 *	US-PATENT-CLASS-259-71	c 15	N71-21177 *	US-PATENT-CLASS-260-37	c 27	N81-24258 *
US-PATENT-CLASS-251-210	c 37	N74-21065 *	US-PATENT-CLASS-259-72	c 37	N74-18123 *	US-PATENT-CLASS-260-386	c 25	N82-24312 *
US-PATENT-CLASS-251-216	c 37	N81-17433 *	US-PATENT-CLASS-259-98	c 35	N74-15126 *	US-PATENT-CLASS-260-386	c 23	N88-26404 *
US-PATENT-CLASS-251-265	c 37	N85-20338 *	US-PATENT-CLASS-259/4R	c 34	N77-24423 *	US-PATENT-CLASS-260-389	c 25	N82-24312 *
US-PATENT-CLASS-251-267	c 37	N85-20338 *	US-PATENT-CLASS-260.46.5E	c 27	N74-21156 *	US-PATENT-CLASS-260-389	c 23	N88-26404 *
US-PATENT-CLASS-251-284	c 37	N85-20338 *	US-PATENT-CLASS-260-DIG.15	c 27	N78-14164 *	US-PATENT-CLASS-260-395	c 23	N88-26404 *
US-PATENT-CLASS-251-297	c 37	N85-20338 *	US-PATENT-CLASS-260-DIG.24	c 27	N74-27037 *	US-PATENT-CLASS-260-396N	c 27	N74-27037 *
US-PATENT-CLASS-251-31	c 15	N71-19485 *	US-PATENT-CLASS-260-DIG.29	c 27	N76-24405 *	US-PATENT-CLASS-260-404.5	c 18	N71-15688 *
US-PATENT-CLASS-251-325	c 37	N85-29284 *	US-PATENT-CLASS-260-17.2	c 24	N80-24438 *	US-PATENT-CLASS-260-42.17	c 27	N78-17215 *
US-PATENT-CLASS-251-331	c 15	N72-31483 *	US-PATENT-CLASS-260-17.2	c 24	N80-26388 *	US-PATENT-CLASS-260-42.43	c 24	N78-27180 *
US-PATENT-CLASS-251-333	c 15	N70-34859 *	US-PATENT-CLASS-260-17.2	c 24	N81-13999 *	US-PATENT-CLASS-260-42.43	c 06	N71-28808 *
US-PATENT-CLASS-251-333	c 12	N71-18615 *	US-PATENT-CLASS-260-17.4UC	c 23	N81-29160 *	US-PATENT-CLASS-260-42	c 27	N79-28307 *
US-PATENT-CLASS-251-333	c 15	N72-20442 *	US-PATENT-CLASS-260-17A	c 27	N81-14076 *	US-PATENT-CLASS-260-448.2D	c 06	N72-25151 *
US-PATENT-CLASS-251-333	c 37	N75-25185 *	US-PATENT-CLASS-260-18S	c 06	N72-25151 *	US-PATENT-CLASS-260-448.2D	c 06	N73-32030 *
US-PATENT-CLASS-251-339	c 37	N81-17433 *	US-PATENT-CLASS-260-2.1E	c 18	N72-22567 *	US-PATENT-CLASS-260-448.2N	c 37	N74-21058 *
US-PATENT-CLASS-251-342	c 12	N71-18615 *	US-PATENT-CLASS-260-2.1E	c 27	N81-14076 *	US-PATENT-CLASS-260-448.2	c 06	N71-23230 *
US-PATENT-CLASS-251-349	c 37	N85-29284 *	US-PATENT-CLASS-260-2.1E	c 25	N81-19244 *	US-PATENT-CLASS-260-45.7R	c 24	N78-27180 *
US-PATENT-CLASS-251-353	c 37	N85-29284 *	US-PATENT-CLASS-260-2.1	c 25	N81-17187 *	US-PATENT-CLASS-260-45.7R	c 27	N82-16238 *
US-PATENT-CLASS-251-358	c 15	N71-17648 *	US-PATENT-CLASS-260-2.2R	c 25	N81-17187 *	US-PATENT-CLASS-260-45.75W	c 24	N78-27180 *
US-PATENT-CLASS-251-360	c 15	N72-25451 *	US-PATENT-CLASS-260-2.2R	c 25	N81-19244 *	US-PATENT-CLASS-260-45.7	c 27	N76-24405 *
US-PATENT-CLASS-251-61.1	c 12	N71-18615 *	US-PATENT-CLASS-260-2.5AK	c 27	N76-15310 *	US-PATENT-CLASS-260-45.9R	c 24	N78-27180 *
US-PATENT-CLASS-251-61	c 15	N71-10778 *	US-PATENT-CLASS-260-2.5AK	c 24	N78-24290 *			
US-PATENT-CLASS-251-7	c 37	N79-28550 *						

US-PATENT-CLASS-260-46.5E ..... c 06 N72-25151 \*  
US-PATENT-CLASS-260-46.5G ..... c 06 N72-25151 \*  
US-PATENT-CLASS-260-46.5P ..... c 06 N72-25151 \*  
US-PATENT-CLASS-260-46.5R ..... c 06 N73-26100 \*  
US-PATENT-CLASS-260-46.5 ..... c 06 N71-11237 \*  
US-PATENT-CLASS-260-46.5 ..... c 06 N71-11240 \*  
US-PATENT-CLASS-260-46.5R ..... c 27 N81-24256 \*  
US-PATENT-CLASS-260-46.5R ..... c 27 N84-22744 \*  
US-PATENT-CLASS-260-46.5 ..... c 27 N84-22744 \*  
US-PATENT-CLASS-260-47CP ..... c 06 N73-27980 \*  
US-PATENT-CLASS-260-47CP ..... c 23 N76-15268 \*  
US-PATENT-CLASS-260-47CP ..... c 27 N78-31232 \*  
US-PATENT-CLASS-260-47CP ..... c 27 N78-32261 \*  
US-PATENT-CLASS-260-47UP ..... c 06 N73-32029 \*  
US-PATENT-CLASS-260-47 ..... c 06 N71-28620 \*  
US-PATENT-CLASS-260-47 ..... c 06 N71-28807 \*  
US-PATENT-CLASS-260-48F ..... c 06 N73-30098 \*  
US-PATENT-CLASS-260-49 ..... c 27 N78-32261 \*  
US-PATENT-CLASS-260-520 ..... c 23 N75-30256 \*  
US-PATENT-CLASS-260-535H ..... c 06 N72-27144 \*  
US-PATENT-CLASS-260-53 ..... c 27 N79-28307 \*  
US-PATENT-CLASS-260-544-D ..... c 27 N86-21675 \*  
US-PATENT-CLASS-260-544-P ..... c 27 N87-14515 \*  
US-PATENT-CLASS-260-544F ..... c 06 N72-20121 \*  
US-PATENT-CLASS-260-544P ..... c 27 N86-27450 \*  
US-PATENT-CLASS-260-551P ..... c 27 N78-32256 \*  
US-PATENT-CLASS-260-566B ..... c 27 N76-32315 \*  
US-PATENT-CLASS-260-567.6M ..... c 06 N73-32029 \*  
US-PATENT-CLASS-260-571 ..... c 23 N76-15268 \*  
US-PATENT-CLASS-260-606-5P ..... c 27 N78-32256 \*  
US-PATENT-CLASS-260-615 ..... c 06 N71-27254 \*  
US-PATENT-CLASS-260-615 ..... c 06 N73-30101 \*  
US-PATENT-CLASS-260-63N ..... c 27 N78-31232 \*  
US-PATENT-CLASS-260-63N ..... c 27 N78-32261 \*  
US-PATENT-CLASS-260-63R ..... c 27 N78-32261 \*  
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US-PATENT-CLASS-260-67 ..... c 27 N78-17214 \*  
US-PATENT-CLASS-260-67 ..... c 27 N79-21191 \*  
US-PATENT-CLASS-260-72.5 ..... c 06 N71-11236 \*  
US-PATENT-CLASS-260-72.5 ..... c 06 N71-11239 \*  
US-PATENT-CLASS-260-72.5 ..... c 06 N71-24740 \*  
US-PATENT-CLASS-260-75NH ..... c 27 N78-17213 \*  
US-PATENT-CLASS-260-75NK ..... c 27 N78-17213 \*  
US-PATENT-CLASS-260-75NT ..... c 27 N78-17213 \*  
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US-PATENT-CLASS-260-77.5AN ..... c 27 N78-17213 \*  
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US-PATENT-CLASS-260-77.5 ..... c 06 N73-30103 \*  
US-PATENT-CLASS-260-78.41 ..... c 27 N78-31232 \*  
US-PATENT-CLASS-260-78TF ..... c 06 N73-27980 \*  
US-PATENT-CLASS-260-78TF ..... c 27 N74-23125 \*  
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US-PATENT-CLASS-260-830S ..... c 15 N79-26100 \*  
US-PATENT-CLASS-260-85.5 ..... c 06 N71-23500 \*  
US-PATENT-CLASS-260-858 ..... c 27 N81-14076 \*  
US-PATENT-CLASS-260-877 ..... c 06 N72-22107 \*  
US-PATENT-CLASS-260-879 ..... c 27 N76-16228 \*  
US-PATENT-CLASS-260-886 ..... c 27 N81-14076 \*  
US-PATENT-CLASS-260-8900 ..... c 27 N81-14076 \*  
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US-PATENT-CLASS-260-926 ..... c 27 N80-10358 \*  
US-PATENT-CLASS-260-927-N ..... c 23 N86-19376 \*  
US-PATENT-CLASS-260-93.5A ..... c 06 N73-32029 \*  
US-PATENT-CLASS-260-93.5S ..... c 06 N73-32029 \*  
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US-PATENT-CLASS-260-94.2R ..... c 06 N73-32029 \*  
US-PATENT-CLASS-260-94.7R ..... c 06 N73-32029 \*  
US-PATENT-CLASS-260-94.8 ..... c 27 N73-22710 \*  
US-PATENT-CLASS-260-959 ..... c 27 N78-32256 \*  
US-PATENT-CLASS-260-96D ..... c 28 N81-15119 \*  
US-PATENT-CLASS-261-DIG.75 ..... c 34 N77-24423 \*  
US-PATENT-CLASS-261-118 ..... c 31 N80-18231 \*  
US-PATENT-CLASS-261-123 ..... c 34 N77-24423 \*  
US-PATENT-CLASS-261-145 ..... c 28 N72-22772 \*  
US-PATENT-CLASS-261-28 ..... c 07 N81-29129 \*

US-PATENT-CLASS-261-78A ..... c 35 N86-29174 \*  
US-PATENT-CLASS-261-79A ..... c 54 N81-24724 \*  
US-PATENT-CLASS-263-48 ..... c 15 N69-27483 \* #  
US-PATENT-CLASS-264-DIG.36 ..... c 18 N73-14584 \*  
US-PATENT-CLASS-264-DIG.44 ..... c 15 N72-16329 \*  
US-PATENT-CLASS-264-DIG.64 ..... c 27 N88-23894 \*  
US-PATENT-CLASS-264-DIG.65 ..... c 27 N85-20124 \*  
US-PATENT-CLASS-264-DIG-59 ..... c 27 N89-29539 \*  
US-PATENT-CLASS-264-102 ..... c 15 N71-10672 \*  
US-PATENT-CLASS-264-102 ..... c 15 N73-12489 \*  
US-PATENT-CLASS-264-102 ..... c 31 N74-14133 \*  
US-PATENT-CLASS-264-102 ..... c 31 N74-18124 \*  
US-PATENT-CLASS-264-102 ..... c 37 N76-24575 \*  
US-PATENT-CLASS-264-102 ..... c 15 N79-26100 \*  
US-PATENT-CLASS-264-102 ..... c 05 N72-25120 \*  
US-PATENT-CLASS-264-104 ..... c 27 N81-24257 \*  
US-PATENT-CLASS-264-104 ..... c 23 N81-29160 \*  
US-PATENT-CLASS-264-104 ..... c 25 N83-13188 \*  
US-PATENT-CLASS-264-105 ..... c 27 N81-24257 \*  
US-PATENT-CLASS-264-111 ..... c 17 N71-29137 \*  
US-PATENT-CLASS-264-112 ..... c 27 N85-20124 \*  
US-PATENT-CLASS-264-118 ..... c 24 N80-26388 \*  
US-PATENT-CLASS-264-118 ..... c 24 N84-16262 \*  
US-PATENT-CLASS-264-119 ..... c 24 N80-26388 \*  
US-PATENT-CLASS-264-120 ..... c 27 N85-20124 \*  
US-PATENT-CLASS-264-124 ..... c 24 N80-26388 \*  
US-PATENT-CLASS-264-129 ..... c 37 N76-31524 \*  
US-PATENT-CLASS-264-12 ..... c 31 N83-35176 \*  
US-PATENT-CLASS-264-130 ..... c 27 N78-32262 \*  
US-PATENT-CLASS-264-135 ..... c 37 N74-18126 \*  
US-PATENT-CLASS-264-136 ..... c 37 N74-18126 \*  
US-PATENT-CLASS-264-137 ..... c 27 N79-33316 \*  
US-PATENT-CLASS-264-137 ..... c 27 N81-14078 \*  
US-PATENT-CLASS-264-137 ..... c 27 N81-29229 \*  
US-PATENT-CLASS-264-137 ..... c 27 N83-34041 \*  
US-PATENT-CLASS-264-137 ..... c 27 N85-20124 \*  
US-PATENT-CLASS-264-145 ..... c 15 N79-26100 \*  
US-PATENT-CLASS-264-151 ..... c 15 N79-26100 \*  
US-PATENT-CLASS-264-152 ..... c 27 N85-20124 \*  
US-PATENT-CLASS-264-157 ..... c 24 N78-17150 \*  
US-PATENT-CLASS-264-161 ..... c 37 N76-31524 \*  
US-PATENT-CLASS-264-175 ..... c 15 N79-26100 \*  
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 US-PATENT-CLASS-307-270 ..... c 33 N86-20672 \*  
 US-PATENT-CLASS-307-271 ..... c 10 N73-32145 \*  
 US-PATENT-CLASS-307-271 ..... c 33 N85-29145 \*  
 US-PATENT-CLASS-307-273 ..... c 10 N71-18723 \*  
 US-PATENT-CLASS-307-273 ..... c 09 N71-27016 \*  
 US-PATENT-CLASS-307-273 ..... c 09 N71-28468 \*  
 US-PATENT-CLASS-307-273 ..... c 10 N71-28860 \*  
 US-PATENT-CLASS-307-273 ..... c 09 N71-29139 \*  
 US-PATENT-CLASS-307-273 ..... c 10 N72-20221 \*  
 US-PATENT-CLASS-307-280 ..... c 33 N77-21314 \*  
 US-PATENT-CLASS-307-284 ..... c 09 N72-22201 \*  
 US-PATENT-CLASS-307-288 ..... c 09 N71-23015 \*  
 US-PATENT-CLASS-307-288 ..... c 09 N71-28468 \*  
 US-PATENT-CLASS-307-288 ..... c 10 N72-20221 \*  
 US-PATENT-CLASS-307-288 ..... c 09 N72-22202 \*  
 US-PATENT-CLASS-307-289 ..... c 10 N71-19547 \*  
 US-PATENT-CLASS-307-28 ..... c 03 N73-31988 \*  
 US-PATENT-CLASS-307-290 ..... c 33 N74-22814 \*  
 US-PATENT-CLASS-307-291 ..... c 60 N81-15706 \*  
 US-PATENT-CLASS-307-294 ..... c 09 N71-29139 \*  
 US-PATENT-CLASS-307-295 ..... c 10 N72-17171 \*  
 US-PATENT-CLASS-307-295 ..... c 10 N72-20223 \*  
 US-PATENT-CLASS-307-295 ..... c 09 N72-21245 \*  
 US-PATENT-CLASS-307-295 ..... c 09 N72-33204 \*  
 US-PATENT-CLASS-307-295 ..... c 33 N74-34638 \*  
 US-PATENT-CLASS-307-295 ..... c 33 N77-13315 \*  
 US-PATENT-CLASS-307-296 ..... c 08 N71-12494 \*  
 US-PATENT-CLASS-307-296 ..... c 07 N71-28430 \*  
 US-PATENT-CLASS-307-297 ..... c 33 N78-17294 \*  
 US-PATENT-CLASS-307-299 ..... c 08 N72-21198 \*  
 US-PATENT-CLASS-307-299 ..... c 26 N72-21701 \*  
 US-PATENT-CLASS-307-29 ..... c 03 N73-31988 \*  
 US-PATENT-CLASS-307-300 ..... c 10 N71-27126 \*  
 US-PATENT-CLASS-307-303 ..... c 08 N72-21198 \*  
 US-PATENT-CLASS-307-304 ..... c 09 N72-22201 \*  
 US-PATENT-CLASS-307-304 ..... c 09 N73-20232 \*  
 US-PATENT-CLASS-307-304 ..... c 33 N74-34638 \*  
 US-PATENT-CLASS-307-305 ..... c 09 N72-23171 \*  
 US-PATENT-CLASS-307-306 ..... c 33 N78-13320 \*  
 US-PATENT-CLASS-307-306 ..... c 33 N81-17348 \*  
 US-PATENT-CLASS-307-308 ..... c 14 N73-28488 \*  
 US-PATENT-CLASS-307-309 ..... c 35 N75-13213 \*  
 US-PATENT-CLASS-307-310 ..... c 09 N73-14214 \*  
 US-PATENT-CLASS-307-311 ..... c 14 N72-18411 \*  
 US-PATENT-CLASS-307-311 ..... c 08 N72-21198 \*  
 US-PATENT-CLASS-307-311 ..... c 09 N73-14214 \*  
 US-PATENT-CLASS-307-313 ..... c 10 N72-20221 \*  
 US-PATENT-CLASS-307-317 ..... c 09 N72-22200 \*  
 US-PATENT-CLASS-307-317 ..... c 09 N72-22201 \*  
 US-PATENT-CLASS-307-31 ..... c 44 N87-21410 \*  
 US-PATENT-CLASS-307-321 ..... c 33 N75-19520 \*  
 US-PATENT-CLASS-307-321 ..... c 33 N75-25041 \*  
 US-PATENT-CLASS-307-322 ..... c 10 N72-22236 \*  
 US-PATENT-CLASS-307-323 ..... c 10 N72-22236 \*  
 US-PATENT-CLASS-307-350 ..... c 33 N78-18308 \*  
 US-PATENT-CLASS-307-352 ..... c 33 N81-27396 \*  
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 US-PATENT-CLASS-307-354 ..... c 33 N87-21235 \*  
 US-PATENT-CLASS-307-35 ..... c 33 N74-34638 \*  
 US-PATENT-CLASS-307-360 ..... c 33 N78-18308 \*  
 US-PATENT-CLASS-307-38 ..... c 03 N73-31988 \*  
 US-PATENT-CLASS-307-415 ..... c 33 N82-24418 \*  
 US-PATENT-CLASS-307-425 ..... c 36 N87-25567 \*  
 US-PATENT-CLASS-307-490 ..... c 33 N87-22895 \*  
 US-PATENT-CLASS-307-520 ..... c 33 N85-29145 \*  
 US-PATENT-CLASS-307-521 ..... c 33 N85-29145 \*  
 US-PATENT-CLASS-307-529 ..... c 33 N85-29145 \*  
 US-PATENT-CLASS-307-53 ..... c 10 N71-26626 \*  
 US-PATENT-CLASS-307-53 ..... c 33 N78-17296 \*  
 US-PATENT-CLASS-307-566 ..... c 33 N86-20672 \*  
 US-PATENT-CLASS-307-570 ..... c 33 N86-20672 \*  
 US-PATENT-CLASS-307-572 ..... c 33 N86-20672 \*  
 US-PATENT-CLASS-307-63 ..... c 44 N80-14472 \*  
 US-PATENT-CLASS-307-64 ..... c 33 N77-30365 \*  
 US-PATENT-CLASS-307-64 ..... c 44 N85-21769 \*  
 US-PATENT-CLASS-307-64 ..... c 44 N87-21410 \*  
 US-PATENT-CLASS-307-66 ..... c 44 N80-14472 \*  
 US-PATENT-CLASS-307-66 ..... c 44 N85-21769 \*  
 US-PATENT-CLASS-307-66 ..... c 44 N87-21410 \*  
 US-PATENT-CLASS-307-69 ..... c 33 N78-17296 \*  
 US-PATENT-CLASS-307-80 ..... c 44 N87-21410 \*  
 US-PATENT-CLASS-307-81 ..... c 09 N72-17157 \*  
 US-PATENT-CLASS-307-82 ..... c 33 N79-24254 \*  
 US-PATENT-CLASS-307-82 ..... c 33 N85-29147 \*  
 US-PATENT-CLASS-307-83 ..... c 09 N72-25262 \*  
 US-PATENT-CLASS-307-87 ..... c 33 N84-33660 \*  
 US-PATENT-CLASS-307-88.3 ..... c 09 N72-25258 \*

US-PATENT-CLASS-307-88.5 ..... c 09 N70-34819 \*  
 US-PATENT-CLASS-307-88.5 ..... c 09 N70-40272 \*  
 US-PATENT-CLASS-307-88.5 ..... c 09 N70-41675 \*  
 US-PATENT-CLASS-307-88.5 ..... c 10 N70-42032 \*  
 US-PATENT-CLASS-307-88.5 ..... c 09 N71-10673 \*  
 US-PATENT-CLASS-307-88.5 ..... c 10 N71-15910 \*  
 US-PATENT-CLASS-307-88.5 ..... c 10 N71-16042 \*  
 US-PATENT-CLASS-307-88.5 ..... c 10 N71-28739 \*  
 US-PATENT-CLASS-307-88BMP ..... c 09 N72-22197 \*  
 US-PATENT-CLASS-307-88 ..... c 08 N70-34743 \*  
 US-PATENT-CLASS-307-88 ..... c 09 N70-38604 \*  
 US-PATENT-CLASS-307-88 ..... c 09 N71-24803 \*  
 US-PATENT-CLASS-307-88 ..... c 09 N71-26000 \*  
 US-PATENT-CLASS-307-92 ..... c 09 N72-27227 \*  
 US-PATENT-CLASS-307-98 ..... c 33 N79-28415 \*  
 US-PATENT-CLASS-308-DIG.1 ..... c 15 N72-17451 \*  
 US-PATENT-CLASS-308-DIG.1 ..... c 37 N79-10418 \*  
 US-PATENT-CLASS-308-DIG.8 ..... c 24 N79-17916 \*  
 US-PATENT-CLASS-308-DIG.9 ..... c 24 N79-17916 \*  
 US-PATENT-CLASS-308-10 ..... c 15 N71-22997 \*  
 US-PATENT-CLASS-308-10 ..... c 15 N72-33476 \*  
 US-PATENT-CLASS-308-10 ..... c 35 N74-18323 \*  
 US-PATENT-CLASS-308-10 ..... c 37 N75-18574 \*  
 US-PATENT-CLASS-308-10 ..... c 37 N76-18459 \*  
 US-PATENT-CLASS-308-10 ..... c 37 N77-17464 \*  
 US-PATENT-CLASS-308-10 ..... c 44 N78-24608 \*  
 US-PATENT-CLASS-308-10 ..... c 37 N78-27424 \*  
 US-PATENT-CLASS-308-10 ..... c 35 N79-26372 \*  
 US-PATENT-CLASS-308-10 ..... c 71 N81-15767 \*  
 US-PATENT-CLASS-308-10 ..... c 44 N83-28574 \*  
 US-PATENT-CLASS-308-10 ..... c 37 N83-32067 \*  
 US-PATENT-CLASS-308-10 ..... c 37 N83-34323 \*  
 US-PATENT-CLASS-308-10 ..... c 71 N83-36846 \*  
 US-PATENT-CLASS-308-10 ..... c 37 N85-20337 \*  
 US-PATENT-CLASS-308-121 ..... c 37 N74-32921 \*  
 US-PATENT-CLASS-308-121 ..... c 37 N75-30562 \*  
 US-PATENT-CLASS-308-121 ..... c 37 N79-10418 \*  
 US-PATENT-CLASS-308-122 ..... c 37 N76-15461 \*  
 US-PATENT-CLASS-308-160 ..... c 37 N76-15461 \*  
 US-PATENT-CLASS-308-160 ..... c 37 N76-29588 \*  
 US-PATENT-CLASS-308-160 ..... c 37 N79-10418 \*  
 US-PATENT-CLASS-308-163 ..... c 37 N76-29588 \*  
 US-PATENT-CLASS-308-163 ..... c 37 N79-10418 \*  
 US-PATENT-CLASS-308-168 ..... c 24 N79-17916 \*  
 US-PATENT-CLASS-308-170 ..... c 15 N71-28465 \*  
 US-PATENT-CLASS-308-170 ..... c 37 N76-29588 \*  
 US-PATENT-CLASS-308-171 ..... c 24 N79-17916 \*  
 US-PATENT-CLASS-308-172 ..... c 37 N79-10418 \*  
 US-PATENT-CLASS-308-174 ..... c 54 N75-12616 \*  
 US-PATENT-CLASS-308-176 ..... c 15 N71-22982 \*  
 US-PATENT-CLASS-308-177 ..... c 15 N71-29136 \*  
 US-PATENT-CLASS-308-187 ..... c 15 N71-26189 \*  
 US-PATENT-CLASS-308-188 ..... c 15 N73-30458 \*  
 US-PATENT-CLASS-308-188 ..... c 37 N74-21064 \*  
 US-PATENT-CLASS-308-191 ..... c 37 N74-21064 \*  
 US-PATENT-CLASS-308-191 ..... c 37 N75-31446 \*  
 US-PATENT-CLASS-308-193 ..... c 15 N73-30458 \*  
 US-PATENT-CLASS-308-194 ..... c 37 N79-11404 \*  
 US-PATENT-CLASS-308-195 ..... c 15 N72-22490 \*  
 US-PATENT-CLASS-308-195 ..... c 37 N75-31446 \*  
 US-PATENT-CLASS-308-195 ..... c 37 N77-32500 \*  
 US-PATENT-CLASS-308-195 ..... c 37 N77-32501 \*  
 US-PATENT-CLASS-308-1 ..... c 31 N71-26537 \*  
 US-PATENT-CLASS-308-2A ..... c 15 N72-26371 \*  
 US-PATENT-CLASS-308-2A ..... c 15 N73-12488 \*  
 US-PATENT-CLASS-308-2A ..... c 37 N84-12492 \*  
 US-PATENT-CLASS-308-201 ..... c 37 N75-31446 \*  
 US-PATENT-CLASS-308-2 ..... c 15 N71-23812 \*  
 US-PATENT-CLASS-308-35 ..... c 15 N73-32359 \*  
 US-PATENT-CLASS-308-5R ..... c 37 N77-28486 \*  
 US-PATENT-CLASS-308-5R ..... c 37 N79-10418 \*  
 US-PATENT-CLASS-308-5 ..... c 15 N71-10617 \*  
 US-PATENT-CLASS-308-5 ..... c 15 N72-11388 \*  
 US-PATENT-CLASS-308-5 ..... c 15 N72-17451 \*  
 US-PATENT-CLASS-308-72 ..... c 37 N76-15461 \*  
 US-PATENT-CLASS-308-72 ..... c 37 N77-32500 \*  
 US-PATENT-CLASS-308-72 ..... c 37 N79-11404 \*  
 US-PATENT-CLASS-308-73 ..... c 37 N74-21061 \*  
 US-PATENT-CLASS-308-73 ..... c 37 N75-30562 \*  
 US-PATENT-CLASS-308-73 ..... c 37 N76-15461 \*  
 US-PATENT-CLASS-308-73 ..... c 37 N77-28486 \*  
 US-PATENT-CLASS-308-78 ..... c 24 N79-17916 \*  
 US-PATENT-CLASS-308-87R ..... c 24 N79-17916 \*  
 US-PATENT-CLASS-308-9 ..... c 15 N70-34664 \*  
 US-PATENT-CLASS-308-9 ..... c 15 N70-38620 \*  
 US-PATENT-CLASS-308-9 ..... c 15 N70-39896 \*  
 US-PATENT-CLASS-308-9 ..... c 15 N71-20739 \*  
 US-PATENT-CLASS-308-9 ..... c 14 N71-26627 \*  
 US-PATENT-CLASS-308-9 ..... c 15 N72-17451 \*  
 US-PATENT-CLASS-308-9 ..... c 15 N73-32359 \*  
 US-PATENT-CLASS-308-9 ..... c 37 N76-15461 \*  
 US-PATENT-CLASS-308-9 ..... c 37 N77-28486 \*  
 US-PATENT-CLASS-308-9 ..... c 37 N79-10418 \*  
 US-PATENT-CLASS-31-35 ..... c 31 N85-21404 \*  
 US-PATENT-CLASS-310-101 ..... c 15 N71-24696 \*  
 US-PATENT-CLASS-310-10 ..... c 03 N69-39890 \* #

US-PATENT-CLASS-310-10 ..... c 09 N71-23443 \*  
 US-PATENT-CLASS-310-10 ..... c 09 N71-24904 \*  
 US-PATENT-CLASS-310-10 ..... c 09 N72-25255 \*  
 US-PATENT-CLASS-310-10 ..... c 20 N75-24837 \*  
 US-PATENT-CLASS-310-111 ..... c 33 N77-26387 \*  
 US-PATENT-CLASS-310-11 ..... c 25 N69-21929 \* #  
 US-PATENT-CLASS-310-11 ..... c 03 N69-39983 \* #  
 US-PATENT-CLASS-310-11 ..... c 03 N70-36803 \*  
 US-PATENT-CLASS-310-11 ..... c 14 N72-22439 \*  
 US-PATENT-CLASS-310-11 ..... c 12 N72-25292 \*  
 US-PATENT-CLASS-310-11 ..... c 35 N74-21018 \*  
 US-PATENT-CLASS-310-11 ..... c 36 N75-32441 \*  
 US-PATENT-CLASS-310-11 ..... c 44 N83-28573 \*  
 US-PATENT-CLASS-310-12 ..... c 33 N82-24421 \*  
 US-PATENT-CLASS-310-12 ..... c 37 N83-32067 \*  
 US-PATENT-CLASS-310-153 ..... c 44 N78-24608 \*  
 US-PATENT-CLASS-310-154 ..... c 44 N78-24608 \*  
 US-PATENT-CLASS-310-154 ..... c 35 N84-28017 \*  
 US-PATENT-CLASS-310-15 ..... c 09 N72-25255 \*  
 US-PATENT-CLASS-310-15 ..... c 44 N83-28574 \*  
 US-PATENT-CLASS-310-15 ..... c 33 N87-23904 \*  
 US-PATENT-CLASS-310-168 ..... c 09 N71-25999 \*  
 US-PATENT-CLASS-310-168 ..... c 33 N77-26387 \*  
 US-PATENT-CLASS-310-171 ..... c 35 N84-28017 \*  
 US-PATENT-CLASS-310-178 ..... c 44 N78-24608 \*  
 US-PATENT-CLASS-310-20 ..... c 71 N78-20827 \*  
 US-PATENT-CLASS-310-22 ..... c 31 N85-21044 \*  
 US-PATENT-CLASS-310-231 ..... c 33 N79-20314 \*  
 US-PATENT-CLASS-310-254 ..... c 09 N71-25999 \*  
 US-PATENT-CLASS-310-269 ..... c 44 N78-24608 \*  
 US-PATENT-CLASS-310-26 ..... c 71 N79-20827 \*  
 US-PATENT-CLASS-310-2 ..... c 03 N72-23048 \*  
 US-PATENT-CLASS-310-300 ..... c 71 N84-23233 \*  
 US-PATENT-CLASS-310-306 ..... c 33 N80-18287 \*  
 US-PATENT-CLASS-310-306 ..... c 44 N83-32175 \*  
 US-PATENT-CLASS-310-306 ..... c 34 N85-29179 \*  
 US-PATENT-CLASS-310-306 ..... c 37 N87-23970 \*  
 US-PATENT-CLASS-310-30 ..... c 44 N80-29834 \*  
 US-PATENT-CLASS-310-30 ..... c 33 N87-23904 \*  
 US-PATENT-CLASS-310-311 ..... c 35 N80-20559 \*  
 US-PATENT-CLASS-310-317 ..... c 35 N84-22932 \*  
 US-PATENT-CLASS-310-319 ..... c 33 N80-23559 \*  
 US-PATENT-CLASS-310-322 ..... c 71 N79-20827 \*  
 US-PATENT-CLASS-310-324 ..... c 33 N86-20671 \*  
 US-PATENT-CLASS-310-326 ..... c 38 N79-14398 \*  
 US-PATENT-CLASS-310-327 ..... c 35 N80-20559 \*  
 US-PATENT-CLASS-310-332 ..... c 76 N83-34796 \*  
 US-PATENT-CLASS-310-334 ..... c 71 N79-20827 \*  
 US-PATENT-CLASS-310-334 ..... c 35 N80-20559 \*  
 US-PATENT-CLASS-310-334 ..... c 35 N84-22932 \*  
 US-PATENT-CLASS-310-336 ..... c 38 N79-14398 \*  
 US-PATENT-CLASS-310-338 ..... c 35 N89-14407 \*  
 US-PATENT-CLASS-310-360 ..... c 35 N80-20559 \*  
 US-PATENT-CLASS-310-366 ..... c 35 N84-22932 \*  
 US-PATENT-CLASS-310-4A ..... c 37 N77-19458 \*  
 US-PATENT-CLASS-310-4R ..... c 33 N74-27683 \*  
 US-PATENT-CLASS-310-4R ..... c 73 N77-18891 \*  
 US-PATENT-CLASS-310-40 ..... c 20 N75-24837 \*  
 US-PATENT-CLASS-310-42 ..... c 14 N72-22439 \*  
 US-PATENT-CLASS-310-46 ..... c 33 N79-20314 \*  
 US-PATENT-CLASS-310-4 ..... c 09 N69-21313 \* #  
 US-PATENT-CLASS-310-4 ..... c 03 N69-39898 \* #  
 US-PATENT-CLASS-310-4 ..... c 09 N69-39929 \* #  
 US-PATENT-CLASS-310-4 ..... c 03 N70-34134 \*  
 US-PATENT-CLASS-310-4 ..... c 03 N71-11055 \*  
 US-PATENT-CLASS-310-4 ..... c 22 N71-23599 \*  
 US-PATENT-CLASS-310-4 ..... c 09 N71-24807 \*  
 US-PATENT-CLASS-310-4 ..... c 33 N71-27862 \*  
 US-PATENT-CLASS-310-4 ..... c 09 N71-28421 \*  
 US-PATENT-CLASS-310-4 ..... c 09 N72-25260 \*  
 US-PATENT-CLASS-310-4 ..... c 09 N72-27228 \*  
 US-PATENT-CLASS-310-4 ..... c 20 N75-24837 \*  
 US-PATENT-CLASS-310-4 ..... c 36 N75-30524 \*  
 US-PATENT-CLASS-310-4 ..... c 44 N76-16612 \*  
 US-PATENT-CLASS-310-51 ..... c 15 N71-27169 \*  
 US-PATENT-CLASS-310-52 ..... c 20 N75-24837 \*  
 US-PATENT-CLASS-310-54 ..... c 09 N71-20446 \*  
 US-PATENT-CLASS-310-5 ..... c 03 N70-35408 \*  
 US-PATENT-CLASS-310-68B ..... c 35 N84-28017 \*  
 US-PATENT-CLASS-310-68 ..... c 15 N72-25456 \*  
 US-PATENT-CLASS-310-77 ..... c 37 N85-30333 \*  
 US-PATENT-CLASS-310-8.2 ..... c 35 N76-15432 \*  
 US-PATENT-CLASS-310-8.5 ..... c 14 N71-22993 \*  
 US-PATENT-CLASS-310-800 ..... c 76 N83-34796 \*  
 US-PATENT-CLASS-310-80 ..... c 15 N72-25456 \*  
 US-PATENT-CLASS-310-82 ..... c 33 N79-20314 \*  
 US-PATENT-CLASS-310-83 ..... c 15 N72-25456 \*  
 US-PATENT-CLASS-310-9.1 ..... c 15 N71-21311 \*  
 US-PATENT-CLASS-310-90.5 ..... c 37 N87-17038 \*  
 US-PATENT-CLASS-310-93 ..... c 15 N71-17652 \*  
 US-PATENT-CLASS-310-93 ..... c 37 N85-30333 \*  
 US-PATENT-CLASS-311-37 ..... c 35 N75-29380 \*  
 US-PATENT-CLASS-312-196 ..... c 54 N88-24163 \*  
 US-PATENT-CLASS-312-1 ..... c 05 N71-23080 \*  
 US-PATENT-CLASS-312-1 ..... c 05 N73-20137 \*  
 US-PATENT-CLASS-312-1 ..... c 37 N74-20063 \*

US-PATENT-CLASS-312-208	c 54	N88-24163 *	US-PATENT-CLASS-313-506	c 33	N87-28831 *	US-PATENT-CLASS-315-277	c 33	N88-23942 *
US-PATENT-CLASS-312-209	c 37	N74-18123 *	US-PATENT-CLASS-313-509	c 33	N87-28831 *	US-PATENT-CLASS-315-297	c 14	N72-27411 *
US-PATENT-CLASS-312-257	c 31	N72-22874 *	US-PATENT-CLASS-313-60	c 33	N77-22386 *	US-PATENT-CLASS-315-3	c 09	N73-13208 *
US-PATENT-CLASS-312-296	c 09	N71-18600 *	US-PATENT-CLASS-313-61S	c 73	N74-26767 *	US-PATENT-CLASS-315-3.5	c 33	N79-10339 *
US-PATENT-CLASS-312-300	c 54	N88-24163 *	US-PATENT-CLASS-313-61S	c 37	N78-13436 *	US-PATENT-CLASS-315-3.5	c 33	N82-26568 *
US-PATENT-CLASS-312-319	c 37	N79-33467 *	US-PATENT-CLASS-313-63	c 28	N70-41576 *	US-PATENT-CLASS-315-3.5	c 33	N84-16452 *
US-PATENT-CLASS-312-7.2	c 54	N88-24163 *	US-PATENT-CLASS-313-63	c 09	N71-10618 *	US-PATENT-CLASS-315-3.5	c 37	N85-33489 *
US-PATENT-CLASS-313-DIG.8	c 28	N73-24783 *	US-PATENT-CLASS-313-63	c 28	N71-26781 *	US-PATENT-CLASS-315-3.5	c 33	N86-21742 *
US-PATENT-CLASS-313-104	c 14	N73-32317 *	US-PATENT-CLASS-313-63	c 28	N73-24783 *	US-PATENT-CLASS-315-3.6	c 33	N79-10339 *
US-PATENT-CLASS-313-106	c 24	N83-10117 *	US-PATENT-CLASS-313-63	c 28	N73-27699 *	US-PATENT-CLASS-315-3.6	c 33	N82-24415 *
US-PATENT-CLASS-313-106	c 70	N84-28565 *	US-PATENT-CLASS-313-63	c 75	N75-13625 *	US-PATENT-CLASS-315-3.6	c 33	N82-26568 *
US-PATENT-CLASS-313-106	c 31	N86-32587 *	US-PATENT-CLASS-313-7	c 14	N71-18482 *	US-PATENT-CLASS-315-3.6	c 33	N84-16452 *
US-PATENT-CLASS-313-107	c 24	N83-10117 *	US-PATENT-CLASS-313-7	c 14	N73-32324 *	US-PATENT-CLASS-315-3.6	c 33	N84-27974 *
US-PATENT-CLASS-313-107	c 70	N84-28565 *	US-PATENT-CLASS-313-93	c 35	N74-26949 *	US-PATENT-CLASS-315-3.6	c 33	N86-21742 *
US-PATENT-CLASS-313-107	c 31	N86-32587 *	US-PATENT-CLASS-313-93	c 35	N82-24471 *	US-PATENT-CLASS-315-30R	c 10	N72-31273 *
US-PATENT-CLASS-313-109.5	c 09	N71-33519 *	US-PATENT-CLASS-313-94	c 33	N76-31409 *	US-PATENT-CLASS-315-307	c 14	N72-27411 *
US-PATENT-CLASS-313-11.5	c 28	N70-39925 *	US-PATENT-CLASS-313-94	c 74	N78-18905 *	US-PATENT-CLASS-315-30	c 33	N75-27250 *
US-PATENT-CLASS-313-110	c 09	N71-12521 *	US-PATENT-CLASS-314-129	c 15	N69-24266 *	US-PATENT-CLASS-315-310	c 14	N72-27411 *
US-PATENT-CLASS-313-131A	c 33	N85-21491 *	US-PATENT-CLASS-315-DIG.2	c 16	N73-32391 *	US-PATENT-CLASS-315-311	c 14	N72-27411 *
US-PATENT-CLASS-313-146	c 33	N77-22386 *	US-PATENT-CLASS-315-101	c 16	N73-32391 *	US-PATENT-CLASS-315-324	c 09	N73-30181 *
US-PATENT-CLASS-313-153	c 33	N74-12913 *	US-PATENT-CLASS-315-108	c 09	N71-33519 *	US-PATENT-CLASS-315-326	c 25	N72-24753 *
US-PATENT-CLASS-313-156	c 25	N70-34661 *	US-PATENT-CLASS-315-108	c 33	N77-21316 *	US-PATENT-CLASS-315-334	c 33	N80-14330 *
US-PATENT-CLASS-313-156	c 72	N80-27163 *	US-PATENT-CLASS-315-108	c 36	N78-17366 *	US-PATENT-CLASS-315-344	c 33	N77-21315 *
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US-PATENT-CLASS-318-116	c 33	N87-28833 *	US-PATENT-CLASS-318-653	c 10	N71-27136 *	US-PATENT-CLASS-321-45R	c 09	N72-25252 *
US-PATENT-CLASS-318-135	c 33	N82-24421 *	US-PATENT-CLASS-318-661	c 31	N86-29055 *	US-PATENT-CLASS-321-45R	c 09	N72-25254 *
US-PATENT-CLASS-318-137	c 33	N75-19524 *	US-PATENT-CLASS-318-663	c 37	N81-33483 *	US-PATENT-CLASS-321-45R	c 33	N74-22864 *
US-PATENT-CLASS-318-138	c 09	N71-10677 *	US-PATENT-CLASS-318-663	c 37	N86-27629 *	US-PATENT-CLASS-321-45S	c 33	N74-11049 *
US-PATENT-CLASS-318-138	c 14	N71-17585 *	US-PATENT-CLASS-318-664	c 33	N74-29556 *	US-PATENT-CLASS-321-45	c 09	N71-24800 *
US-PATENT-CLASS-318-138	c 10	N71-18772 *	US-PATENT-CLASS-318-675	c 33	N75-13139 *	US-PATENT-CLASS-321-45	c 09	N72-22203 *
US-PATENT-CLASS-318-138	c 09	N71-25999 *	US-PATENT-CLASS-318-675	c 37	N77-27400 *	US-PATENT-CLASS-321-47	c 09	N71-33109 *
US-PATENT-CLASS-318-138	c 33	N77-26386 *	US-PATENT-CLASS-318-685	c 33	N83-35227 *	US-PATENT-CLASS-321-47	c 09	N72-25253 *
US-PATENT-CLASS-318-138	c 33	N81-20352 *	US-PATENT-CLASS-318-729	c 33	N83-34190 *	US-PATENT-CLASS-321-48	c 12	N71-20896 *
US-PATENT-CLASS-318-138	c 33	N87-21233 *	US-PATENT-CLASS-318-729	c 33	N84-14424 *	US-PATENT-CLASS-321-5	c 08	N71-18752 *
US-PATENT-CLASS-318-15	c 37	N80-32716 *	US-PATENT-CLASS-318-729	c 33	N84-22885 *	US-PATENT-CLASS-321-60	c 14	N71-23174 *
US-PATENT-CLASS-318-161	c 44	N87-21410 *	US-PATENT-CLASS-318-729	c 33	N84-22886 *	US-PATENT-CLASS-321-61	c 09	N71-27364 *
US-PATENT-CLASS-318-167	c 33	N75-19524 *	US-PATENT-CLASS-318-729	c 33	N84-27975 *	US-PATENT-CLASS-321-64	c 09	N71-27364 *
US-PATENT-CLASS-318-176	c 33	N75-19524 *	US-PATENT-CLASS-318-729	c 33	N84-33661 *	US-PATENT-CLASS-321-69	c 10	N71-26414 *
US-PATENT-CLASS-318-183	c 33	N75-19524 *	US-PATENT-CLASS-318-729	c 44	N85-21769 *	US-PATENT-CLASS-321-8R	c 35	N74-18090 *
US-PATENT-CLASS-318-200.105	c 08	N71-27057 *	US-PATENT-CLASS-318-729	c 33	N85-22877 *	US-PATENT-CLASS-321-9	c 10	N71-25139 *
US-PATENT-CLASS-318-200	c 33	N78-10376 *	US-PATENT-CLASS-318-798	c 33	N83-34190 *	US-PATENT-CLASS-322-2R	c 07	N83-20944 *
US-PATENT-CLASS-318-227	c 07	N71-33613 *	US-PATENT-CLASS-318-798	c 33	N83-35227 *	US-PATENT-CLASS-322-25	c 33	N84-33660 *
US-PATENT-CLASS-318-227	c 33	N75-15874 *	US-PATENT-CLASS-318-798	c 33	N84-14424 *	US-PATENT-CLASS-322-29	c 33	N83-28319 *
US-PATENT-CLASS-318-227	c 33	N77-26386 *	US-PATENT-CLASS-318-798	c 33	N84-22885 *	US-PATENT-CLASS-322-29	c 33	N84-33660 *
US-PATENT-CLASS-318-227	c 33	N78-10376 *	US-PATENT-CLASS-318-799	c 33	N81-27395 *	US-PATENT-CLASS-322-2	c 03	N72-23048 *
US-PATENT-CLASS-318-22	c 15	N71-17694 *	US-PATENT-CLASS-318-799	c 33	N84-16455 *	US-PATENT-CLASS-322-32	c 09	N71-27364 *
US-PATENT-CLASS-318-230	c 07	N71-33613 *	US-PATENT-CLASS-318-800	c 33	N83-31953 *	US-PATENT-CLASS-322-35	c 33	N83-28319 *
US-PATENT-CLASS-318-230	c 10	N73-32145 *	US-PATENT-CLASS-318-802	c 33	N84-33661 *	US-PATENT-CLASS-322-47	c 33	N83-28319 *
US-PATENT-CLASS-318-230	c 33	N75-15874 *	US-PATENT-CLASS-318-803	c 33	N83-10345 *	US-PATENT-CLASS-322-47	c 33	N84-33660 *
US-PATENT-CLASS-318-230	c 33	N78-10376 *	US-PATENT-CLASS-318-803	c 33	N83-31953 *	US-PATENT-CLASS-322-95	c 33	N83-28319 *
US-PATENT-CLASS-318-231	c 10	N73-32145 *	US-PATENT-CLASS-318-805	c 33	N84-22885 *	US-PATENT-CLASS-322-95	c 33	N84-33660 *
US-PATENT-CLASS-318-231	c 33	N75-15874 *	US-PATENT-CLASS-318-806	c 33	N82-26569 *	US-PATENT-CLASS-322-96	c 09	N77-26387 *
US-PATENT-CLASS-318-254	c 09	N71-25999 *	US-PATENT-CLASS-318-806	c 33	N83-34190 *	US-PATENT-CLASS-323-DIG.1	c 33	N72-21243 *
US-PATENT-CLASS-318-254	c 09	N73-32107 *	US-PATENT-CLASS-318-806	c 33	N83-35227 *	US-PATENT-CLASS-323-DIG.1	c 09	N72-25249 *
US-PATENT-CLASS-318-254	c 33	N77-26386 *	US-PATENT-CLASS-318-806	c 33	N84-14424 *	US-PATENT-CLASS-323-DIG.1	c 33	N74-11049 *
US-PATENT-CLASS-318-254	c 33	N81-20352 *	US-PATENT-CLASS-318-809	c 33	N83-31953 *	US-PATENT-CLASS-323-DIG.1	c 33	N77-10428 *
US-PATENT-CLASS-318-254	c 33	N82-26569 *	US-PATENT-CLASS-318-809	c 33	N84-27975 *	US-PATENT-CLASS-323-106	c 33	N74-22885 *
US-PATENT-CLASS-318-254	c 33	N87-21233 *	US-PATENT-CLASS-318-810	c 33	N81-27395 *	US-PATENT-CLASS-323-122	c 33	N74-22885 *
US-PATENT-CLASS-318-257	c 10	N71-18724 *	US-PATENT-CLASS-318-810	c 33	N84-22885 *	US-PATENT-CLASS-323-128	c 33	N74-22885 *
US-PATENT-CLASS-318-258	c 09	N71-26092 *	US-PATENT-CLASS-318-812	c 33	N82-26569 *	US-PATENT-CLASS-323-15	c 20	N79-20179 *
US-PATENT-CLASS-318-260	c 09	N70-38712 *	US-PATENT-CLASS-318-812	c 33	N84-22886 *	US-PATENT-CLASS-323-15	c 44	N80-14472 *
US-PATENT-CLASS-318-265	c 15	N71-24895 *	US-PATENT-CLASS-318-812	c 33	N85-22877 *	US-PATENT-CLASS-323-17	c 09	N72-25249 *
US-PATENT-CLASS-318-267	c 37	N77-27400 *	US-PATENT-CLASS-318-830	c 33	N82-26569 *	US-PATENT-CLASS-323-17	c 33	N77-10428 *
US-PATENT-CLASS-318-308	c 11	N72-20244 *	US-PATENT-CLASS-318-8	c 37	N86-27629 *	US-PATENT-CLASS-323-18	c 33	N78-17295 *
US-PATENT-CLASS-318-314	c 10	N71-20448 *	US-PATENT-CLASS-32-28	c 05	N73-27062 *	US-PATENT-CLASS-323-19	c 08	N72-31226 *
US-PATENT-CLASS-318-314	c 09	N75-24758 *	US-PATENT-CLASS-32-58	c 05	N73-27062 *	US-PATENT-CLASS-323-19	c 33	N78-17296 *
US-PATENT-CLASS-318-317	c 09	N71-28886 *	US-PATENT-CLASS-320-13	c 03	N71-29129 *	US-PATENT-CLASS-323-19	c 44	N80-14472 *
US-PATENT-CLASS-318-318	c 09	N71-24805 *	US-PATENT-CLASS-320-13	c 44	N78-25531 *	US-PATENT-CLASS-323-20	c 14	N71-27407 *
US-PATENT-CLASS-318-318	c 09	N75-24758 *	US-PATENT-CLASS-320-15	c 44	N78-14625 *	US-PATENT-CLASS-323-20	c 20	N79-20179 *
US-PATENT-CLASS-318-31	c 15	N71-28952 *	US-PATENT-CLASS-320-15	c 44	N78-25531 *	US-PATENT-CLASS-323-22T	c 09	N72-21243 *

US-PATENT-CLASS-323-22T	c 09	N72-25249 *	US-PATENT-CLASS-324-249	c 35	N78-32397 *	US-PATENT-CLASS-324-72	c 10	N71-19421 *
US-PATENT-CLASS-323-22T	c 33	N77-10428 *	US-PATENT-CLASS-324-250	c 35	N84-12444 *	US-PATENT-CLASS-324-72	c 14	N71-23699 *
US-PATENT-CLASS-323-22T	c 33	N79-23345 *	US-PATENT-CLASS-324-262	c 35	N84-22928 *	US-PATENT-CLASS-324-72	c 07	N73-20175 *
US-PATENT-CLASS-323-22	c 09	N71-21449 *	US-PATENT-CLASS-324-262	c 35	N86-32698 *	US-PATENT-CLASS-324-72	c 14	N73-32318 *
US-PATENT-CLASS-323-22	c 09	N71-23316 *	US-PATENT-CLASS-324-29.5	c 03	N72-25020 *	US-PATENT-CLASS-324-72	c 33	N74-27862 *
US-PATENT-CLASS-323-23	c 33	N77-10428 *	US-PATENT-CLASS-324-29.5	c 14	N73-30388 *	US-PATENT-CLASS-324-72	c 33	N75-26246 *
US-PATENT-CLASS-323-243	c 33	N84-16455 *	US-PATENT-CLASS-324-29.5	c 44	N74-27519 *	US-PATENT-CLASS-324-72	c 33	N77-10429 *
US-PATENT-CLASS-323-246	c 33	N84-16455 *	US-PATENT-CLASS-324-30B	c 33	N76-19339 *	US-PATENT-CLASS-324-72	c 33	N79-10337 *
US-PATENT-CLASS-323-269	c 33	N83-27126 *	US-PATENT-CLASS-324-30R	c 14	N73-20478 *	US-PATENT-CLASS-324-72	c 33	N79-14305 *
US-PATENT-CLASS-323-300	c 33	N84-27975 *	US-PATENT-CLASS-324-32	c 14	N71-16014 *	US-PATENT-CLASS-324-72	c 47	N82-24779 *
US-PATENT-CLASS-323-303	c 33	N83-27126 *	US-PATENT-CLASS-324-32	c 33	N75-18477 *	US-PATENT-CLASS-324-73AT	c 08	N72-22166 *
US-PATENT-CLASS-323-350	c 33	N83-27126 *	US-PATENT-CLASS-324-32	c 33	N75-19522 *	US-PATENT-CLASS-324-73AT	c 33	N81-26359 *
US-PATENT-CLASS-323-38	c 09	N72-21243 *	US-PATENT-CLASS-324-32	c 35	N78-28411 *	US-PATENT-CLASS-324-73R	c 33	N83-18996 *
US-PATENT-CLASS-323-44F	c 33	N79-17133 *	US-PATENT-CLASS-324-33	c 25	N69-39884 *	US-PATENT-CLASS-324-73	c 14	N71-28991 *
US-PATENT-CLASS-323-48	c 09	N71-27053 *	US-PATENT-CLASS-324-33	c 14	N70-35666 *	US-PATENT-CLASS-324-74	c 35	N78-28411 *
US-PATENT-CLASS-323-48	c 09	N72-25262 *	US-PATENT-CLASS-324-33	c 24	N71-20518 *	US-PATENT-CLASS-324-77-E	c 33	N89-14385 *
US-PATENT-CLASS-323-4	c 33	N78-17294 *	US-PATENT-CLASS-324-33	c 14	N71-21090 *	US-PATENT-CLASS-324-77-R	c 33	N89-14385 *
US-PATENT-CLASS-323-56	c 10	N71-22961 *	US-PATENT-CLASS-324-33	c 14	N71-27090 *	US-PATENT-CLASS-324-77B	c 60	N75-13539 *
US-PATENT-CLASS-323-56	c 09	N71-24893 *	US-PATENT-CLASS-324-34FL	c 35	N74-21018 *	US-PATENT-CLASS-324-77B	c 32	N79-10262 *
US-PATENT-CLASS-323-56	c 09	N72-22196 *	US-PATENT-CLASS-324-34R	c 26	N76-18257 *	US-PATENT-CLASS-324-77C	c 32	N79-10262 *
US-PATENT-CLASS-323-60	c 09	N71-27053 *	US-PATENT-CLASS-324-34	c 25	N71-16073 *	US-PATENT-CLASS-324-77G	c 08	N72-20177 *
US-PATENT-CLASS-323-82	c 09	N72-25262 *	US-PATENT-CLASS-324-404	c 44	N80-18551 *	US-PATENT-CLASS-324-77H	c 35	N75-21582 *
US-PATENT-CLASS-323-89C	c 09	N72-22196 *	US-PATENT-CLASS-324-40	c 38	N74-15395 *	US-PATENT-CLASS-324-77K	c 35	N79-10391 *
US-PATENT-CLASS-323-8	c 10	N71-10578 *	US-PATENT-CLASS-324-41	c 10	N72-28240 *	US-PATENT-CLASS-324-77R	c 10	N73-25240 *
US-PATENT-CLASS-323-901	c 33	N84-33663 *	US-PATENT-CLASS-324-427	c 35	N85-21596 *	US-PATENT-CLASS-324-77R	c 47	N82-24779 *
US-PATENT-CLASS-323-93	c 33	N77-31404 *	US-PATENT-CLASS-324-43R	c 35	N76-16390 *	US-PATENT-CLASS-324-77	c 09	N71-10659 *
US-PATENT-CLASS-324-5R	c 16	N73-13489 *	US-PATENT-CLASS-324-43	c 14	N69-27423 *	US-PATENT-CLASS-324-77	c 07	N71-24622 *
US-PATENT-CLASS-324-5	c 14	N71-20428 *	US-PATENT-CLASS-324-43	c 09	N70-40123 *	US-PATENT-CLASS-324-78-D	c 33	N89-14385 *
US-PATENT-CLASS-324-DIG.1	c 33	N75-19520 *	US-PATENT-CLASS-324-43	c 14	N71-15962 *	US-PATENT-CLASS-324-78-F	c 33	N89-14385 *
US-PATENT-CLASS-324-DIG.1	c 33	N75-25041 *	US-PATENT-CLASS-324-43	c 14	N71-26135 *	US-PATENT-CLASS-324-78D	c 09	N72-25257 *
US-PATENT-CLASS-324-0.5	c 14	N71-26137 *	US-PATENT-CLASS-324-43	c 14	N71-27325 *	US-PATENT-CLASS-324-78D	c 52	N74-12778 *
US-PATENT-CLASS-324-0.5	c 14	N71-26266 *	US-PATENT-CLASS-324-457	c 72	N84-28575 *	US-PATENT-CLASS-324-78E	c 14	N73-24473 *
US-PATENT-CLASS-324-0.5	c 36	N79-14362 *	US-PATENT-CLASS-324-466	c 33	N83-31954 *	US-PATENT-CLASS-324-78J	c 10	N73-25240 *
US-PATENT-CLASS-324-102	c 09	N72-11225 *	US-PATENT-CLASS-324-51	c 33	N80-26599 *	US-PATENT-CLASS-324-78J	c 33	N75-19515 *
US-PATENT-CLASS-324-102	c 33	N74-17930 *	US-PATENT-CLASS-324-51	c 33	N81-26359 *	US-PATENT-CLASS-324-79D	c 14	N73-30386 *
US-PATENT-CLASS-324-102	c 33	N75-19521 *	US-PATENT-CLASS-324-51	c 33	N82-24420 *	US-PATENT-CLASS-324-79D	c 33	N76-16331 *
US-PATENT-CLASS-324-102	c 33	N79-11315 *	US-PATENT-CLASS-324-52	c 14	N72-17325 *	US-PATENT-CLASS-324-79R	c 14	N72-27408 *
US-PATENT-CLASS-324-102	c 33	N79-14305 *	US-PATENT-CLASS-324-52	c 14	N73-28486 *	US-PATENT-CLASS-324-79R	c 33	N84-16454 *
US-PATENT-CLASS-324-103	c 10	N71-27338 *	US-PATENT-CLASS-324-52	c 33	N79-18193 *	US-PATENT-CLASS-324-83A	c 10	N72-20224 *
US-PATENT-CLASS-324-106	c 14	N70-38602 *	US-PATENT-CLASS-324-52	c 33	N82-24420 *	US-PATENT-CLASS-324-83A	c 33	N84-16454 *
US-PATENT-CLASS-324-106	c 08	N71-29138 *	US-PATENT-CLASS-324-54	c 33	N75-18477 *	US-PATENT-CLASS-324-83D	c 33	N79-10338 *
US-PATENT-CLASS-324-107	c 10	N71-27338 *	US-PATENT-CLASS-324-57DE	c 33	N78-25319 *	US-PATENT-CLASS-324-83Q	c 35	N74-21017 *
US-PATENT-CLASS-324-112	c 33	N79-14305 *	US-PATENT-CLASS-324-57H	c 35	N77-32455 *	US-PATENT-CLASS-324-83Q	c 33	N75-26243 *
US-PATENT-CLASS-324-113	c 09	N70-41655 *	US-PATENT-CLASS-324-57PS	c 35	N75-21582 *	US-PATENT-CLASS-324-83R	c 33	N84-16454 *
US-PATENT-CLASS-324-113	c 33	N75-19521 *	US-PATENT-CLASS-324-57R	c 15	N72-21464 *	US-PATENT-CLASS-324-85	c 10	N72-20224 *
US-PATENT-CLASS-324-113	c 33	N79-11315 *	US-PATENT-CLASS-324-57R	c 14	N73-30388 *	US-PATENT-CLASS-324-85	c 33	N79-10338 *
US-PATENT-CLASS-324-113	c 33	N79-14305 *	US-PATENT-CLASS-324-57R	c 35	N74-18090 *	US-PATENT-CLASS-324-92	c 26	N72-25680 *
US-PATENT-CLASS-324-115	c 14	N71-26244 *	US-PATENT-CLASS-324-57R	c 33	N79-10338 *	US-PATENT-CLASS-324-95	c 10	N71-12554 *
US-PATENT-CLASS-324-115	c 10	N72-20222 *	US-PATENT-CLASS-324-57R	c 35	N79-14349 *	US-PATENT-CLASS-324-95	c 14	N73-30388 *
US-PATENT-CLASS-324-117	c 14	N71-23037 *	US-PATENT-CLASS-324-57SS	c 33	N78-25319 *	US-PATENT-CLASS-324-96	c 26	N72-25680 *
US-PATENT-CLASS-324-117	c 33	N89-29681 *	US-PATENT-CLASS-324-57	c 10	N71-16057 *	US-PATENT-CLASS-324-96	c 33	N79-10337 *
US-PATENT-CLASS-324-118	c 33	N74-17930 *	US-PATENT-CLASS-324-57	c 09	N71-20569 *	US-PATENT-CLASS-324-99D	c 33	N79-22373 *
US-PATENT-CLASS-324-119	c 09	N72-11225 *	US-PATENT-CLASS-324-58.5A	c 33	N75-26245 *	US-PATENT-CLASS-325-10	c 07	N72-12081 *
US-PATENT-CLASS-324-120	c 14	N71-19431 *	US-PATENT-CLASS-324-58.5B	c 43	N78-10529 *	US-PATENT-CLASS-325-113	c 07	N71-24840 *
US-PATENT-CLASS-324-120	c 09	N71-23021 *	US-PATENT-CLASS-324-58.5C	c 33	N75-26245 *	US-PATENT-CLASS-325-113	c 07	N73-25160 *
US-PATENT-CLASS-324-123C	c 33	N79-22373 *	US-PATENT-CLASS-324-58.5	c 15	N71-17822 *	US-PATENT-CLASS-325-113	c 52	N74-26625 *
US-PATENT-CLASS-324-123R	c 09	N72-11225 *	US-PATENT-CLASS-324-58.5	c 25	N71-20563 *	US-PATENT-CLASS-325-114	c 07	N72-25171 *
US-PATENT-CLASS-324-127	c 33	N79-18193 *	US-PATENT-CLASS-324-58.5	c 14	N71-26137 *	US-PATENT-CLASS-325-114	c 03	N76-32140 *
US-PATENT-CLASS-324-127	c 33	N89-29681 *	US-PATENT-CLASS-324-58.5	c 18	N71-27397 *	US-PATENT-CLASS-325-115	c 03	N76-32140 *
US-PATENT-CLASS-324-130	c 35	N78-28411 *	US-PATENT-CLASS-324-58A	c 33	N78-25319 *	US-PATENT-CLASS-325-118	c 17	N78-17140 *
US-PATENT-CLASS-324-132	c 09	N71-13530 *	US-PATENT-CLASS-324-59	c 35	N77-32455 *	US-PATENT-CLASS-325-12	c 07	N73-20174 *
US-PATENT-CLASS-324-132	c 10	N72-20222 *	US-PATENT-CLASS-324-5	c 14	N71-28991 *	US-PATENT-CLASS-325-139	c 07	N73-25160 *
US-PATENT-CLASS-324-133	c 10	N71-27338 *	US-PATENT-CLASS-324-60C	c 35	N75-12270 *	US-PATENT-CLASS-325-139	c 07	N72-12081 *
US-PATENT-CLASS-324-133	c 33	N79-10337 *	US-PATENT-CLASS-324-60C	c 76	N76-20994 *	US-PATENT-CLASS-325-141	c 07	N72-25173 *
US-PATENT-CLASS-324-133	c 33	N79-11315 *	US-PATENT-CLASS-324-60	c 33	N77-31404 *	US-PATENT-CLASS-325-141	c 52	N74-26625 *
US-PATENT-CLASS-324-133	c 33	N79-14305 *	US-PATENT-CLASS-324-61-R	c 35	N87-22953 *	US-PATENT-CLASS-325-143	c 05	N71-12342 *
US-PATENT-CLASS-324-133	c 33	N79-18193 *	US-PATENT-CLASS-324-61-R	c 35	N88-29149 *	US-PATENT-CLASS-325-145	c 32	N77-14292 *
US-PATENT-CLASS-324-158-D	c 33	N87-22894 *	US-PATENT-CLASS-324-61R	c 14	N72-24477 *	US-PATENT-CLASS-325-148	c 32	N74-19790 *
US-PATENT-CLASS-324-158-R	c 33	N87-22894 *	US-PATENT-CLASS-324-61R	c 35	N76-22509 *	US-PATENT-CLASS-325-14	c 17	N76-21250 *
US-PATENT-CLASS-324-158D	c 15	N72-25457 *	US-PATENT-CLASS-324-61	c 14	N69-39785 *	US-PATENT-CLASS-325-14	c 32	N80-20448 *
US-PATENT-CLASS-324-158D	c 76	N76-20994 *	US-PATENT-CLASS-324-61	c 14	N70-36618 *	US-PATENT-CLASS-325-151.11	c 08	N71-27057 *
US-PATENT-CLASS-324-158D	c 44	N80-18551 *	US-PATENT-CLASS-324-61	c 14	N71-10797 *	US-PATENT-CLASS-325-159	c 33	N78-32340 *
US-PATENT-CLASS-324-158D	c 76	N84-35112 *	US-PATENT-CLASS-324-61	c 18	N71-27397 *	US-PATENT-CLASS-325-163	c 07	N71-23405 *
US-PATENT-CLASS-324-158D	c 76	N85-30923 *	US-PATENT-CLASS-324-61	c 14	N72-22442 *	US-PATENT-CLASS-325-16	c 07	N71-27056 *
US-PATENT-CLASS-324-158R	c 76	N76-20994 *	US-PATENT-CLASS-324-62R	c 14	N73-30388 *	US-PATENT-CLASS-325-17	c 07	N73-20174 *
US-PATENT-CLASS-324-158R	c 33	N85-30187 *	US-PATENT-CLASS-324-62	c 33	N80-32650 *	US-PATENT-CLASS-325-185	c 07	N71-28430 *
US-PATENT-CLASS-324-158T	c 15	N72-25457 *	US-PATENT-CLASS-324-64	c 15	N72-21464 *	US-PATENT-CLASS-325-186	c 03	N76-32140 *
US-PATENT-CLASS-324-158T	c 35	N75-12270 *	US-PATENT-CLASS-324-64	c 33	N80-32650 *	US-PATENT-CLASS-325-187	c 33	N78-32340 *
US-PATENT-CLASS-324-158T	c 76	N76-20994 *	US-PATENT-CLASS-324-65-P	c 35	N85-34373 *	US-PATENT-CLASS-325-23	c 07	N71-27056 *
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US-PATENT-CLASS-330-109	c 09	N73-20231 *	US-PATENT-CLASS-330-61	c 09	N71-23097 *	US-PATENT-CLASS-331-4	c 09	N69-21543 *
US-PATENT-CLASS-330-109	c 33	N82-24417 *	US-PATENT-CLASS-330-63	c 33	N75-30428 *	US-PATENT-CLASS-331-4	c 33	N74-10194 *
US-PATENT-CLASS-330-109	c 33	N84-14421 *	US-PATENT-CLASS-330-69	c 33	N74-32712 *	US-PATENT-CLASS-331-4	c 33	N78-32338 *
US-PATENT-CLASS-330-109	c 33	N84-22887 *	US-PATENT-CLASS-330-69	c 33	N75-19518 *	US-PATENT-CLASS-331-56	c 33	N87-21232 *
US-PATENT-CLASS-330-10	c 33	N74-14939 *	US-PATENT-CLASS-330-6	c 35	N75-13213 *	US-PATENT-CLASS-331-62	c 33	N74-11049 *
US-PATENT-CLASS-330-110	c 33	N83-36356 *	US-PATENT-CLASS-330-70CR	c 10	N73-27171 *	US-PATENT-CLASS-331-64	c 33	N78-32338 *
US-PATENT-CLASS-330-11	c 09	N71-13531 *	US-PATENT-CLASS-330-70R	c 09	N72-21245 *	US-PATENT-CLASS-331-65	c 35	N75-29380 *
US-PATENT-CLASS-330-11	c 10	N71-33129 *	US-PATENT-CLASS-330-80T	c 09	N72-20232 *	US-PATENT-CLASS-331-65	c 33	N80-23559 *
US-PATENT-CLASS-330-11	c 09	N72-17156 *	US-PATENT-CLASS-330-85	c 09	N72-21245 *	US-PATENT-CLASS-331-66	c 07	N72-11150 *
US-PATENT-CLASS-330-124	c 07	N71-28430 *	US-PATENT-CLASS-330-86	c 09	N73-20231 *	US-PATENT-CLASS-331-66	c 33	N86-32624 *
US-PATENT-CLASS-330-12	c 10	N72-33230 *	US-PATENT-CLASS-330-86	c 33	N75-19518 *	US-PATENT-CLASS-331-78	c 09	N71-23598 *
US-PATENT-CLASS-330-13	c 10	N71-26415 *	US-PATENT-CLASS-330-86	c 33	N79-22373 *	US-PATENT-CLASS-331-78	c 08	N73-12175 *
US-PATENT-CLASS-330-13	c 33	N75-30428 *	US-PATENT-CLASS-330-8	c 33	N81-24338 *	US-PATENT-CLASS-331-78	c 33	N75-19515 *
US-PATENT-CLASS-330-14	c 09	N70-35440 *	US-PATENT-CLASS-330-8	c 33	N89-29681 *	US-PATENT-CLASS-331-7	c 07	N72-11150 *
US-PATENT-CLASS-330-14	c 33	N77-14335 *	US-PATENT-CLASS-330-94	c 10	N72-17172 *	US-PATENT-CLASS-331-82	c 33	N84-27974 *
US-PATENT-CLASS-330-16	c 10	N71-33129 *	US-PATENT-CLASS-330-9	c 33	N74-14939 *	US-PATENT-CLASS-331-90	c 09	N73-15235 *
US-PATENT-CLASS-330-176	c 10	N72-17171 *	US-PATENT-CLASS-331-DIG.1	c 36	N75-30524 *	US-PATENT-CLASS-331-94.1	c 33	N85-29143 *
US-PATENT-CLASS-330-18	c 09	N72-17155 *	US-PATENT-CLASS-331-DIG.2	c 33	N81-33405 *	US-PATENT-CLASS-331-94.1	c 33	N88-26596 *
US-PATENT-CLASS-330-18	c 33	N75-30428 *	US-PATENT-CLASS-331-A	c 33	N86-20668 *	US-PATENT-CLASS-331-94.5A	c 16	N73-33397 *
US-PATENT-CLASS-330-200	c 07	N71-28430 *	US-PATENT-CLASS-331-1A	c 33	N74-10194 *	US-PATENT-CLASS-331-94.5A	c 36	N75-27364 *
US-PATENT-CLASS-330-207A	c 33	N75-30429 *	US-PATENT-CLASS-331-1A	c 33	N75-25040 *	US-PATENT-CLASS-331-94.5C	c 36	N75-31427 *
US-PATENT-CLASS-330-20	c 09	N73-20232 *	US-PATENT-CLASS-331-1A	c 33	N79-11313 *	US-PATENT-CLASS-331-94.5C	c 36	N76-18428 *
US-PATENT-CLASS-330-22	c 09	N71-10798 *	US-PATENT-CLASS-331-107A	c 71	N77-26919 *	US-PATENT-CLASS-331-94.5C	c 36	N76-24553 *
US-PATENT-CLASS-330-22	c 09	N73-20232 *	US-PATENT-CLASS-331-107G	c 26	N72-25679 *	US-PATENT-CLASS-331-94.5C	c 36	N76-29575 *
US-PATENT-CLASS-330-24	c 10	N71-33129 *	US-PATENT-CLASS-331-107G	c 09	N73-15235 *	US-PATENT-CLASS-331-94.5C	c 36	N80-14384 *
US-PATENT-CLASS-330-24	c 33	N75-30429 *	US-PATENT-CLASS-331-107	c 09	N71-18721 *	US-PATENT-CLASS-331-94.5C	c 36	N82-13415 *
US-PATENT-CLASS-330-258	c 33	N86-20670 *	US-PATENT-CLASS-331-107	c 26	N72-21701 *	US-PATENT-CLASS-331-94.5D	c 33	N74-20859 *
US-PATENT-CLASS-330-261	c 33	N86-20670 *	US-PATENT-CLASS-331-108A	c 33	N74-20862 *	US-PATENT-CLASS-331-94.5D	c 36	N77-19416 *
US-PATENT-CLASS-330-26	c 10	N72-17172 *	US-PATENT-CLASS-331-108D	c 33	N86-32624 *	US-PATENT-CLASS-331-94.5D	c 36	N77-25502 *
US-PATENT-CLASS-330-27R	c 10	N72-31273 *	US-PATENT-CLASS-331-109	c 10	N71-27271 *	US-PATENT-CLASS-331-94.5D	c 35	N77-27366 *
US-PATENT-CLASS-330-277	c 33	N84-22887 *	US-PATENT-CLASS-331-109	c 33	N74-26732 *	US-PATENT-CLASS-331-94.5D	c 36	N82-13415 *
US-PATENT-CLASS-330-282	c 33	N83-36356 *	US-PATENT-CLASS-331-10	c 07	N72-11150 *	US-PATENT-CLASS-331-94.5G	c 36	N75-31426 *
US-PATENT-CLASS-330-289	c 33	N83-34191 *	US-PATENT-CLASS-331-111	c 10	N71-23669 *	US-PATENT-CLASS-331-94.5G	c 36	N77-19416 *
US-PATENT-CLASS-330-289	c 33	N84-16454 *	US-PATENT-CLASS-331-111	c 09	N72-21247 *	US-PATENT-CLASS-331-94.5G	c 36	N78-17366 *
US-PATENT-CLASS-330-28	c 33	N74-21851 *	US-PATENT-CLASS-331-113A	c 09	N72-25253 *	US-PATENT-CLASS-331-94.5G	c 36	N78-27402 *
US-PATENT-CLASS-330-28	c 33	N77-14335 *	US-PATENT-CLASS-331-113A	c 09	N72-25254 *	US-PATENT-CLASS-331-94.5G	c 36	N79-18307 *
US-PATENT-CLASS-330-290	c 33	N82-24417 *	US-PATENT-CLASS-331-113A	c 33	N74-11049 *	US-PATENT-CLASS-331-94.5K	c 33	N82-24418 *
US-PATENT-CLASS-330-294	c 33	N82-24417 *	US-PATENT-CLASS-331-113R	c 33	N82-18494 *	US-PATENT-CLASS-331-94.5L	c 36	N74-15145 *
US-PATENT-CLASS-330-294	c 33	N84-22887 *	US-PATENT-CLASS-331-113	c 09	N70-38995 *	US-PATENT-CLASS-331-94.5L	c 72	N79-13826 *
US-PATENT-CLASS-330-294	c 33	N87-22895 *	US-PATENT-CLASS-331-113	c 10	N71-19418 *	US-PATENT-CLASS-331-94.5M	c 36	N75-19654 *
US-PATENT-CLASS-330-29	c 09	N69-24330 *	US-PATENT-CLASS-331-113	c 09	N71-19470 *	US-PATENT-CLASS-331-94.5PE	c 36	N75-32441 *
US-PATENT-CLASS-330-29	c 10	N72-28241 *	US-PATENT-CLASS-331-113	c 10	N71-25882 *	US-PATENT-CLASS-331-94.5PE	c 36	N77-19416 *
US-PATENT-CLASS-330-2	c 09	N69-39986 *	US-PATENT-CLASS-331-113	c 10	N71-25950 *	US-PATENT-CLASS-331-94.5PE	c 36	N78-27402 *
US-PATENT-CLASS-330-2	c 09	N72-25250 *	US-PATENT-CLASS-331-113	c 09	N71-28810 *	US-PATENT-CLASS-331-94.5PE	c 72	N79-13826 *
US-PATENT-CLASS-330-2	c 33	N78-10375 *	US-PATENT-CLASS-331-114	c 33	N77-17351 *	US-PATENT-CLASS-331-94.5PE	c 33	N82-24418 *
US-PATENT-CLASS-330-2	c 33	N79-22373 *	US-PATENT-CLASS-331-115	c 10	N72-33230 *	US-PATENT-CLASS-331-94.5P	c 36	N75-19655 *
US-PATENT-CLASS-330-30D	c 10	N72-20221 *	US-PATENT-CLASS-331-115	c 33	N74-20862 *	US-PATENT-CLASS-331-94.5P	c 36	N75-31426 *
US-PATENT-CLASS-330-30D	c 09	N73-20232 *	US-PATENT-CLASS-331-115-FE	c 33	N86-19515 *	US-PATENT-CLASS-331-94.5P	c 36	N77-25502 *
US-PATENT-CLASS-330-302	c 33	N85-29145 *	US-PATENT-CLASS-331-116-R	c 33	N87-21232 *	US-PATENT-CLASS-331-94.5P	c 36	N78-27402 *
US-PATENT-CLASS-330-306	c 33	N82-24417 *	US-PATENT-CLASS-331-116R	c 10	N72-33230 *	US-PATENT-CLASS-331-94.5P	c 72	N79-13826 *
US-PATENT-CLASS-330-306	c 33	N85-29145 *	US-PATENT-CLASS-331-116R	c 33	N74-20862 *	US-PATENT-CLASS-331-94.5P	c 36	N79-18307 *
US-PATENT-CLASS-330-30	c 09	N71-19466 *	US-PATENT-CLASS-331-116R	c 33	N86-32624 *	US-PATENT-CLASS-331-94.5P	c 36	N80-14384 *
US-PATENT-CLASS-330-30	c 09	N71-19516 *	US-PATENT-CLASS-331-117-FE	c 33	N86-19515 *	US-PATENT-CLASS-331-94.5P	c 36	N82-13415 *
US-PATENT-CLASS-330-30	c 09	N71-27016 *	US-PATENT-CLASS-331-117-R	c 33	N87-21232 *	US-PATENT-CLASS-331-94.5S	c 36	N74-15145 *
US-PATENT-CLASS-330-310	c 33	N83-34191 *	US-PATENT-CLASS-331-117R	c 33	N74-26732 *	US-PATENT-CLASS-331-94.5S	c 36	N77-25499 *
US-PATENT-CLASS-330-311	c 33	N86-20670 *	US-PATENT-CLASS-331-117	c 10	N71-27271 *	US-PATENT-CLASS-331-94.5T	c 35	N77-27366 *
US-PATENT-CLASS-330-31	c 10	N71-26331 *	US-PATENT-CLASS-331-117	c 09	N72-22203 *	US-PATENT-CLASS-331-94.5T	c 36	N78-17366 *
US-PATENT-CLASS-330-31	c 10	N72-17172 *	US-PATENT-CLASS-331-12	c 33	N78-32338 *	US-PATENT-CLASS-331-94.5	c 16	N71-18614 *
US-PATENT-CLASS-330-35	c 09	N72-17156 *	US-PATENT-CLASS-331-135	c 10	N73-32145 *	US-PATENT-CLASS-331-94.5	c 16	N71-24832 *
US-PATENT-CLASS-330-35	c 09	N73-20232 *	US-PATENT-CLASS-331-14	c 09	N72-21247 *	US-PATENT-CLASS-331-94.5	c 23	N71-26722 *
US-PATENT-CLASS-330-35	c 33	N74-14939 *	US-PATENT-CLASS-331-14	c 33	N74-10194 *	US-PATENT-CLASS-331-94.5	c 15	N71-27135 *
US-PATENT-CLASS-330-4.3	c 16	N73-32391 *	US-PATENT-CLASS-331-14	c 33	N79-11313 *	US-PATENT-CLASS-331-94.5	c 23	N71-29125 *
US-PATENT-CLASS-330-4.3	c 36	N75-19655 *	US-PATENT-CLASS-331-159	c 33	N74-20862 *	US-PATENT-CLASS-331-94.5	c 16	N71-33410 *
US-PATENT-CLASS-330-4.3	c 36	N75-27364 *	US-PATENT-CLASS-331-162	c 33	N88-26596 *	US-PATENT-CLASS-331-94.5	c 16	N72-12440 *
US-PATENT-CLASS-330-4.3	c 36	N75-32441 *	US-PATENT-CLASS-331-177-R	c 33	N87-22895 *	US-PATENT-CLASS-331-94.5	c 25	N72-24753 *
US-PATENT-CLASS-330-4.3	c 36	N76-29575 *	US-PATENT-CLASS-331-177R	c 09	N73-15235 *	US-PATENT-CLASS-331-94.5	c 16	N72-25485 *
US-PATENT-CLASS-330-4.3	c 36	N77-25502 *	US-PATENT-CLASS-331-177V	c 33	N77-17351 *	US-PATENT-CLASS-331-94.5	c 07	N73-26119 *
US-PATENT-CLASS-330-4.3	c 73	N78-19920 *	US-PATENT-CLASS-331-177	c 10	N71-27271 *	US-PATENT-CLASS-331-94.5	c 09	N73-32111 *
US-PATENT-CLASS-330-4.3	c 36	N82-28616 *	US-PATENT-CLASS-331-178	c 33	N74-10194 *	US-PATENT-CLASS-331-94.5	c 16	N73-32391 *
US-PATENT-CLASS-330-4.5	c 09	N72-25258 *	US-PATENT-CLASS-331-17	c 10	N71-20852 *	US-PATENT-CLASS-331-94.5	c 36	N76-18427 *
US-PATENT-CLASS-330-4.9	c 33	N74-32660 *	US-PATENT-CLASS-331-17	c 10	N73-27171 *	US-PATENT-CLASS-331-94-5G	c 36	N75-32441 *
US-PATENT-CLASS-330-40	c 07	N71-28430 *	US-PATENT-CLASS-331-17	c 33	N74-10194 *	US-PATENT-CLASS-331-94	c 16	N70-41578 *
US-PATENT-CLASS-330-40	c 09	N72-17155 *	US-PATENT-CLASS-331-17	c 32	N88-29076 *	US-PATENT-CLASS-331-94	c 16	N72-28521 *
US-PATENT-CLASS-330-40	c 09	N73-20232 *	US-PATENT-CLASS-331-183	c 33	N74-26732 *	US-PATENT-CLASS-331-94	c 16	N73-13489 *
US-PATENT-CLASS-330-40	c 33	N75-30428 *	US-PATENT-CLASS-331-18	c 10	N71-26374 *	US-PATENT-CLASS-331-94	c 35	N76-15436 *
US-PATENT-CLASS-330-43	c 33	N79-10339 *	US-PATENT-CLASS-331-18	c 33	N74-10194 *	US-PATENT-CLASS-331-94	c 36	N76-31512 *
US-PATENT-CLASS-330-43	c 33	N82-26568 *	US-PATENT-CLASS-331-18	c 33	N75-25040 *	US-PATENT-CLASS-331-94	c 36	N79-14362 *
US-PATENT-CLASS-330-43	c 33	N86-21742 *	US-PATENT-CLASS-331-23	c 09	N72-21247 *	US-PATENT-CLASS-331-94	c 36	N80-18372 *
US-PATENT-CLASS-330-49	c 14	N70-35220 *	US-PATENT-CLASS-331-23	c 33	N77-14334 *	US-PATENT-CLASS-331-96	c 33	N85-29143 *
US-PATENT-CLASS-330-4	c 16	N71-15550 *	US-PATENT-CLASS-331-23	c 33	N79-11313 *	US-PATENT-CLASS-332-10	c 08	N71-29138 *
US-PATENT-CLASS-330-4	c 16	N71-24831 *	US-PATENT-CLASS-331-25	c 10	N73-27171 *	US-PATENT-CLASS-332-11D	c 35	N74-17885 *
US-PATENT-CLASS-330-4	c 16	N72-28521 *	US-PATENT-CLASS-331-25	c 33	N75-25040 *	US-PATENT-CLASS-332-16	c 33	N77-21314 *
US-PATENT-CLASS-330-4	c 36	N75-15029 *	US-PATENT-CLASS-331-25	c 32	N88-29076 *	US-PATENT-CLASS-332-18	c 33	N77-17351 *
US-PATENT-CLASS-330-4	c 36	N76-31512 *	US-PATENT-CLASS-331-27	c 33	N79-11313 *	US-PATENT-CLASS-332-19	c 10	N71-23544 *
US-PATENT-CLASS-330-4	c 36	N78-18410 *	US-PATENT-CLASS-331-2	c 33	N86-20668 *	US-PATENT-CLASS-332-1	c 10	N71-23084 *
US-PATENT-CLASS-330-4	c 36	N80-18372 *	US-PATENT-CLASS-331-30	c 09	N72-21247 *	US-PATENT-CLASS-332-21	c 08	N72-25208 *
US-PATENT-CLASS-330-4	c 36	N83-35350 *	US-PATENT-CLASS-331-31	c 33	N85-29143 *	US-PATENT-CLASS-332-22	c 32	N77-14292 *

US-PATENT-CLASS-332-22	c 33	N81-15192 *	US-PATENT-CLASS-333-98R	c 33	N75-30430 *	US-PATENT-CLASS-339-276T	c 09	N72-20200 *
US-PATENT-CLASS-332-23-A	c 32	N87-25511 *	US-PATENT-CLASS-333-98S	c 07	N72-25170 *	US-PATENT-CLASS-339-278M	c 15	N72-17455 *
US-PATENT-CLASS-332-23R	c 32	N77-14292 *	US-PATENT-CLASS-333-98	c 09	N71-23548 *	US-PATENT-CLASS-339-3R	c 07	N83-20944 *
US-PATENT-CLASS-332-29	c 07	N81-15192 *	US-PATENT-CLASS-333-98	c 09	N71-24808 *	US-PATENT-CLASS-339-45M	c 15	N72-25450 *
US-PATENT-CLASS-332-2	c 35	N71-28429 *	US-PATENT-CLASS-333-99S	c 32	N80-32605 *	US-PATENT-CLASS-339-46	c 15	N72-17455 *
US-PATENT-CLASS-332-30V	c 33	N75-19614 *	US-PATENT-CLASS-333-100	c 37	N85-30333 *	US-PATENT-CLASS-339-5R	c 07	N83-20944 *
US-PATENT-CLASS-332-30V	c 33	N77-14334 *	US-PATENT-CLASS-333-205	c 09	N72-20199 *	US-PATENT-CLASS-339-5	c 15	N71-23049 *
US-PATENT-CLASS-332-30V	c 33	N77-17351 *	US-PATENT-CLASS-333-216	c 16	N71-28554 *	US-PATENT-CLASS-339-64M	c 33	N84-14423 *
US-PATENT-CLASS-332-30	c 10	N71-27271 *	US-PATENT-CLASS-333-216	c 23	N71-29049 *	US-PATENT-CLASS-339-75MP	c 09	N72-28225 *
US-PATENT-CLASS-332-30	c 07	N71-28429 *	US-PATENT-CLASS-333-216	c 26	N73-32571 *	US-PATENT-CLASS-339-91B	c 15	N72-25450 *
US-PATENT-CLASS-332-30	c 33	N77-21314 *	US-PATENT-CLASS-333-216	c 20	N75-24837 *	US-PATENT-CLASS-339-91	c 09	N69-21927 *
US-PATENT-CLASS-332-31	c 08	N71-12500 *	US-PATENT-CLASS-333-216	c 33	N79-21264 *	US-PATENT-CLASS-339-94M	c 09	N72-28225 *
US-PATENT-CLASS-332-31	c 26	N72-21701 *	US-PATENT-CLASS-333-222	c 35	N84-28017 *	US-PATENT-CLASS-339-95	c 09	N69-39734 *
US-PATENT-CLASS-332-47	c 33	N75-19520 *	US-PATENT-CLASS-333-229	c 33	N82-24421 *	US-PATENT-CLASS-339-12R	c 52	N77-25772 *
US-PATENT-CLASS-332-51W	c 07	N72-20141 *	US-PATENT-CLASS-333-256	c 33	N82-11357 *	US-PATENT-CLASS-34-155	c 14	N73-28489 *
US-PATENT-CLASS-332-52	c 33	N77-17314 *	US-PATENT-CLASS-333-266	c 33	N82-11357 *	US-PATENT-CLASS-34-15	c 28	N78-24365 *
US-PATENT-CLASS-332-7.51	c 16	N72-25485 *	US-PATENT-CLASS-333-266	c 33	N82-24421 *	US-PATENT-CLASS-34-160	c 14	N73-28489 *
US-PATENT-CLASS-332-7.51	c 07	N73-26119 *	US-PATENT-CLASS-333-296	c 09	N73-30185 *	US-PATENT-CLASS-34-162	c 14	N73-28489 *
US-PATENT-CLASS-332-7.51	c 33	N74-20859 *	US-PATENT-CLASS-333-297	c 09	N73-30185 *	US-PATENT-CLASS-34-162	c 35	N74-15831 *
US-PATENT-CLASS-332-7.51	c 36	N76-18427 *	US-PATENT-CLASS-333-300	c 09	N70-41929 *	US-PATENT-CLASS-34-57A	c 35	N83-24828 *
US-PATENT-CLASS-332-7.5	c 36	N75-15029 *	US-PATENT-CLASS-336-DIG.1	c 26	N73-26752 *	US-PATENT-CLASS-340-12R	c 35	N74-16135 *
US-PATENT-CLASS-332-7.5	c 36	N78-18410 *	US-PATENT-CLASS-336-DIG.1	c 33	N79-17133 *	US-PATENT-CLASS-340-12R	c 46	N79-23555 *
US-PATENT-CLASS-332-7.5	c 36	N83-35350 *	US-PATENT-CLASS-336-120	c 33	N82-24422 *	US-PATENT-CLASS-340-146.1AL	c 08	N72-25210 *
US-PATENT-CLASS-332-751	c 36	N80-16321 *	US-PATENT-CLASS-336-178	c 09	N72-17154 *	US-PATENT-CLASS-340-146.1AL	c 08	N73-12175 *
US-PATENT-CLASS-332-9R	c 08	N71-29138 *	US-PATENT-CLASS-336-198	c 09	N72-27226 *	US-PATENT-CLASS-340-146.1AL	c 32	N77-12240 *
US-PATENT-CLASS-332-9	c 07	N71-12390 *	US-PATENT-CLASS-336-198	c 33	N85-29146 *	US-PATENT-CLASS-340-146.1AQ	c 08	N73-12177 *
US-PATENT-CLASS-333-104	c 33	N82-16340 *	US-PATENT-CLASS-336-200	c 26	N73-26752 *	US-PATENT-CLASS-340-146.1AQ	c 32	N74-32598 *
US-PATENT-CLASS-333-12	c 33	N80-32605 *	US-PATENT-CLASS-336-210	c 33	N74-17928 *	US-PATENT-CLASS-340-146.1AQ	c 32	N77-12240 *
US-PATENT-CLASS-333-12	c 33	N81-27397 *	US-PATENT-CLASS-336-220	c 09	N72-27226 *	US-PATENT-CLASS-340-146.1AV	c 08	N73-12177 *
US-PATENT-CLASS-333-14	c 32	N74-19788 *	US-PATENT-CLASS-336-60	c 09	N72-27226 *	US-PATENT-CLASS-340-146.1AV	c 32	N77-12240 *
US-PATENT-CLASS-333-162	c 33	N84-16452 *	US-PATENT-CLASS-336-83	c 33	N82-24422 *	US-PATENT-CLASS-340-146.1AX	c 32	N79-10263 *
US-PATENT-CLASS-333-162	c 33	N84-27974 *	US-PATENT-CLASS-336-84C	c 33	N85-29146 *	US-PATENT-CLASS-340-146.1C	c 07	N73-20176 *
US-PATENT-CLASS-333-16	c 33	N74-17927 *	US-PATENT-CLASS-337-114	c 09	N71-29035 *	US-PATENT-CLASS-340-146.1E	c 32	N79-10263 *
US-PATENT-CLASS-333-17R	c 33	N78-32340 *	US-PATENT-CLASS-337-121	c 09	N71-29035 *	US-PATENT-CLASS-340-146.1	c 09	N71-18843 *
US-PATENT-CLASS-333-17	c 44	N74-19870 *	US-PATENT-CLASS-337-140	c 37	N86-19604 *	US-PATENT-CLASS-340-146.1	c 08	N71-22749 *
US-PATENT-CLASS-333-18	c 33	N74-17927 *	US-PATENT-CLASS-337-14	c 31	N83-31897 *	US-PATENT-CLASS-340-146.1	c 10	N71-26103 *
US-PATENT-CLASS-333-18	c 32	N76-21366 *	US-PATENT-CLASS-337-334	c 37	N77-19458 *	US-PATENT-CLASS-340-146.1	c 08	N71-27255 *
US-PATENT-CLASS-333-204	c 33	N81-17348 *	US-PATENT-CLASS-337-354	c 15	N72-12409 *	US-PATENT-CLASS-340-146.1	c 08	N72-22167 *
US-PATENT-CLASS-333-20	c 33	N82-24418 *	US-PATENT-CLASS-337-359	c 15	N72-12409 *	US-PATENT-CLASS-340-146.1	c 08	N72-25207 *
US-PATENT-CLASS-333-21A	c 07	N71-33606 *	US-PATENT-CLASS-337-393	c 37	N87-23970 *	US-PATENT-CLASS-340-146.1	c 07	N73-13149 *
US-PATENT-CLASS-333-21R	c 33	N75-30430 *	US-PATENT-CLASS-337-75	c 15	N72-12409 *	US-PATENT-CLASS-340-146.2	c 08	N71-12505 *
US-PATENT-CLASS-333-214	c 33	N87-22895 *	US-PATENT-CLASS-337	c 25	N79-28253 *	US-PATENT-CLASS-340-146.2	c 08	N71-23295 *
US-PATENT-CLASS-333-217	c 33	N87-22895 *	US-PATENT-CLASS-338-100	c 35	N78-17359 *	US-PATENT-CLASS-340-146.3	c 74	N81-19896 *
US-PATENT-CLASS-333-21	c 07	N71-10676 *	US-PATENT-CLASS-338-114	c 52	N74-27864 *	US-PATENT-CLASS-340-146.3P	c 43	N77-10584 *
US-PATENT-CLASS-333-22F	c 32	N83-27085 *	US-PATENT-CLASS-338-13	c 24	N75-30260 *	US-PATENT-CLASS-340-146.3Q	c 43	N77-10584 *
US-PATENT-CLASS-333-231	c 33	N85-29143 *	US-PATENT-CLASS-338-162	c 37	N75-13265 *	US-PATENT-CLASS-340-146.3S	c 74	N81-19896 *
US-PATENT-CLASS-333-24.2	c 36	N83-35350 *	US-PATENT-CLASS-338-18	c 35	N79-33449 *	US-PATENT-CLASS-340-146.3Y	c 74	N81-19896 *
US-PATENT-CLASS-333-24R	c 09	N72-29172 *	US-PATENT-CLASS-338-229	c 35	N77-24454 *	US-PATENT-CLASS-340-147C	c 60	N76-14818 *
US-PATENT-CLASS-333-24R	c 36	N80-18372 *	US-PATENT-CLASS-338-25	c 35	N77-21393 *	US-PATENT-CLASS-340-147R	c 07	N73-20176 *
US-PATENT-CLASS-333-246	c 33	N82-16340 *	US-PATENT-CLASS-338-25	c 35	N82-24470 *	US-PATENT-CLASS-340-147R	c 60	N76-14818 *
US-PATENT-CLASS-333-252	c 32	N80-32605 *	US-PATENT-CLASS-338-275	c 35	N82-24470 *	US-PATENT-CLASS-340-147SY	c 17	N76-22245 *
US-PATENT-CLASS-333-254	c 32	N83-27085 *	US-PATENT-CLASS-338-283	c 24	N75-30260 *	US-PATENT-CLASS-340-147	c 09	N70-33182 *
US-PATENT-CLASS-333-262	c 33	N80-18285 *	US-PATENT-CLASS-338-28	c 35	N77-20400 *	US-PATENT-CLASS-340-147	c 09	N70-38998 *
US-PATENT-CLASS-333-30	c 10	N71-25900 *	US-PATENT-CLASS-338-28	c 35	N77-24454 *	US-PATENT-CLASS-340-15.5GC	c 14	N73-26432 *
US-PATENT-CLASS-333-6	c 07	N71-33606 *	US-PATENT-CLASS-338-28	c 35	N82-24470 *	US-PATENT-CLASS-340-150	c 10	N71-27272 *
US-PATENT-CLASS-333-70CR	c 10	N72-17171 *	US-PATENT-CLASS-338-2	c 33	N77-21393 *	US-PATENT-CLASS-340-151	c 33	N74-27862 *
US-PATENT-CLASS-333-70R	c 32	N77-18307 *	US-PATENT-CLASS-338-2	c 35	N80-20560 *	US-PATENT-CLASS-340-163	c 07	N73-20176 *
US-PATENT-CLASS-333-72	c 10	N71-25900 *	US-PATENT-CLASS-338-2	c 52	N80-27072 *	US-PATENT-CLASS-340-164	c 10	N71-27272 *
US-PATENT-CLASS-333-72	c 71	N77-26919 *	US-PATENT-CLASS-338-2	c 35	N84-12443 *	US-PATENT-CLASS-340-166	c 10	N71-27272 *
US-PATENT-CLASS-333-73R	c 09	N73-26195 *	US-PATENT-CLASS-338-309	c 27	N84-33589 *	US-PATENT-CLASS-340-166	c 10	N73-32144 *
US-PATENT-CLASS-333-73S	c 09	N73-26195 *	US-PATENT-CLASS-338-32S	c 33	N78-13320 *	US-PATENT-CLASS-340-167	c 07	N72-25173 *
US-PATENT-CLASS-333-73W	c 07	N72-20141 *	US-PATENT-CLASS-338-320	c 33	N74-14935 *	US-PATENT-CLASS-340-171	c 09	N72-22202 *
US-PATENT-CLASS-333-73	c 07	N69-24323 *	US-PATENT-CLASS-338-36	c 35	N78-17359 *	US-PATENT-CLASS-340-171	c 16	N73-16536 *
US-PATENT-CLASS-333-73	c 09	N71-23573 *	US-PATENT-CLASS-338-5	c 32	N71-15974 *	US-PATENT-CLASS-340-172.5	c 08	N69-21928 *
US-PATENT-CLASS-333-75	c 32	N77-18307 *	US-PATENT-CLASS-338-5	c 52	N74-27864 *	US-PATENT-CLASS-340-172.5	c 09	N69-24333 *
US-PATENT-CLASS-333-76	c 32	N77-18307 *	US-PATENT-CLASS-338-64	c 09	N71-21583 *	US-PATENT-CLASS-340-172.5	c 08	N71-12502 *
US-PATENT-CLASS-333-79	c 10	N70-41964 *	US-PATENT-CLASS-338-6	c 35	N76-14430 *	US-PATENT-CLASS-340-172.5	c 08	N71-12506 *
US-PATENT-CLASS-333-79	c 09	N72-25256 *	US-PATENT-CLASS-338-6	c 52	N76-29895 *	US-PATENT-CLASS-340-172.5	c 31	N71-15566 *
US-PATENT-CLASS-333-7	c 07	N71-33606 *	US-PATENT-CLASS-338-75	c 37	N75-13265 *	US-PATENT-CLASS-340-172.5	c 08	N71-19288 *
US-PATENT-CLASS-333-7	c 07	N72-25170 *	US-PATENT-CLASS-338-82	c 09	N71-20842 *	US-PATENT-CLASS-340-172.5	c 08	N71-22707 *
US-PATENT-CLASS-333-80R	c 33	N74-32712 *	US-PATENT-CLASS-338-89	c 35	N74-32877 *	US-PATENT-CLASS-340-172.5	c 08	N71-22710 *
US-PATENT-CLASS-333-80T	c 10	N72-33230 *	US-PATENT-CLASS-338-97	c 37	N75-13265 *	US-PATENT-CLASS-340-172.5	c 07	N71-24624 *
US-PATENT-CLASS-333-80	c 09	N71-12517 *	US-PATENT-CLASS-338-99	c 35	N78-17359 *	US-PATENT-CLASS-340-172.5	c 08	N71-27255 *
US-PATENT-CLASS-333-80	c 09	N72-21245 *	US-PATENT-CLASS-339-143C	c 33	N76-16332 *	US-PATENT-CLASS-340-172.5	c 07	N72-25172 *
US-PATENT-CLASS-333-81B	c 14	N73-13420 *	US-PATENT-CLASS-339-143R	c 09	N72-25256 *	US-PATENT-CLASS-340-172.5	c 08	N72-25207 *
US-PATENT-CLASS-333-81R	c 07	N72-25170 *	US-PATENT-CLASS-339-147R	c 09	N72-25256 *	US-PATENT-CLASS-340-172.5	c 09	N72-25248 *
US-PATENT-CLASS-333-81R	c 33	N78-32340 *	US-PATENT-CLASS-339-150	c 09	N69-21470 *	US-PATENT-CLASS-340-172.5	c 08	N73-13187 *
US-PATENT-CLASS-333-81R	c 32	N80-14281 *	US-PATENT-CLASS-339-17M	c 37	N76-27567 *	US-PATENT-CLASS-340-172.5	c 08	N73-26176 *
US-PATENT-CLASS-333-81	c 07	N71-29065 *	US-PATENT-CLASS-339-17R	c 15	N71-29133 *	US-PATENT-CLASS-340-172.5	c 60	N76-18800 *
US-PATENT-CLASS-333-82A	c 09	N73-26195 *	US-PATENT-CLASS-339-176MF	c 09	N72-28225 *	US-PATENT-CLASS-340-172.5	c 60	N76-21914 *
US-PATENT-CLASS-333-82B	c 32	N77-18307 *	US-PATENT-CLASS-339-176M	c 15	N72-17455 *	US-PATENT-CLASS-340-172.5	c 60	N77-12721 *
US-PATENT-CLASS-333-83BT	c 33	N75-30430 *	US-PATENT-CLASS-339-176	c 09	N70-34596 *	US-PATENT-CLASS-340-172.5	c 60	N77-14751 *
US-PATENT-CLASS-333-83R	c 36	N74-11313 *	US-PATENT-CLASS-339-176	c 09	N70-36494 *	US-PATENT-CLASS-340-172.5	c 60	N77-19760 *
US-PATENT-CLASS-333-83	c 09	N71-24841 *	US-PATENT-CLASS-339-177	c 09	N71-20851 *	US-PATENT-CLASS-340-173.2	c 08	N72-21198 *
US-PATENT-CLASS-333-84M	c 09	N73-26195 *	US-PATENT-CLASS-339-17	c 14	N69-27431 *	US-PATENT-CLASS-340-173CA	c 33	N75-31331 *
US-PATENT-CLASS-333-8	c 07	N69-24334 *	US-PATENT-CLASS-339-17	c 15	N71-17685 *	US-PATENT-CLASS-340-173CP	c 60	N74-12888 *
US-PATENT-CLASS-333-95	c 07	N71-27191 *	US-PATENT-CLASS-339-17	c 09	N71-26133 *	US-PATENT-CLASS-340-173LM	c 60	N74-12888 *
US-PATENT-CLASS-333-96	c 09	N71-20445 *	US-PATENT-CLASS-339-18C	c 37	N76-27567 *	US-PATENT-CLASS-340-173LM	c 60	N78-10709 *
US-PATENT-CLASS-333-96	c 07	N71-27191 *	US-PATENT-CLASS-339-198R	c 33	N76-16332 *	US-PATENT-CLASS-340-173LS	c 08	N72-21198 *
US-PATENT-CLASS-333-97R	c 36	N74-11313 *	US-PATENT-CLASS-339-218M	c 09	N72-28225 *	US-PATENT-CLASS-340-173LS	c 36	N75-19652 *
US-PATENT-CLASS-333-97	c 07	N69-27462 *	US-PATENT-CLASS-339-242	c 33	N77-16332 *	US-PATENT-CLASS-340-173	c 10	N73-32144 *
US-PATENT-CLASS-333-98P	c 07	N72-25170 *	US-PATENT-CLASS-339-252R	c 52	N77-14738 *	US-PATENT-CLASS-340-174.1L	c 35	N74-11283 *
US-PATENT-CLASS-333-98P	c 09	N72-29172 *	US-PATENT-CLASS-339-258RR	c 33	N84-14423 *	US-PATENT-CLASS-340-174.1M	c 36	N74-13205 *
US-PATENT-CLASS-333-98R	c 07	N72-25170 *	US-PATENT-CLASS-339-262RR	c 33	N84-14423 *	US-PATENT-CLASS-340-174.1M	c 35	N78-29421 *
US-PATENT-CLASS-333-98R	c 09	N72-29172 *	US-PATENT-CLASS-339-275R	c 33	N76-16332 *	US-PATENT-CLASS-340-174.1M	c 35	N79-16246 *
US-PATENT-CLASS-333-98R	c 14	N73-13420 *	US-PATENT-CLASS-339-275T	c 09	N72-20200 *	US-PATENT-CLASS-340-174.1R	c 21	N73-13644 *

US-PATENT-CLASS-340-174.1	c 08	N71-21042 *	US-PATENT-CLASS-340-347CC	c 31	N86-29055 *	US-PATENT-CLASS-343-100CL	c 32	N81-29308 *
US-PATENT-CLASS-340-174.1	c 07	N71-23001 *	US-PATENT-CLASS-340-347DA	c 08	N71-27057 *	US-PATENT-CLASS-343-100CL	c 32	N83-18975 *
US-PATENT-CLASS-340-174.1	c 08	N71-27210 *	US-PATENT-CLASS-340-347DA	c 08	N72-20176 *	US-PATENT-CLASS-343-100CL	c 32	N83-19968 *
US-PATENT-CLASS-340-174AG	c 23	N72-17747 *	US-PATENT-CLASS-340-347DA	c 08	N72-25206 *	US-PATENT-CLASS-343-100ME	c 14	N72-28437 *
US-PATENT-CLASS-340-174CS	c 08	N72-21199 *	US-PATENT-CLASS-340-347DA	c 08	N73-32081 *	US-PATENT-CLASS-343-100ME	c 14	N73-26432 *
US-PATENT-CLASS-340-174CT	c 23	N72-17747 *	US-PATENT-CLASS-340-347DD	c 10	N71-33407 *	US-PATENT-CLASS-343-100ME	c 46	N80-14603 *
US-PATENT-CLASS-340-174GA	c 23	N72-17747 *	US-PATENT-CLASS-340-347DD	c 08	N72-18184 *	US-PATENT-CLASS-343-100ME	c 35	N80-18359 *
US-PATENT-CLASS-340-174LC	c 08	N72-21199 *	US-PATENT-CLASS-340-347DD	c 08	N72-20176 *	US-PATENT-CLASS-343-100ME	c 46	N82-12685 *
US-PATENT-CLASS-340-174MA	c 24	N75-13032 *	US-PATENT-CLASS-340-347DD	c 08	N72-21197 *	US-PATENT-CLASS-343-100ME	c 06	N83-10040 *
US-PATENT-CLASS-340-174M	c 08	N72-21199 *	US-PATENT-CLASS-340-347DD	c 08	N73-12176 *	US-PATENT-CLASS-343-100PE	c 32	N75-24982 *
US-PATENT-CLASS-340-174SC	c 23	N72-17747 *	US-PATENT-CLASS-340-347DD	c 60	N76-23850 *	US-PATENT-CLASS-343-100PE	c 33	N81-26358 *
US-PATENT-CLASS-340-174SR	c 08	N72-21199 *	US-PATENT-CLASS-340-347DD	c 32	N77-12239 *	US-PATENT-CLASS-343-100PE	c 46	N82-12685 *
US-PATENT-CLASS-340-174YC	c 36	N74-13205 *	US-PATENT-CLASS-340-347DD	c 60	N78-17691 *	US-PATENT-CLASS-343-100PE	c 35	N82-15381 *
US-PATENT-CLASS-340-174	c 08	N71-12504 *	US-PATENT-CLASS-340-347DD	c 60	N79-20751 *	US-PATENT-CLASS-343-100R	c 10	N73-16206 *
US-PATENT-CLASS-340-174	c 09	N71-12515 *	US-PATENT-CLASS-340-347DD	c 33	N82-26570 *	US-PATENT-CLASS-343-100R	c 33	N80-18287 *
US-PATENT-CLASS-340-174	c 08	N71-18595 *	US-PATENT-CLASS-340-347P	c 32	N86-27513 *	US-PATENT-CLASS-343-100SA	c 10	N73-16206 *
US-PATENT-CLASS-340-174	c 08	N71-18694 *	US-PATENT-CLASS-340-347P	c 60	N76-23850 *	US-PATENT-CLASS-343-100SA	c 33	N74-20860 *
US-PATENT-CLASS-340-174	c 10	N71-23033 *	US-PATENT-CLASS-340-347P	c 35	N77-30436 *	US-PATENT-CLASS-343-100SA	c 17	N76-21250 *
US-PATENT-CLASS-340-174	c 10	N71-26418 *	US-PATENT-CLASS-340-347P	c 08	N72-22165 *	US-PATENT-CLASS-343-100SA	c 32	N80-28578 *
US-PATENT-CLASS-340-174	c 10	N71-26434 *	US-PATENT-CLASS-340-347SY	c 33	N77-31404 *	US-PATENT-CLASS-343-100ST	c 07	N72-21118 *
US-PATENT-CLASS-340-174	c 08	N71-28925 *	US-PATENT-CLASS-340-347SY	c 62	N76-31946 *	US-PATENT-CLASS-343-100ST	c 33	N74-20860 *
US-PATENT-CLASS-340-174	c 10	N71-29135 *	US-PATENT-CLASS-340-347SY	c 35	N77-30436 *	US-PATENT-CLASS-343-100ST	c 32	N75-15854 *
US-PATENT-CLASS-340-177VA	c 06	N80-18036 *	US-PATENT-CLASS-340-347	c 31	N86-29055 *	US-PATENT-CLASS-343-100ST	c 17	N76-21250 *
US-PATENT-CLASS-340-177	c 09	N72-17153 *	US-PATENT-CLASS-340-347	c 08	N70-35423 *	US-PATENT-CLASS-343-100ST	c 32	N77-20289 *
US-PATENT-CLASS-340-182	c 33	N74-27862 *	US-PATENT-CLASS-340-347	c 08	N70-40125 *	US-PATENT-CLASS-343-100ST	c 33	N80-18287 *
US-PATENT-CLASS-340-183	c 52	N74-26625 *	US-PATENT-CLASS-340-347	c 08	N71-12501 *	US-PATENT-CLASS-343-100TD	c 32	N79-24210 *
US-PATENT-CLASS-340-189M	c 17	N76-29347 *	US-PATENT-CLASS-340-347	c 08	N71-18594 *	US-PATENT-CLASS-343-100	c 32	N81-14185 *
US-PATENT-CLASS-340-198	c 14	N70-33179 *	US-PATENT-CLASS-340-347	c 08	N71-19435 *	US-PATENT-CLASS-343-100	c 10	N71-18722 *
US-PATENT-CLASS-340-198	c 07	N71-11298 *	US-PATENT-CLASS-340-347	c 08	N71-19544 *	US-PATENT-CLASS-343-100	c 07	N71-19854 *
US-PATENT-CLASS-340-200	c 33	N74-27862 *	US-PATENT-CLASS-340-347	c 08	N71-19687 *	US-PATENT-CLASS-343-100	c 30	N71-23723 *
US-PATENT-CLASS-340-200	c 33	N77-31404 *	US-PATENT-CLASS-340-347	c 08	N71-24650 *	US-PATENT-CLASS-343-100	c 07	N71-24621 *
US-PATENT-CLASS-340-203	c 09	N72-22202 *	US-PATENT-CLASS-340-347	c 10	N71-25917 *	US-PATENT-CLASS-343-100	c 09	N71-24804 *
US-PATENT-CLASS-340-203	c 52	N74-26625 *	US-PATENT-CLASS-340-347	c 10	N71-26544 *	US-PATENT-CLASS-343-100	c 31	N71-24813 *
US-PATENT-CLASS-340-206	c 17	N76-29347 *	US-PATENT-CLASS-340-348	c 08	N73-28045 *	US-PATENT-CLASS-343-100	c 07	N71-27056 *
US-PATENT-CLASS-340-207P	c 17	N76-22245 *	US-PATENT-CLASS-340-348	c 08	N72-22167 *	US-PATENT-CLASS-343-100	c 07	N71-28900 *
US-PATENT-CLASS-340-207R	c 52	N74-26625 *	US-PATENT-CLASS-340-38P	c 66	N76-19888 *	US-PATENT-CLASS-343-105R	c 32	N75-26194 *
US-PATENT-CLASS-340-207	c 07	N73-25160 *	US-PATENT-CLASS-340-403	c 10	N71-27272 *	US-PATENT-CLASS-343-105R	c 04	N84-27713 *
US-PATENT-CLASS-340-210	c 03	N72-20031 *	US-PATENT-CLASS-340-407	c 71	N74-21014 *	US-PATENT-CLASS-343-108R	c 04	N74-13420 *
US-PATENT-CLASS-340-213.1	c 10	N71-19417 *	US-PATENT-CLASS-340-407	c 82	N87-29372 *	US-PATENT-CLASS-343-10	c 32	N77-32342 *
US-PATENT-CLASS-340-213R	c 54	N78-32720 *	US-PATENT-CLASS-340-412	c 10	N71-24798 *	US-PATENT-CLASS-343-11R	c 09	N73-12211 *
US-PATENT-CLASS-340-213	c 10	N71-27272 *	US-PATENT-CLASS-340-415	c 10	N73-32144 *	US-PATENT-CLASS-343-11VB	c 09	N73-12211 *
US-PATENT-CLASS-340-223	c 10	N73-32144 *	US-PATENT-CLASS-340-418	c 14	N73-16484 *	US-PATENT-CLASS-343-112CA	c 21	N73-13643 *
US-PATENT-CLASS-340-224	c 37	N77-19458 *	US-PATENT-CLASS-340-5C	c 14	N73-27379 *	US-PATENT-CLASS-343-112CA	c 21	N73-30641 *
US-PATENT-CLASS-340-227R	c 14	N72-25412 *	US-PATENT-CLASS-340-5H	c 32	N77-21267 *	US-PATENT-CLASS-343-112CA	c 03	N75-30132 *
US-PATENT-CLASS-340-227	c 10	N71-16058 *	US-PATENT-CLASS-340-5R	c 35	N74-16135 *	US-PATENT-CLASS-343-112D	c 14	N72-28437 *
US-PATENT-CLASS-340-227	c 14	N71-27186 *	US-PATENT-CLASS-340-518	c 35	N83-34272 *	US-PATENT-CLASS-343-112D	c 32	N75-26194 *
US-PATENT-CLASS-340-228.2	c 10	N72-17173 *	US-PATENT-CLASS-340-555	c 74	N85-22139 *	US-PATENT-CLASS-343-112D	c 46	N80-14603 *
US-PATENT-CLASS-340-228S	c 14	N73-16484 *	US-PATENT-CLASS-340-566	c 35	N83-34272 *	US-PATENT-CLASS-343-112R	c 09	N73-32110 *
US-PATENT-CLASS-340-233	c 14	N71-25901 *	US-PATENT-CLASS-340-57	c 14	N71-15620 *	US-PATENT-CLASS-343-112R	c 17	N78-17140 *
US-PATENT-CLASS-340-235	c 10	N71-26334 *	US-PATENT-CLASS-340-580	c 35	N88-29149 *	US-PATENT-CLASS-343-112R	c 04	N80-32359 *
US-PATENT-CLASS-340-237S	c 45	N76-17656 *	US-PATENT-CLASS-340-602	c 33	N80-23559 *	US-PATENT-CLASS-343-112R	c 32	N81-27341 *
US-PATENT-CLASS-340-240	c 09	N72-27227 *	US-PATENT-CLASS-340-604	c 33	N80-23559 *	US-PATENT-CLASS-343-112TC	c 17	N76-21250 *
US-PATENT-CLASS-340-242	c 35	N75-19612 *	US-PATENT-CLASS-340-605	c 25	N86-27431 *	US-PATENT-CLASS-343-112	c 21	N71-13958 *
US-PATENT-CLASS-340-248	c 10	N71-27338 *	US-PATENT-CLASS-340-650	c 33	N79-18193 *	US-PATENT-CLASS-343-112	c 02	N71-19287 *
US-PATENT-CLASS-340-258R	c 07	N73-25160 *	US-PATENT-CLASS-340-664	c 33	N79-18193 *	US-PATENT-CLASS-343-112	c 21	N71-24948 *
US-PATENT-CLASS-340-258	c 10	N72-28240 *	US-PATENT-CLASS-340-705	c 06	N84-27733 *	US-PATENT-CLASS-343-113R	c 09	N73-32110 *
US-PATENT-CLASS-340-25	c 14	N73-16483 *	US-PATENT-CLASS-340-8LF	c 71	N79-23753 *	US-PATENT-CLASS-343-113R	c 44	N78-28594 *
US-PATENT-CLASS-340-262	c 54	N78-32720 *	US-PATENT-CLASS-340-8R	c 35	N74-16135 *	US-PATENT-CLASS-343-113	c 10	N71-21473 *
US-PATENT-CLASS-340-26	c 21	N72-22619 *	US-PATENT-CLASS-340-825.21	c 60	N84-28492 *	US-PATENT-CLASS-343-113	c 07	N71-24625 *
US-PATENT-CLASS-340-26	c 04	N82-16059 *	US-PATENT-CLASS-340-825.5	c 60	N84-28492 *	US-PATENT-CLASS-343-117R	c 32	N79-13214 *
US-PATENT-CLASS-340-27AT	c 21	N73-14692 *	US-PATENT-CLASS-340-825.89	c 17	N87-16863 *	US-PATENT-CLASS-343-117	c 07	N71-27056 *
US-PATENT-CLASS-340-27NA	c 21	N73-13643 *	US-PATENT-CLASS-340-825.89	c 33	N82-29538 *	US-PATENT-CLASS-343-118	c 32	N79-13214 *
US-PATENT-CLASS-340-27NA	c 06	N82-16075 *	US-PATENT-CLASS-340-870.13	c 35	N84-22934 *	US-PATENT-CLASS-343-119	c 44	N78-28594 *
US-PATENT-CLASS-340-27R	c 14	N73-16483 *	US-PATENT-CLASS-340-870.18	c 17	N87-16863 *	US-PATENT-CLASS-343-119	c 08	N72-25209 *
US-PATENT-CLASS-340-27R	c 14	N73-20474 *	US-PATENT-CLASS-340-870.24	c 33	N81-14221 *	US-PATENT-CLASS-343-12	c 21	N70-41930 *
US-PATENT-CLASS-340-27SS	c 35	N78-14364 *	US-PATENT-CLASS-340-905	c 35	N84-33769 *	US-PATENT-CLASS-343-12	c 10	N72-20224 *
US-PATENT-CLASS-340-271	c 35	N77-30436 *	US-PATENT-CLASS-340-945	c 06	N87-22678 *	US-PATENT-CLASS-343-13R	c 74	N85-34629 *
US-PATENT-CLASS-340-277	c 10	N73-30205 *	US-PATENT-CLASS-340-967	c 08	N87-20999 *	US-PATENT-CLASS-343-13	c 09	N71-18598 *
US-PATENT-CLASS-340-279	c 05	N72-16015 *	US-PATENT-CLASS-340-968	c 06	N86-27280 *	US-PATENT-CLASS-343-14	c 07	N70-41680 *
US-PATENT-CLASS-340-279	c 10	N73-30205 *	US-PATENT-CLASS-340-971	c 06	N84-27733 *	US-PATENT-CLASS-343-14	c 08	N72-25209 *
US-PATENT-CLASS-340-279	c 54	N78-32720 *	US-PATENT-CLASS-340-971	c 06	N87-22678 *	US-PATENT-CLASS-343-14	c 14	N73-25461 *
US-PATENT-CLASS-340-285	c 14	N71-25901 *	US-PATENT-CLASS-340-975	c 06	N84-27733 *	US-PATENT-CLASS-343-14	c 32	N79-14267 *
US-PATENT-CLASS-340-285	c 54	N78-32720 *	US-PATENT-CLASS-340-975	c 06	N87-22678 *	US-PATENT-CLASS-343-14	c 31	N79-28370 *
US-PATENT-CLASS-340-309.1	c 54	N78-32720 *	US-PATENT-CLASS-340-978	c 06	N84-27733 *	US-PATENT-CLASS-343-16M	c 10	N72-22235 *
US-PATENT-CLASS-340-309.4	c 33	N81-14221 *	US-PATENT-CLASS-340-97	c 21	N73-13643 *	US-PATENT-CLASS-343-16M	c 44	N78-28594 *
US-PATENT-CLASS-340-310A	c 33	N81-14221 *	US-PATENT-CLASS-340-980	c 06	N84-27733 *	US-PATENT-CLASS-343-16	c 09	N71-20864 *
US-PATENT-CLASS-340-310R	c 33	N81-14221 *	US-PATENT-CLASS-342-125	c 35	N84-33769 *	US-PATENT-CLASS-343-16	c 10	N71-21483 *
US-PATENT-CLASS-340-324AD	c 33	N75-19517 *	US-PATENT-CLASS-342-125	c 32	N88-26568 *	US-PATENT-CLASS-343-17.1PF	c 32	N82-23376 *
US-PATENT-CLASS-340-324A	c 09	N72-25248 *	US-PATENT-CLASS-342-127	c 32	N88-26568 *	US-PATENT-CLASS-343-17.2PC	c 32	N85-34327 *
US-PATENT-CLASS-340-324R	c 26	N72-25680 *	US-PATENT-CLASS-342-165	c 32	N89-28672 *	US-PATENT-CLASS-343-17.2PC	c 35	N79-10391 *
US-PATENT-CLASS-340-324	c 08	N71-12507 *	US-PATENT-CLASS-342-195	c 33	N89-14384 *	US-PATENT-CLASS-343-17.2	c 07	N70-36911 *
US-PATENT-CLASS-340-324	c 09	N71-33519 *	US-PATENT-CLASS-342-1	c 32	N89-28672 *	US-PATENT-CLASS-343-17.5	c 14	N73-25461 *
US-PATENT-CLASS-340-332	c 09	N72-25250 *	US-PATENT-CLASS-342-374	c 32	N89-11961 *	US-PATENT-CLASS-343-17.5	c 32	N75-15854 *
US-PATENT-CLASS-340-336	c 09	N71-33519 *	US-PATENT-CLASS-342-375	c 32	N89-11961 *	US-PATENT-CLASS-343-17.5	c 32	N84-22820 *
US-PATENT-CLASS-340-33	c 21	N73-13643 *	US-PATENT-CLASS-342-43	c 32	N88-26568 *	US-PATENT-CLASS-343-17.7	c 07	N71-12391 *
US-PATENT-CLASS-340-347AD	c 14	N71-28991 *	US-PATENT-CLASS-342-51	c 32	N88-26568 *	US-PATENT-CLASS-343-17.7	c 44	N74-19870 *
US-PATENT-CLASS-340-347AD	c 08	N72-21200 *	US-PATENT-CLASS-342-5	c 32	N89-28672 *	US-PATENT-CLASS-343-17.7	c 32	N77-31350 *
US-PATENT-CLASS-340-347AD	c 08	N72-22163 *	US-PATENT-CLASS-343-DIG.2	c 07	N73-24176 *	US-PATENT-CLASS-343-17.7	c 32	N79-11265 *
US-PATENT-CLASS-340-347AD	c 08	N72-22166 *	US-PATENT-CLASS-343-DIG.2	c 33	N74-20860 *	US-PATENT-CLASS-343-17.7	c 32	N84-27951 *
US-PATENT-CLASS-340-347AD	c 08	N72-31226 *	US-PATENT-CLASS-343-DIG.2	c 37	N86-25791 *	US-PATENT-CLASS-343-17.7	c 33	N85-21493 *
US-PATENT-CLASS-340-347AD	c 08	N73-20217 *	US-PATENT-CLASS-343-DIG.3	c 32	N89-25363 *	US-PATENT-CLASS-343-176	c 07	N71-27056 *
US-PATENT-CLASS-340-347AD	c 35	N74-17885 *	US-PATENT-CLASS-343-DIG.3	c 09	N72-12136 *	US-PATENT-CLASS-343-176	c 32	N76-14321 *
US-PATENT-CLASS-340-347AD	c 35	N74-32877 *	US-PATENT-CLASS-343-DIG2	c 07	N83-20944 *	US-PATENT-CLASS-343-179	c 07	N72-11149 *
US-PATENT-CLASS-340-347AD	c 33	N76-18345 *	US-PATENT-CLASS-343-100AP	c 33	N83-36355 *	US-PATENT-CLASS-343-179	c 07	N73-20174 *
US-PATENT-CLASS-340-347AD	c 60	N77-32731 *	US-PATENT-CLASS-343-100CL	c 32	N77-32342 *	US-PATENT-CLASS-343-179	c 32	N78-15323 *
			US-PATENT-CLASS-343-100CL	c 32	N79-14268 *	US-PATENT-CLASS-343-179	c 32	N79-20296 *

US-PATENT-CLASS-343-18A	c 32	N80-14281 *	US-PATENT-CLASS-343-729	c 07	N73-28013 *	US-PATENT-CLASS-343-853	c 32	N74-20864 *
US-PATENT-CLASS-343-18B	c 32	N74-12912 *	US-PATENT-CLASS-343-730	c 32	N74-20863 *	US-PATENT-CLASS-343-854	c 07	N69-27460 * #
US-PATENT-CLASS-343-18B	c 32	N77-21267 *	US-PATENT-CLASS-343-754	c 09	N73-19234 *	US-PATENT-CLASS-343-854	c 07	N71-27233 *
US-PATENT-CLASS-343-18B	c 43	N80-18498 *	US-PATENT-CLASS-343-755	c 33	N76-27472 *	US-PATENT-CLASS-343-854	c 09	N73-19234 *
US-PATENT-CLASS-343-18D	c 43	N80-18498 *	US-PATENT-CLASS-343-755	c 32	N81-25278 *	US-PATENT-CLASS-343-854	c 33	N74-20860 *
US-PATENT-CLASS-343-18	c 31	N70-37981 *	US-PATENT-CLASS-343-761	c 33	N75-19516 *	US-PATENT-CLASS-343-854	c 33	N76-27472 *
US-PATENT-CLASS-343-18	c 07	N70-40063 *	US-PATENT-CLASS-343-761	c 32	N76-21365 *	US-PATENT-CLASS-343-854	c 32	N79-11264 *
US-PATENT-CLASS-343-18	c 30	N70-40309 *	US-PATENT-CLASS-343-762	c 07	N72-25174 *	US-PATENT-CLASS-343-854	c 32	N80-28578 *
US-PATENT-CLASS-343-18	c 07	N70-41678 *	US-PATENT-CLASS-343-768	c 10	N71-26142 *	US-PATENT-CLASS-343-872	c 07	N71-28980 *
US-PATENT-CLASS-343-200	c 07	N73-16121 *	US-PATENT-CLASS-343-769	c 32	N74-20864 *	US-PATENT-CLASS-343-873	c 07	N71-19493 *
US-PATENT-CLASS-343-204	c 07	N73-26118 *	US-PATENT-CLASS-343-770	c 09	N72-31235 *	US-PATENT-CLASS-343-873	c 09	N72-25247 *
US-PATENT-CLASS-343-225	c 17	N78-17140 *	US-PATENT-CLASS-343-770	c 33	N76-14372 *	US-PATENT-CLASS-343-876	c 32	N76-15329 *
US-PATENT-CLASS-343-352	c 43	N85-21723 *	US-PATENT-CLASS-343-771	c 07	N71-28809 *	US-PATENT-CLASS-343-876	c 32	N85-29118 *
US-PATENT-CLASS-343-352	c 46	N85-21846 *	US-PATENT-CLASS-343-771	c 07	N72-11148 *	US-PATENT-CLASS-343-880	c 07	N73-26117 *
US-PATENT-CLASS-343-356	c 04	N84-22546 *	US-PATENT-CLASS-343-771	c 09	N72-21244 *	US-PATENT-CLASS-343-880	c 18	N80-14183 *
US-PATENT-CLASS-343-357	c 04	N84-22546 *	US-PATENT-CLASS-343-771	c 07	N72-22127 *	US-PATENT-CLASS-343-880	c 32	N89-25363 *
US-PATENT-CLASS-343-357	c 04	N86-27270 *	US-PATENT-CLASS-343-771	c 09	N72-25247 *	US-PATENT-CLASS-343-881	c 37	N86-25789 *
US-PATENT-CLASS-343-376	c 33	N85-21493 *	US-PATENT-CLASS-343-771	c 09	N72-31235 *	US-PATENT-CLASS-343-882	c 33	N76-32457 *
US-PATENT-CLASS-343-418	c 04	N86-27270 *	US-PATENT-CLASS-343-772	c 07	N72-20141 *	US-PATENT-CLASS-343-882	c 37	N86-25789 *
US-PATENT-CLASS-343-460	c 46	N85-21846 *	US-PATENT-CLASS-343-772	c 32	N81-25278 *	US-PATENT-CLASS-343-883	c 07	N73-26117 *
US-PATENT-CLASS-343-5-CD	c 43	N86-19711 *	US-PATENT-CLASS-343-773	c 07	N72-20141 *	US-PATENT-CLASS-343-883	c 18	N80-14183 *
US-PATENT-CLASS-343-5-CM	c 32	N84-34651 *	US-PATENT-CLASS-343-776	c 07	N71-12396 *	US-PATENT-CLASS-343-883	c 37	N86-25791 *
US-PATENT-CLASS-343-5-CM	c 32	N85-34327 *	US-PATENT-CLASS-343-777	c 07	N71-27233 *	US-PATENT-CLASS-343-884	c 07	N71-27191 *
US-PATENT-CLASS-343-5-CM	c 43	N86-19711 *	US-PATENT-CLASS-343-777	c 07	N72-25174 *	US-PATENT-CLASS-343-889	c 07	N73-26117 *
US-PATENT-CLASS-343-5-DP	c 32	N84-34651 *	US-PATENT-CLASS-343-777	c 32	N89-11961 *	US-PATENT-CLASS-343-893	c 09	N72-21244 *
US-PATENT-CLASS-343-5-FT	c 32	N84-34651 *	US-PATENT-CLASS-343-778	c 32	N89-11961 *	US-PATENT-CLASS-343-893	c 07	N73-28013 *
US-PATENT-CLASS-343-5-VQ	c 43	N86-19711 *	US-PATENT-CLASS-343-779	c 07	N71-11285 *	US-PATENT-CLASS-343-895	c 09	N73-19234 *
US-PATENT-CLASS-343-5-W	c 32	N85-34327 *	US-PATENT-CLASS-343-779	c 10	N72-22235 *	US-PATENT-CLASS-343-895	c 07	N73-26117 *
US-PATENT-CLASS-343-5CM	c 07	N72-21118 *	US-PATENT-CLASS-343-779	c 07	N72-25174 *	US-PATENT-CLASS-343-895	c 32	N80-23524 *
US-PATENT-CLASS-343-5CM	c 32	N77-32342 *	US-PATENT-CLASS-343-779	c 32	N76-15329 *	US-PATENT-CLASS-343-895	c 32	N82-27558 *
US-PATENT-CLASS-343-5CM	c 35	N79-10391 *	US-PATENT-CLASS-343-779	c 33	N76-27472 *	US-PATENT-CLASS-343-9PS	c 32	N83-19968 *
US-PATENT-CLASS-343-5CM	c 32	N79-14268 *	US-PATENT-CLASS-343-779	c 32	N89-11961 *	US-PATENT-CLASS-343-9PS	c 32	N83-31918 *
US-PATENT-CLASS-343-5CM	c 43	N80-18498 *	US-PATENT-CLASS-343-781CA	c 32	N78-31321 *	US-PATENT-CLASS-343-9R	c 32	N84-28320 *
US-PATENT-CLASS-343-5CM	c 32	N82-12297 *	US-PATENT-CLASS-343-781P	c 46	N82-12685 *	US-PATENT-CLASS-343-909	c 32	N74-11000 *
US-PATENT-CLASS-343-5CM	c 32	N83-18975 *	US-PATENT-CLASS-343-781R	c 32	N81-25278 *	US-PATENT-CLASS-343-909	c 35	N76-15435 *
US-PATENT-CLASS-343-5CM	c 32	N83-18975 *	US-PATENT-CLASS-343-781	c 09	N70-35219 *	US-PATENT-CLASS-343-909	c 33	N79-28416 *
US-PATENT-CLASS-343-5CM	c 32	N83-19968 *	US-PATENT-CLASS-343-781	c 09	N70-35382 *	US-PATENT-CLASS-343-909	c 32	N80-14281 *
US-PATENT-CLASS-343-5CM	c 32	N83-31918 *	US-PATENT-CLASS-343-781	c 09	N70-35425 *	US-PATENT-CLASS-343-912	c 07	N72-21117 *
US-PATENT-CLASS-343-5DP	c 07	N72-11149 *	US-PATENT-CLASS-343-781	c 07	N72-32169 *	US-PATENT-CLASS-343-912	c 07	N72-22127 *
US-PATENT-CLASS-343-5DP	c 09	N73-12211 *	US-PATENT-CLASS-343-781	c 32	N74-11000 *	US-PATENT-CLASS-343-912	c 32	N76-18295 *
US-PATENT-CLASS-343-5DP	c 32	N77-32342 *	US-PATENT-CLASS-343-781	c 33	N75-19516 *	US-PATENT-CLASS-343-915	c 31	N71-16102 *
US-PATENT-CLASS-343-5DP	c 32	N82-23376 *	US-PATENT-CLASS-343-781	c 32	N76-21365 *	US-PATENT-CLASS-343-915	c 09	N71-20658 *
US-PATENT-CLASS-343-5GC	c 32	N75-24982 *	US-PATENT-CLASS-343-782	c 07	N73-14130 *	US-PATENT-CLASS-343-915	c 07	N72-32169 *
US-PATENT-CLASS-343-5MM	c 32	N77-21267 *	US-PATENT-CLASS-343-782	c 32	N78-31321 *	US-PATENT-CLASS-343-915	c 07	N73-14130 *
US-PATENT-CLASS-343-5NA	c 31	N79-28370 *	US-PATENT-CLASS-343-784	c 07	N71-28980 *	US-PATENT-CLASS-343-915	c 07	N73-24176 *
US-PATENT-CLASS-343-5W	c 35	N79-10391 *	US-PATENT-CLASS-343-786	c 07	N71-15907 *	US-PATENT-CLASS-343-915	c 32	N76-18295 *
US-PATENT-CLASS-343-5W	c 43	N80-18498 *	US-PATENT-CLASS-343-786	c 07	N71-22750 *	US-PATENT-CLASS-343-915	c 33	N76-32457 *
US-PATENT-CLASS-343-5W	c 46	N85-21846 *	US-PATENT-CLASS-343-786	c 07	N71-26101 *	US-PATENT-CLASS-343-915	c 32	N89-25363 *
US-PATENT-CLASS-343-6BR	c 32	N77-20289 *	US-PATENT-CLASS-343-786	c 07	N71-27233 *	US-PATENT-CLASS-343-9	c 32	N75-15854 *
US-PATENT-CLASS-343-6R	c 07	N72-12080 *	US-PATENT-CLASS-343-786	c 07	N72-20141 *	US-PATENT-CLASS-343-9	c 32	N79-10264 *
US-PATENT-CLASS-343-6R	c 07	N72-21118 *	US-PATENT-CLASS-343-786	c 10	N72-22235 *	US-PATENT-CLASS-346-107A	c 14	N72-18411 *
US-PATENT-CLASS-343-6R	c 07	N72-25171 *	US-PATENT-CLASS-343-786	c 07	N72-25174 *	US-PATENT-CLASS-346-107	c 23	N71-23976 *
US-PATENT-CLASS-343-6R	c 08	N72-25209 *	US-PATENT-CLASS-343-786	c 09	N72-31235 *	US-PATENT-CLASS-346-108	c 35	N74-15831 *
US-PATENT-CLASS-343-6R	c 07	N73-25161 *	US-PATENT-CLASS-343-786	c 32	N74-20863 *	US-PATENT-CLASS-346-110	c 14	N73-32322 *
US-PATENT-CLASS-343-6R	c 21	N73-30641 *	US-PATENT-CLASS-343-786	c 32	N76-15330 *	US-PATENT-CLASS-346-138	c 21	N73-13644 *
US-PATENT-CLASS-343-6R	c 32	N74-12912 *	US-PATENT-CLASS-343-786	c 32	N76-21365 *	US-PATENT-CLASS-346-138	c 35	N74-15831 *
US-PATENT-CLASS-343-6R	c 32	N75-15854 *	US-PATENT-CLASS-343-786	c 32	N80-23524 *	US-PATENT-CLASS-346-1	c 12	N71-20815 *
US-PATENT-CLASS-343-6R	c 03	N75-30132 *	US-PATENT-CLASS-343-786	c 32	N80-29539 *	US-PATENT-CLASS-346-1	c 09	N72-21246 *
US-PATENT-CLASS-343-6R	c 32	N77-20289 *	US-PATENT-CLASS-343-786	c 32	N81-25278 *	US-PATENT-CLASS-346-23	c 14	N72-18411 *
US-PATENT-CLASS-343-6.5SS	c 32	N74-12912 *	US-PATENT-CLASS-343-789	c 32	N81-14187 *	US-PATENT-CLASS-346-24	c 35	N74-15831 *
US-PATENT-CLASS-343-6.5	c 21	N71-11766 *	US-PATENT-CLASS-343-789	c 32	N82-27558 *	US-PATENT-CLASS-346-29	c 09	N72-21246 *
US-PATENT-CLASS-343-6.5	c 10	N71-23099 *	US-PATENT-CLASS-343-795	c 32	N82-11336 *	US-PATENT-CLASS-346-33R	c 35	N74-32877 *
US-PATENT-CLASS-343-6.8R	c 04	N86-19304 *	US-PATENT-CLASS-343-797	c 09	N71-24842 *	US-PATENT-CLASS-346-44	c 09	N69-21467 * #
US-PATENT-CLASS-343-6.8R	c 07	N72-12080 *	US-PATENT-CLASS-343-797	c 07	N72-22127 *	US-PATENT-CLASS-346-50	c 14	N71-21006 *
US-PATENT-CLASS-343-6.8R	c 07	N73-25161 *	US-PATENT-CLASS-343-797	c 09	N72-31235 *	US-PATENT-CLASS-346-74MD	c 21	N73-13644 *
US-PATENT-CLASS-343-6.8R	c 14	N73-25461 *	US-PATENT-CLASS-343-797	c 07	N73-28013 *	US-PATENT-CLASS-346-74MT	c 35	N79-16246 *
US-PATENT-CLASS-343-6R	c 32	N79-10264 *	US-PATENT-CLASS-343-797	c 32	N74-20863 *	US-PATENT-CLASS-346R	c 73	N77-18891 *
US-PATENT-CLASS-343-6	c 30	N71-16090 *	US-PATENT-CLASS-343-797	c 33	N76-14372 *	US-PATENT-CLASS-349	c 25	N79-28253 *
US-PATENT-CLASS-343-7.4	c 10	N72-22235 *	US-PATENT-CLASS-343-797	c 32	N81-14187 *	US-PATENT-CLASS-35-10.2	c 14	N71-15621 *
US-PATENT-CLASS-343-7.4	c 32	N79-13214 *	US-PATENT-CLASS-343-799	c 07	N71-27233 *	US-PATENT-CLASS-35-12C	c 14	N73-27377 *
US-PATENT-CLASS-343-7.5	c 07	N69-39974 * #	US-PATENT-CLASS-343-803	c 07	N73-28013 *	US-PATENT-CLASS-35-12C	c 09	N75-15662 *
US-PATENT-CLASS-343-7.5	c 09	N71-24595 *	US-PATENT-CLASS-343-823	c 07	N71-28979 *	US-PATENT-CLASS-35-12C	c 74	N79-13855 *
US-PATENT-CLASS-343-7.5	c 07	N72-11149 *	US-PATENT-CLASS-343-830	c 32	N80-32604 *	US-PATENT-CLASS-35-12E	c 09	N74-30597 *
US-PATENT-CLASS-343-7.5	c 44	N74-19870 *	US-PATENT-CLASS-343-833	c 31	N70-34135 *	US-PATENT-CLASS-35-12E	c 09	N79-31228 *
US-PATENT-CLASS-343-7.5	c 32	N82-23376 *	US-PATENT-CLASS-343-837	c 07	N72-32169 *	US-PATENT-CLASS-35-12H	c 09	N79-31228 *
US-PATENT-CLASS-343-700MS	c 32	N78-24391 *	US-PATENT-CLASS-343-837	c 07	N73-14130 *	US-PATENT-CLASS-35-12N	c 09	N76-24280 *
US-PATENT-CLASS-343-700MS	c 32	N80-32604 *	US-PATENT-CLASS-343-837	c 33	N75-19516 *	US-PATENT-CLASS-35-12N	c 09	N78-18083 *
US-PATENT-CLASS-343-700MS	c 32	N82-11336 *	US-PATENT-CLASS-343-837	c 32	N76-15329 *	US-PATENT-CLASS-35-12N	c 74	N79-13855 *
US-PATENT-CLASS-343-703	c 09	N71-13521 *	US-PATENT-CLASS-343-837	c 32	N76-18295 *	US-PATENT-CLASS-35-12	c 11	N70-34815 *
US-PATENT-CLASS-343-703	c 07	N71-24614 *	US-PATENT-CLASS-343-837	c 32	N78-31321 *	US-PATENT-CLASS-35-12	c 31	N70-34966 *
US-PATENT-CLASS-343-705	c 07	N70-38200 *	US-PATENT-CLASS-343-839	c 09	N73-19234 *	US-PATENT-CLASS-35-12	c 11	N71-10746 *
US-PATENT-CLASS-343-705	c 07	N70-40202 *	US-PATENT-CLASS-343-840	c 07	N71-27233 *	US-PATENT-CLASS-35-12	c 11	N71-10748 *
US-PATENT-CLASS-343-705	c 31	N71-10747 *	US-PATENT-CLASS-343-840	c 09	N72-12136 *	US-PATENT-CLASS-35-12	c 11	N71-10776 *
US-PATENT-CLASS-343-705	c 03	N76-32140 *	US-PATENT-CLASS-343-840	c 07	N72-32169 *	US-PATENT-CLASS-35-12	c 11	N71-18773 *
US-PATENT-CLASS-343-706	c 07	N72-21117 *	US-PATENT-CLASS-343-840	c 32	N76-18295 *	US-PATENT-CLASS-35-12	c 11	N71-19494 *
US-PATENT-CLASS-343-708	c 09	N71-22888 *	US-PATENT-CLASS-343-840	c 33	N83-36355 *	US-PATENT-CLASS-35-12	c 11	N71-21474 *
US-PATENT-CLASS-343-708	c 07	N71-22984 *	US-PATENT-CLASS-343-844	c 32	N79-11264 *	US-PATENT-CLASS-35-12	c 18	N76-14186 *
US-PATENT-CLASS-343-708	c 07	N71-28980 *	US-PATENT-CLASS-343-844	c 32	N80-28578 *	US-PATENT-CLASS-35-17	c 05	N71-24606 *
US-PATENT-CLASS-343-708	c 09	N72-25247 *	US-PATENT-CLASS-343-846	c 33	N76-14372 *	US-PATENT-CLASS-35-19	c 10	N71-27365 *
US-PATENT-CLASS-343-708	c 32	N74-20864 *	US-PATENT-CLASS-343-846	c 32	N82-11336 *	US-PATENT-CLASS-35-22R	c 05	N73-13114 *
US-PATENT-CLASS-343-708	c 32	N82-11336 *	US-PATENT-CLASS-343-853	c 07	N72-11148 *	US-PATENT-CLASS-35-29	c 11	N71-16028 *
US-PATENT-CLASS-343-718	c 09	N71-18720 *	US-PATENT-CLASS-343-853	c 07	N72-22127 *	US-PATENT-CLASS-35-29	c 05	N71-28619 *
US-PATENT-CLASS-343-720	c 09	N72-12136 *	US-PATENT-CLASS-343-853	c 07	N72-25174 *	US-PATENT-CLASS-35-35A	c 71	N74-21014 *
US-PATENT-CLASS-343-725	c 07	N73-28013 *	US-PATENT-CLASS-343-853	c 09	N72-31235 *	US-PATENT-CLASS-35-45	c 14	N70-35394 *
US-PATENT-CLASS-343-727	c 32	N81-14187 *	US-PATENT-CLASS-343-853	c 10	N73-16206 *	US-PATENT-CLASS-35-49	c 12	N69-39988 * #
US-PATENT-CLASS-343-727	c 32	N82-11336 *	US-PATENT-CLASS-343-853	c 32	N74-20863 *	US-PATENT-CLASS-35-8	c 05	N72-16015 *

US-PATENT-CLASS-350-100	c 36	N77-25501 *	US-PATENT-CLASS-350-294	c 32	N80-24510 *	US-PATENT-CLASS-350-96.15	c 74	N84-11921 *
US-PATENT-CLASS-350-102	c 23	N71-29123 *	US-PATENT-CLASS-350-295	c 44	N77-32583 *	US-PATENT-CLASS-350-96.15	c 74	N85-29749 *
US-PATENT-CLASS-350-102	c 36	N77-25501 *	US-PATENT-CLASS-350-295	c 44	N80-14473 *	US-PATENT-CLASS-350-96.16	c 74	N83-29032 *
US-PATENT-CLASS-350-138	c 23	N72-27728 *	US-PATENT-CLASS-350-296	c 44	N79-24432 *	US-PATENT-CLASS-350-96.21	c 74	N89-25689 *
US-PATENT-CLASS-350-145	c 74	N77-20882 *	US-PATENT-CLASS-350-296	c 44	N80-14473 *	US-PATENT-CLASS-350-96.25	c 33	N81-29342 *
US-PATENT-CLASS-350-147	c 14	N72-27409 *	US-PATENT-CLASS-350-299	c 74	N74-21304 *	US-PATENT-CLASS-350-96.25	c 74	N89-25689 *
US-PATENT-CLASS-350-150	c 26	N72-25680 *	US-PATENT-CLASS-350-299	c 44	N76-24696 *	US-PATENT-CLASS-350-96R	c 60	N77-14751 *
US-PATENT-CLASS-350-150	c 36	N76-18427 *	US-PATENT-CLASS-350-299	c 74	N77-28932 *	US-PATENT-CLASS-350-96R	c 60	N77-32731 *
US-PATENT-CLASS-350-151	c 36	N74-13205 *	US-PATENT-CLASS-350-299	c 44	N78-10554 *	US-PATENT-CLASS-350-96R	c 60	N78-10709 *
US-PATENT-CLASS-350-151	c 35	N78-29421 *	US-PATENT-CLASS-350-299	c 44	N78-31526 *	US-PATENT-CLASS-350-96WG	c 36	N75-31427 *
US-PATENT-CLASS-350-157	c 74	N79-14891 *	US-PATENT-CLASS-350-299	c 44	N79-11471 *	US-PATENT-CLASS-350-96WG	c 36	N76-18428 *
US-PATENT-CLASS-350-159	c 74	N78-17865 *	US-PATENT-CLASS-350-299	c 44	N79-24433 *	US-PATENT-CLASS-350-96WG	c 36	N76-24553 *
US-PATENT-CLASS-350-160R	c 14	N72-25410 *	US-PATENT-CLASS-350-299	c 36	N84-14509 *	US-PATENT-CLASS-350-96	c 07	N71-26291 *
US-PATENT-CLASS-350-160R	c 26	N72-25680 *	US-PATENT-CLASS-350-2	c 23	N71-30027 *	US-PATENT-CLASS-351-166	c 74	N78-32854 *
US-PATENT-CLASS-350-160	c 36	N76-18427 *	US-PATENT-CLASS-350-3.5	c 16	N71-15551 *	US-PATENT-CLASS-351-203	c 52	N89-16256 *
US-PATENT-CLASS-350-161	c 26	N72-27784 *	US-PATENT-CLASS-350-3.5	c 16	N71-15565 *	US-PATENT-CLASS-351-206	c 52	N87-24874 *
US-PATENT-CLASS-350-161	c 36	N75-31427 *	US-PATENT-CLASS-350-3.5	c 16	N71-15567 *	US-PATENT-CLASS-351-208	c 52	N87-24874 *
US-PATENT-CLASS-350-162.13	c 74	N89-14078 *	US-PATENT-CLASS-350-3.5	c 16	N71-26154 *	US-PATENT-CLASS-351-237	c 52	N89-16256 *
US-PATENT-CLASS-350-162R	c 74	N80-21140 *	US-PATENT-CLASS-350-3.5	c 16	N71-29131 *	US-PATENT-CLASS-351-23	c 05	N73-26072 *
US-PATENT-CLASS-350-162SF	c 23	N73-30666 *	US-PATENT-CLASS-350-3.5	c 14	N72-17324 *	US-PATENT-CLASS-351-23	c 52	N76-30793 *
US-PATENT-CLASS-350-162SF	c 74	N76-31998 *	US-PATENT-CLASS-350-3.5	c 16	N73-30476 *	US-PATENT-CLASS-351-30	c 05	N73-26072 *
US-PATENT-CLASS-350-162SF	c 74	N77-28932 *	US-PATENT-CLASS-350-3.5	c 35	N74-15146 *	US-PATENT-CLASS-351-30	c 52	N76-30793 *
US-PATENT-CLASS-350-162SF	c 36	N77-32478 *	US-PATENT-CLASS-350-3.5	c 35	N74-17153 *	US-PATENT-CLASS-351-36	c 05	N73-26072 *
US-PATENT-CLASS-350-162	c 14	N72-17323 *	US-PATENT-CLASS-350-3.5	c 35	N74-26946 *	US-PATENT-CLASS-351-36	c 52	N76-30793 *
US-PATENT-CLASS-350-163	c 36	N88-14350 *	US-PATENT-CLASS-350-3.5	c 35	N75-25124 *	US-PATENT-CLASS-351-38	c 54	N75-27759 *
US-PATENT-CLASS-350-165	c 27	N78-31233 *	US-PATENT-CLASS-350-3.5	c 35	N75-27328 *	US-PATENT-CLASS-352-169	c 14	N73-14427 *
US-PATENT-CLASS-350-166	c 44	N83-34448 *	US-PATENT-CLASS-350-3.5	c 35	N76-18402 *	US-PATENT-CLASS-352-171	c 35	N82-26628 *
US-PATENT-CLASS-350-168	c 74	N85-23396 *	US-PATENT-CLASS-350-3.5	c 35	N78-17357 *	US-PATENT-CLASS-352-84	c 16	N71-33410 *
US-PATENT-CLASS-350-16	c 14	N72-22444 *	US-PATENT-CLASS-350-3.5	c 38	N78-32447 *	US-PATENT-CLASS-352-84	c 14	N72-18411 *
US-PATENT-CLASS-350-170	c 73	N78-32848 *	US-PATENT-CLASS-350-3.73	c 36	N87-23960 *	US-PATENT-CLASS-353-54	c 34	N74-23066 *
US-PATENT-CLASS-350-170	c 74	N83-10900 *	US-PATENT-CLASS-350-3.81	c 36	N87-23960 *	US-PATENT-CLASS-353-61	c 34	N74-23066 *
US-PATENT-CLASS-350-171	c 23	N72-23695 *	US-PATENT-CLASS-350-301	c 74	N81-17886 *	US-PATENT-CLASS-354-118	c 74	N81-17886 *
US-PATENT-CLASS-350-171	c 74	N83-17305 *	US-PATENT-CLASS-350-310	c 11	N69-24321 *	US-PATENT-CLASS-354-217	c 35	N82-26628 *
US-PATENT-CLASS-350-172	c 74	N84-23248 *	US-PATENT-CLASS-350-310	c 23	N71-24868 *	US-PATENT-CLASS-354-234	c 33	N74-20861 *
US-PATENT-CLASS-350-173	c 73	N78-32848 *	US-PATENT-CLASS-350-310	c 23	N71-29123 *	US-PATENT-CLASS-354-234	c 70	N74-21300 *
US-PATENT-CLASS-350-173	c 74	N83-36898 *	US-PATENT-CLASS-350-310	c 23	N71-33229 *	US-PATENT-CLASS-354-289	c 35	N82-26628 *
US-PATENT-CLASS-350-173	c 74	N84-23248 *	US-PATENT-CLASS-350-310	c 23	N72-22673 *	US-PATENT-CLASS-354-479	c 74	N86-28732 *
US-PATENT-CLASS-350-174	c 74	N77-20882 *	US-PATENT-CLASS-350-310	c 74	N77-28933 *	US-PATENT-CLASS-354-62	c 52	N77-24874 *
US-PATENT-CLASS-350-174	c 73	N78-32848 *	US-PATENT-CLASS-350-311	c 74	N75-25706 *	US-PATENT-CLASS-354-77	c 74	N79-20856 *
US-PATENT-CLASS-350-174	c 36	N88-14350 *	US-PATENT-CLASS-350-312	c 16	N72-12440 *	US-PATENT-CLASS-355-18	c 14	N73-33361 *
US-PATENT-CLASS-350-175E	c 74	N80-27185 *	US-PATENT-CLASS-350-312	c 74	N85-29750 *	US-PATENT-CLASS-355-103	c 14	N71-28994 *
US-PATENT-CLASS-350-175FS	c 14	N72-25414 *	US-PATENT-CLASS-350-315	c 74	N86-29650 *	US-PATENT-CLASS-356-103	c 36	N75-15028 *
US-PATENT-CLASS-350-175NG	c 27	N78-31233 *	US-PATENT-CLASS-350-316	c 27	N83-36220 *	US-PATENT-CLASS-356-103	c 74	N78-13874 *
US-PATENT-CLASS-350-189	c 23	N71-24857 *	US-PATENT-CLASS-350-318	c 74	N86-29650 *	US-PATENT-CLASS-356-104	c 16	N71-24074 *
US-PATENT-CLASS-350-199	c 14	N73-30393 *	US-PATENT-CLASS-350-319	c 74	N85-29750 *	US-PATENT-CLASS-356-104	c 74	N78-13874 *
US-PATENT-CLASS-350-19	c 14	N72-22441 *	US-PATENT-CLASS-350-319	c 74	N86-20125 *	US-PATENT-CLASS-356-106LR	c 36	N75-19653 *
US-PATENT-CLASS-350-1	c 23	N69-24332 *	US-PATENT-CLASS-350-319	c 09	N87-14355 *	US-PATENT-CLASS-356-106R	c 72	N74-19310 *
US-PATENT-CLASS-350-1	c 07	N71-29065 *	US-PATENT-CLASS-350-320	c 74	N77-28933 *	US-PATENT-CLASS-356-106R	c 36	N76-14447 *
US-PATENT-CLASS-350-1	c 16	N72-12440 *	US-PATENT-CLASS-350-320	c 44	N77-32583 *	US-PATENT-CLASS-356-106R	c 35	N77-10493 *
US-PATENT-CLASS-350-1	c 24	N76-24363 *	US-PATENT-CLASS-350-320	c 73	N78-32848 *	US-PATENT-CLASS-356-106R	c 47	N77-10753 *
US-PATENT-CLASS-350-1	c 74	N78-15879 *	US-PATENT-CLASS-350-320	c 44	N79-14529 *	US-PATENT-CLASS-356-106S	c 23	N73-13661 *
US-PATENT-CLASS-350-202	c 23	N73-20741 *	US-PATENT-CLASS-350-320	c 74	N85-29749 *	US-PATENT-CLASS-356-106S	c 35	N76-31490 *
US-PATENT-CLASS-350-202	c 74	N77-28932 *	US-PATENT-CLASS-350-321	c 74	N85-29750 *	US-PATENT-CLASS-356-106S	c 35	N78-18391 *
US-PATENT-CLASS-350-203	c 14	N72-25409 *	US-PATENT-CLASS-350-331-R	c 74	N89-14078 *	US-PATENT-CLASS-356-106S	c 35	N74-23040 *
US-PATENT-CLASS-350-204	c 14	N73-30393 *	US-PATENT-CLASS-350-335	c 74	N86-21348 *	US-PATENT-CLASS-356-106	c 14	N71-17627 *
US-PATENT-CLASS-350-204	c 74	N78-17866 *	US-PATENT-CLASS-350-337	c 74	N89-14078 *	US-PATENT-CLASS-356-106	c 14	N71-17655 *
US-PATENT-CLASS-350-211	c 44	N76-14602 *	US-PATENT-CLASS-350-342	c 76	N85-33826 *	US-PATENT-CLASS-356-106	c 14	N71-27215 *
US-PATENT-CLASS-350-213	c 14	N71-15622 *	US-PATENT-CLASS-350-342	c 74	N89-14078 *	US-PATENT-CLASS-356-106	c 14	N73-12446 *
US-PATENT-CLASS-350-226	c 74	N80-27185 *	US-PATENT-CLASS-350-353	c 74	N83-19597 *	US-PATENT-CLASS-356-106	c 35	N74-15146 *
US-PATENT-CLASS-350-236	c 74	N74-15095 *	US-PATENT-CLASS-350-354	c 32	N86-20647 *	US-PATENT-CLASS-356-107	c 16	N71-24170 *
US-PATENT-CLASS-350-23	c 14	N72-22441 *	US-PATENT-CLASS-350-354	c 74	N89-14077 *	US-PATENT-CLASS-356-108	c 26	N73-26751 *
US-PATENT-CLASS-350-253	c 35	N77-27366 *	US-PATENT-CLASS-350-358	c 36	N82-29589 *	US-PATENT-CLASS-356-108	c 16	N73-30476 *
US-PATENT-CLASS-350-25	c 74	N80-21138 *	US-PATENT-CLASS-350-359	c 36	N80-16321 *	US-PATENT-CLASS-356-109	c 16	N73-30476 *
US-PATENT-CLASS-350-269	c 33	N74-20861 *	US-PATENT-CLASS-350-35	c 14	N72-22441 *	US-PATENT-CLASS-356-110	c 14	N73-25463 *
US-PATENT-CLASS-350-26	c 14	N72-22441 *	US-PATENT-CLASS-350-36	c 14	N72-22441 *	US-PATENT-CLASS-356-110	c 35	N78-18391 *
US-PATENT-CLASS-350-270	c 70	N74-21300 *	US-PATENT-CLASS-350-370	c 35	N81-33448 *	US-PATENT-CLASS-356-112	c 72	N74-19310 *
US-PATENT-CLASS-350-275	c 09	N71-19479 *	US-PATENT-CLASS-350-443	c 74	N84-23248 *	US-PATENT-CLASS-356-113	c 14	N72-17323 *
US-PATENT-CLASS-350-276-R	c 74	N86-20125 *	US-PATENT-CLASS-350-445	c 74	N83-36898 *	US-PATENT-CLASS-356-113	c 35	N74-23040 *
US-PATENT-CLASS-350-276R	c 74	N86-28732 *	US-PATENT-CLASS-350-448	c 74	N86-20125 *	US-PATENT-CLASS-356-114	c 14	N73-12446 *
US-PATENT-CLASS-350-285	c 14	N71-15605 *	US-PATENT-CLASS-350-453	c 36	N82-32712 *	US-PATENT-CLASS-356-114	c 35	N76-31490 *
US-PATENT-CLASS-350-285	c 14	N71-17662 *	US-PATENT-CLASS-350-486	c 74	N83-13978 *	US-PATENT-CLASS-356-117	c 23	N71-16101 *
US-PATENT-CLASS-350-285	c 19	N71-26674 *	US-PATENT-CLASS-350-49	c 14	N72-22441 *	US-PATENT-CLASS-356-120	c 74	N78-27904 *
US-PATENT-CLASS-350-285	c 15	N72-11386 *	US-PATENT-CLASS-350-505	c 74	N85-23396 *	US-PATENT-CLASS-356-123	c 74	N76-19935 *
US-PATENT-CLASS-350-285	c 16	N73-33397 *	US-PATENT-CLASS-350-505	c 74	N86-28732 *	US-PATENT-CLASS-356-124	c 74	N79-11865 *
US-PATENT-CLASS-350-285	c 74	N74-15095 *	US-PATENT-CLASS-350-52	c 14	N72-22441 *	US-PATENT-CLASS-356-128	c 76	N87-25862 *
US-PATENT-CLASS-350-285	c 74	N80-21138 *	US-PATENT-CLASS-350-52	c 14	N72-22444 *	US-PATENT-CLASS-356-129	c 74	N79-20856 *
US-PATENT-CLASS-350-286	c 07	N71-29065 *	US-PATENT-CLASS-350-537	c 74	N86-20125 *	US-PATENT-CLASS-356-129	c 76	N87-25862 *
US-PATENT-CLASS-350-286	c 73	N78-32848 *	US-PATENT-CLASS-350-55	c 23	N71-33229 *	US-PATENT-CLASS-356-138	c 14	N72-20379 *
US-PATENT-CLASS-350-286	c 74	N83-10900 *	US-PATENT-CLASS-350-55	c 14	N73-30393 *	US-PATENT-CLASS-356-138	c 16	N73-33397 *
US-PATENT-CLASS-350-287	c 15	N72-11386 *	US-PATENT-CLASS-350-55	c 23	N73-30666 *	US-PATENT-CLASS-356-141	c 14	N72-27409 *
US-PATENT-CLASS-350-287	c 74	N83-13978 *	US-PATENT-CLASS-350-55	c 89	N79-10969 *	US-PATENT-CLASS-356-141	c 14	N73-28490 *
US-PATENT-CLASS-350-288	c 23	N71-29123 *	US-PATENT-CLASS-350-55	c 74	N80-33210 *	US-PATENT-CLASS-356-141	c 36	N74-21091 *
US-PATENT-CLASS-350-288	c 12	N76-15189 *	US-PATENT-CLASS-350-572	c 36	N88-14350 *	US-PATENT-CLASS-356-141	c 89	N74-30886 *
US-PATENT-CLASS-350-288	c 74	N77-28933 *	US-PATENT-CLASS-350-573	c 36	N88-14350 *	US-PATENT-CLASS-356-141	c 74	N77-22951 *
US-PATENT-CLASS-350-288	c 44	N79-11471 *	US-PATENT-CLASS-350-580	c 74	N86-20125 *	US-PATENT-CLASS-356-147	c 89	N74-30886 *
US-PATENT-CLASS-350-288	c 44	N79-24433 *	US-PATENT-CLASS-350-58	c 14	N71-15604 *	US-PATENT-CLASS-356-148	c 16	N73-33397 *
US-PATENT-CLASS-350-292	c 35	N75-12273 *	US-PATENT-CLASS-350-6.5	c 32	N80-24510 *	US-PATENT-CLASS-356-150	c 15	N71-28740 *
US-PATENT-CLASS-350-292	c 44	N79-14529 *	US-PATENT-CLASS-350-6.5	c 74	N87-21679 *	US-PATENT-CLASS-356-150	c 74	N80-21138 *
US-PATENT-CLASS-350-292	c 44	N79-24432 *	US-PATENT-CLASS-350-6.6	c 32	N80-24510 *	US-PATENT-CLASS-356-152	c 15	N71-28740 *
US-PATENT-CLASS-350-293	c 16	N73-16536 *	US-PATENT-CLASS-350-619	c 74	N85-23396 *	US-PATENT-CLASS-356-152	c 16	N72-13437 *
US-PATENT-CLASS-350-293	c 12	N76-15189 *	US-PATENT-CLASS-350-6	c 14	N69-27461 *	US-PATENT-CLASS-356-152	c 14	N72-20379 *
US-PATENT-CLASS-350-293	c 44	N76-24696 *	US-PATENT-CLASS-350-6	c 36	N74-15145 *	US-PATENT-CLASS-356-152	c 14	N72-27409 *
US-PATENT-CLASS-350-293	c 44	N78-10554 *	US-PATENT-CLASS-350-79	c 14	N72-32452 *	US-PATENT-CLASS-356-152	c 14	N73-25462 *
US-PATENT-CLASS-350-293	c 44	N79-14529 *	US-PATENT-CLASS-350-79	c 74	N74-15095 *	US-PATENT-CLASS-356-152	c 36	N74-15145 *
US-PATENT-CLASS-350-294	c 89	N79-10969 *	US-PATENT-CLASS-350-86	c 14	N72-22445 *	US-PATENT-CLASS-356-152	c 36	N74-21091 *
US-PATENT-CLASS-350-294	c 44	N79-24432 *	US-PATENT-CLASS-350-96.10	c 74	N84-11921 *	US-PATENT-CLASS-356-152	c 36	N74-21091 *



US-PATENT-CLASS-356-152	c 74	N74-21304 *	US-PATENT-CLASS-356-301	c 35	N87-14669 *	US-PATENT-CLASS-356-87	c 75	N74-30156 *
US-PATENT-CLASS-356-152	c 74	N77-22951 *	US-PATENT-CLASS-356-311	c 35	N86-25753 *	US-PATENT-CLASS-356-96	c 35	N75-19613 *
US-PATENT-CLASS-356-152	c 74	N80-21138 *	US-PATENT-CLASS-356-318	c 35	N86-25753 *	US-PATENT-CLASS-356-97	c 35	N77-14411 *
US-PATENT-CLASS-356-152	c 37	N81-27519 *	US-PATENT-CLASS-356-323	c 74	N85-23396 *	US-PATENT-CLASS-357-12	c 33	N85-21492 *
US-PATENT-CLASS-356-153	c 15	N71-28740 *	US-PATENT-CLASS-356-328	c 35	N80-26635 *	US-PATENT-CLASS-357-15	c 44	N78-13526 *
US-PATENT-CLASS-356-153	c 23	N71-29125 *	US-PATENT-CLASS-356-332	c 14	N72-11364 *	US-PATENT-CLASS-357-15	c 44	N79-11467 *
US-PATENT-CLASS-356-153	c 16	N73-33397 *	US-PATENT-CLASS-356-332	c 32	N73-20740 *	US-PATENT-CLASS-357-15	c 44	N81-29525 *
US-PATENT-CLASS-356-153	c 18	N76-14186 *	US-PATENT-CLASS-356-332	c 39	N81-25400 *	US-PATENT-CLASS-357-15	c 76	N86-20150 *
US-PATENT-CLASS-356-154	c 15	N71-26673 *	US-PATENT-CLASS-356-330	c 74	N85-23396 *	US-PATENT-CLASS-357-16	c 44	N78-13526 *
US-PATENT-CLASS-356-159	c 36	N78-14380 *	US-PATENT-CLASS-356-331	c 74	N85-23396 *	US-PATENT-CLASS-357-16	c 44	N79-11467 *
US-PATENT-CLASS-356-160	c 36	N78-14380 *	US-PATENT-CLASS-356-334	c 74	N80-21140 *	US-PATENT-CLASS-357-17	c 36	N85-30305 *
US-PATENT-CLASS-356-161	c 26	N73-26751 *	US-PATENT-CLASS-356-345	c 74	N81-17888 *	US-PATENT-CLASS-357-22	c 33	N79-11314 *
US-PATENT-CLASS-356-162	c 66	N76-19888 *	US-PATENT-CLASS-356-345	c 74	N81-29963 *	US-PATENT-CLASS-357-22	c 33	N79-12321 *
US-PATENT-CLASS-356-165	c 38	N78-17396 *	US-PATENT-CLASS-356-345	c 36	N84-14509 *	US-PATENT-CLASS-357-23.12	c 76	N87-13313 *
US-PATENT-CLASS-356-166	c 14	N71-23175 *	US-PATENT-CLASS-356-345	c 74	N86-21348 *	US-PATENT-CLASS-357-23.1	c 76	N87-13313 *
US-PATENT-CLASS-356-167	c 14	N72-11364 *	US-PATENT-CLASS-356-346	c 35	N80-20563 *	US-PATENT-CLASS-357-23.6	c 33	N86-19516 *
US-PATENT-CLASS-356-167	c 66	N76-19888 *	US-PATENT-CLASS-356-346	c 74	N81-29963 *	US-PATENT-CLASS-357-231	c 33	N88-14271 *
US-PATENT-CLASS-356-167	c 74	N78-27904 *	US-PATENT-CLASS-356-347	c 35	N84-22929 *	US-PATENT-CLASS-357-23	c 76	N75-25730 *
US-PATENT-CLASS-356-169	c 60	N78-10709 *	US-PATENT-CLASS-356-347	c 35	N89-26202 *	US-PATENT-CLASS-357-23	c 33	N79-12321 *
US-PATENT-CLASS-356-171	c 74	N77-22950 *	US-PATENT-CLASS-356-349	c 36	N82-16396 *	US-PATENT-CLASS-357-23	c 33	N81-26360 *
US-PATENT-CLASS-356-172	c 16	N73-33397 *	US-PATENT-CLASS-356-350	c 35	N81-33448 *	US-PATENT-CLASS-357-24	c 33	N75-31331 *
US-PATENT-CLASS-356-172	c 36	N74-21091 *	US-PATENT-CLASS-356-350	c 74	N87-32359 *	US-PATENT-CLASS-357-24	c 33	N88-14271 *
US-PATENT-CLASS-356-172	c 74	N77-22951 *	US-PATENT-CLASS-356-351	c 35	N81-33448 *	US-PATENT-CLASS-357-29	c 76	N75-25730 *
US-PATENT-CLASS-356-17	c 14	N72-21409 *	US-PATENT-CLASS-356-351	c 35	N85-30282 *	US-PATENT-CLASS-357-29	c 35	N84-33765 *
US-PATENT-CLASS-356-180	c 35	N74-27860 *	US-PATENT-CLASS-356-352	c 74	N81-17888 *	US-PATENT-CLASS-357-29	c 76	N87-13313 *
US-PATENT-CLASS-356-186	c 35	N75-19613 *	US-PATENT-CLASS-356-353	c 74	N83-32577 *	US-PATENT-CLASS-357-30	c 44	N76-28635 *
US-PATENT-CLASS-356-188	c 35	N84-33766 *	US-PATENT-CLASS-356-356	c 36	N81-24422 *	US-PATENT-CLASS-357-30	c 44	N78-13526 *
US-PATENT-CLASS-356-189	c 35	N75-19613 *	US-PATENT-CLASS-356-357	c 74	N83-21949 *	US-PATENT-CLASS-357-30	c 44	N78-24609 *
US-PATENT-CLASS-356-189	c 35	N84-33766 *	US-PATENT-CLASS-356-358	c 74	N81-17888 *	US-PATENT-CLASS-357-30	c 44	N78-25527 *
US-PATENT-CLASS-356-18	c 14	N72-21409 *	US-PATENT-CLASS-356-358	c 36	N81-24422 *	US-PATENT-CLASS-357-30	c 44	N79-11467 *
US-PATENT-CLASS-356-197	c 37	N74-18123 *	US-PATENT-CLASS-356-358	c 35	N85-30282 *	US-PATENT-CLASS-357-30	c 44	N79-14528 *
US-PATENT-CLASS-356-199	c 36	N78-14380 *	US-PATENT-CLASS-356-361	c 35	N89-26202 *	US-PATENT-CLASS-357-30	c 44	N79-31752 *
US-PATENT-CLASS-356-1	c 36	N83-34304 *	US-PATENT-CLASS-356-363	c 74	N83-32577 *	US-PATENT-CLASS-357-30	c 44	N80-29835 *
US-PATENT-CLASS-356-1	c 36	N88-24958 *	US-PATENT-CLASS-356-369	c 35	N80-28687 *	US-PATENT-CLASS-357-30	c 44	N81-19558 *
US-PATENT-CLASS-356-201	c 75	N74-30156 *	US-PATENT-CLASS-356-36	c 23	N71-16365 *	US-PATENT-CLASS-357-30	c 44	N81-29525 *
US-PATENT-CLASS-356-201	c 35	N77-14411 *	US-PATENT-CLASS-356-376	c 36	N88-24958 *	US-PATENT-CLASS-357-30	c 44	N82-26777 *
US-PATENT-CLASS-356-202	c 26	N73-26751 *	US-PATENT-CLASS-356-37	c 45	N76-21742 *	US-PATENT-CLASS-357-30	c 44	N82-29709 *
US-PATENT-CLASS-356-203	c 14	N71-26788 *	US-PATENT-CLASS-356-386	c 36	N82-16396 *	US-PATENT-CLASS-357-30	c 44	N82-31764 *
US-PATENT-CLASS-356-204	c 35	N77-14411 *	US-PATENT-CLASS-356-389	c 33	N87-14594 *	US-PATENT-CLASS-357-30	c 44	N83-13579 *
US-PATENT-CLASS-356-204	c 74	N78-17867 *	US-PATENT-CLASS-356-394	c 33	N83-18996 *	US-PATENT-CLASS-357-30	c 44	N83-32177 *
US-PATENT-CLASS-356-207	c 45	N76-17656 *	US-PATENT-CLASS-356-4	c 74	N86-21348 *	US-PATENT-CLASS-357-30	c 35	N84-33765 *
US-PATENT-CLASS-356-208	c 74	N78-33913 *	US-PATENT-CLASS-356-4.5	c 74	N86-32266 *	US-PATENT-CLASS-357-30	c 33	N85-21492 *
US-PATENT-CLASS-356-209	c 23	N71-16341 *	US-PATENT-CLASS-356-402	c 74	N86-29650 *	US-PATENT-CLASS-357-30	c 44	N85-21768 *
US-PATENT-CLASS-356-209	c 14	N71-28993 *	US-PATENT-CLASS-356-404	c 35	N79-28527 *	US-PATENT-CLASS-357-30	c 44	N85-30475 *
US-PATENT-CLASS-356-209	c 14	N72-17323 *	US-PATENT-CLASS-356-406	c 52	N81-27783 *	US-PATENT-CLASS-357-30	c 33	N86-19516 *
US-PATENT-CLASS-356-209	c 35	N76-31490 *	US-PATENT-CLASS-356-407	c 43	N79-17288 *	US-PATENT-CLASS-357-30	c 76	N86-20150 *
US-PATENT-CLASS-356-210	c 74	N79-11865 *	US-PATENT-CLASS-356-407	c 52	N81-27783 *	US-PATENT-CLASS-357-30	c 44	N86-32875 *
US-PATENT-CLASS-356-212	c 35	N77-31465 *	US-PATENT-CLASS-356-409	c 36	N87-28006 *	US-PATENT-CLASS-357-30	c 76	N87-13313 *
US-PATENT-CLASS-356-213	c 39	N81-25400 *	US-PATENT-CLASS-356-416	c 43	N79-17288 *	US-PATENT-CLASS-357-30	c 33	N87-23879 *
US-PATENT-CLASS-356-216	c 74	N74-15095 *	US-PATENT-CLASS-356-416	c 52	N81-27783 *	US-PATENT-CLASS-357-30	c 33	N88-14271 *
US-PATENT-CLASS-356-216	c 35	N80-18359 *	US-PATENT-CLASS-356-419	c 74	N86-29650 *	US-PATENT-CLASS-357-30	c 33	N88-14271 *
US-PATENT-CLASS-356-216	c 39	N81-25400 *	US-PATENT-CLASS-356-432	c 74	N81-17887 *	US-PATENT-CLASS-357-30	c 76	N88-14836 *
US-PATENT-CLASS-356-216	c 35	N84-22931 *	US-PATENT-CLASS-356-432	c 25	N81-25159 *	US-PATENT-CLASS-357-32	c 35	N84-33765 *
US-PATENT-CLASS-356-222	c 03	N72-20033 *	US-PATENT-CLASS-356-434	c 35	N84-34705 *	US-PATENT-CLASS-357-35	c 33	N87-23879 *
US-PATENT-CLASS-356-222	c 47	N83-32232 *	US-PATENT-CLASS-356-437	c 25	N81-14015 *	US-PATENT-CLASS-357-40	c 36	N85-30305 *
US-PATENT-CLASS-356-234	c 39	N81-25400 *	US-PATENT-CLASS-356-43	c 74	N74-15095 *	US-PATENT-CLASS-357-41	c 33	N79-12321 *
US-PATENT-CLASS-356-234	c 35	N84-22931 *	US-PATENT-CLASS-356-43	c 75	N74-30156 *	US-PATENT-CLASS-357-42	c 76	N75-25730 *
US-PATENT-CLASS-356-236	c 74	N77-21941 *	US-PATENT-CLASS-356-43	c 36	N85-21639 *	US-PATENT-CLASS-357-45	c 33	N79-12321 *
US-PATENT-CLASS-356-236	c 74	N86-26190 *	US-PATENT-CLASS-356-446	c 74	N86-26190 *	US-PATENT-CLASS-357-45	c 44	N79-26475 *
US-PATENT-CLASS-356-237	c 74	N77-10899 *	US-PATENT-CLASS-356-45	c 36	N85-21639 *	US-PATENT-CLASS-357-46	c 36	N85-30305 *
US-PATENT-CLASS-356-237	c 38	N78-17395 *	US-PATENT-CLASS-356-4	c 14	N72-17326 *	US-PATENT-CLASS-357-4	c 33	N78-13320 *
US-PATENT-CLASS-356-237	c 38	N78-17396 *	US-PATENT-CLASS-356-4	c 07	N73-26119 *	US-PATENT-CLASS-357-4	c 76	N85-30922 *
US-PATENT-CLASS-356-237	c 35	N79-28527 *	US-PATENT-CLASS-356-4	c 36	N74-15145 *	US-PATENT-CLASS-357-50	c 76	N85-30922 *
US-PATENT-CLASS-356-239	c 74	N77-10899 *	US-PATENT-CLASS-356-4	c 35	N75-15014 *	US-PATENT-CLASS-357-52	c 76	N75-25730 *
US-PATENT-CLASS-356-241	c 14	N72-32452 *	US-PATENT-CLASS-356-4	c 36	N83-34304 *	US-PATENT-CLASS-357-52	c 44	N80-29835 *
US-PATENT-CLASS-356-243	c 36	N80-16321 *	US-PATENT-CLASS-356-4	c 36	N88-24958 *	US-PATENT-CLASS-357-52	c 76	N87-13313 *
US-PATENT-CLASS-356-244	c 14	N72-17323 *	US-PATENT-CLASS-356-51	c 06	N72-31141 *	US-PATENT-CLASS-357-54	c 76	N75-25730 *
US-PATENT-CLASS-356-244	c 35	N76-31490 *	US-PATENT-CLASS-356-51	c 35	N75-30502 *	US-PATENT-CLASS-357-55	c 33	N79-12321 *
US-PATENT-CLASS-356-244	c 35	N80-28687 *	US-PATENT-CLASS-356-51	c 35	N83-21311 *	US-PATENT-CLASS-357-55	c 33	N81-26360 *
US-PATENT-CLASS-356-244	c 74	N86-26190 *	US-PATENT-CLASS-356-51	c 35	N84-34705 *	US-PATENT-CLASS-357-56	c 33	N88-14271 *
US-PATENT-CLASS-356-246	c 35	N74-27860 *	US-PATENT-CLASS-356-51	c 36	N87-28006 *	US-PATENT-CLASS-357-58	c 33	N86-19516 *
US-PATENT-CLASS-356-246	c 74	N78-17867 *	US-PATENT-CLASS-356-5	c 07	N73-26119 *	US-PATENT-CLASS-357-59	c 44	N76-28635 *
US-PATENT-CLASS-356-246	c 74	N87-14971 *	US-PATENT-CLASS-356-5	c 36	N74-15145 *	US-PATENT-CLASS-357-59	c 44	N78-24609 *
US-PATENT-CLASS-356-248	c 14	N72-22444 *	US-PATENT-CLASS-356-5	c 36	N75-15028 *	US-PATENT-CLASS-357-59	c 44	N81-19558 *
US-PATENT-CLASS-356-256	c 36	N87-28006 *	US-PATENT-CLASS-356-5	c 32	N82-23376 *	US-PATENT-CLASS-357-59	c 33	N86-19516 *
US-PATENT-CLASS-356-28.5	c 32	N80-24510 *	US-PATENT-CLASS-356-5	c 74	N85-34629 *	US-PATENT-CLASS-357-5	c 33	N75-31332 *
US-PATENT-CLASS-356-28.5	c 36	N81-24422 *	US-PATENT-CLASS-356-5	c 74	N86-32266 *	US-PATENT-CLASS-357-5	c 33	N78-13320 *
US-PATENT-CLASS-356-28.5	c 36	N82-32712 *	US-PATENT-CLASS-356-5	c 32	N87-14559 *	US-PATENT-CLASS-357-60	c 33	N81-26360 *
US-PATENT-CLASS-356-28.5	c 35	N86-32697 *	US-PATENT-CLASS-356-71	c 66	N76-19888 *	US-PATENT-CLASS-357-61	c 33	N88-14271 *
US-PATENT-CLASS-356-28.5	c 35	N87-14669 *	US-PATENT-CLASS-356-72	c 14	N71-23268 *	US-PATENT-CLASS-357-63	c 33	N76-31409 *
US-PATENT-CLASS-356-28.5	c 36	N87-17026 *	US-PATENT-CLASS-356-72	c 33	N73-27796 *	US-PATENT-CLASS-357-63	c 44	N81-19558 *
US-PATENT-CLASS-356-28.5	c 36	N88-14350 *	US-PATENT-CLASS-356-72	c 38	N78-32447 *	US-PATENT-CLASS-357-63	c 44	N82-26777 *
US-PATENT-CLASS-356-28.5	c 33	N89-14384 *	US-PATENT-CLASS-356-72	c 74	N80-33210 *	US-PATENT-CLASS-357-65	c 44	N78-25527 *
US-PATENT-CLASS-356-28.5	c 33	N89-14385 *	US-PATENT-CLASS-356-72	c 35	N86-32697 *	US-PATENT-CLASS-357-65	c 44	N79-11467 *
US-PATENT-CLASS-356-28	c 21	N71-19212 *	US-PATENT-CLASS-356-73	c 75	N74-30156 *	US-PATENT-CLASS-357-65	c 44	N79-31752 *
US-PATENT-CLASS-356-28	c 16	N71-24828 *	US-PATENT-CLASS-356-73	c 38	N78-32447 *	US-PATENT-CLASS-357-65	c 33	N88-14271 *
US-PATENT-CLASS-356-28	c 72	N74-19310 *	US-PATENT-CLASS-356-73	c 35	N84-33766 *	US-PATENT-CLASS-357-67	c 44	N78-25527 *
US-PATENT-CLASS-356-28	c 36	N75-15028 *	US-PATENT-CLASS-356-73	c 09	N86-32447 *	US-PATENT-CLASS-357-67	c 44	N79-11467 *
US-PATENT-CLASS-356-28	c 35	N75-16783 *	US-PATENT-CLASS-356-73	c 35	N86-32697 *	US-PATENT-CLASS-357-67	c 44	N79-31752 *
US-PATENT-CLASS-356-28	c 36	N76-14447 *	US-PATENT-CLASS-356-74	c 30	N71-15990 *	US-PATENT-CLASS-357-72	c 33	N88-23941 *
US-PATENT-CLASS-356-28	c 36	N77-25501 *	US-PATENT-CLASS-356-74	c 35	N84-33766 *	US-PATENT-CLASS-357-73	c 33	N78-13320 *
US-PATENT-CLASS-356-28	c 74	N78-17866 *	US-PATENT-CLASS-356-76	c 23	N71-26206 *	US-PATENT-CLASS-357-74	c 37	N79-28549 *
US-PATENT-CLASS-356-28	c 35	N79-18296 *	US-PATENT-CLASS-356-76	c 14	N71-29041 *	US-PATENT-CLASS-357-74	c 33	N88-23941 *
US-PATENT-CLASS-356-28	c 36	N80-16321 *	US-PATENT-CLASS-356-83	c 35	N75-19613 *	US-PATENT-CLASS-357-79	c 37	N79-28549 *
US-PATENT-CLASS-356-28	c 36	N87-17026 *	US-PATENT-CLASS-356-85	c 37	N74-18123 *	US-PATENT-CLASS-357-7	c 33	N75-31331 *
US-PATENT-CLASS-356-300	c 43	N79-17288 *	US-PATENT-CLASS-356-85	c 75	N74-30156 *	US-PATENT-CLASS-357-81	c 37	N79-28549 *



US-PATENT-CLASS-357-81	c 33	N88-23941 *	US-PATENT-CLASS-363-49	c 33	N84-33663 *	US-PATENT-CLASS-366-114	c 71	N83-35781 *
US-PATENT-CLASS-357-82	c 37	N79-28549 *	US-PATENT-CLASS-363-53	c 33	N77-30365 *	US-PATENT-CLASS-367-100	c 32	N82-18443 *
US-PATENT-CLASS-357-83	c 37	N79-28549 *	US-PATENT-CLASS-363-54	c 33	N83-34190 *	US-PATENT-CLASS-367-102	c 32	N82-18443 *
US-PATENT-CLASS-357-91	c 76	N75-25730 *	US-PATENT-CLASS-363-56	c 33	N79-24254 *	US-PATENT-CLASS-367-181	c 33	N82-26572 *
US-PATENT-CLASS-357-91	c 33	N78-27326 *	US-PATENT-CLASS-363-56	c 33	N81-14220 *	US-PATENT-CLASS-367-189	c 35	N84-22933 *
US-PATENT-CLASS-357-91	c 44	N80-29835 *	US-PATENT-CLASS-363-56	c 33	N81-33404 *	US-PATENT-CLASS-367-191	c 71	N88-24241 *
US-PATENT-CLASS-357-91	c 33	N81-26360 *	US-PATENT-CLASS-363-57	c 33	N78-10377 *	US-PATENT-CLASS-367-26	c 39	N80-10507 *
US-PATENT-CLASS-357-91	c 44	N86-32875 *	US-PATENT-CLASS-363-60	c 33	N78-32341 *	US-PATENT-CLASS-367-27	c 31	N80-32584 *
US-PATENT-CLASS-358-101	c 37	N86-21850 *	US-PATENT-CLASS-363-60	c 44	N81-12542 *	US-PATENT-CLASS-367-36	c 31	N80-32584 *
US-PATENT-CLASS-358-104	c 09	N78-18083 *	US-PATENT-CLASS-363-61	c 33	N82-18494 *	US-PATENT-CLASS-367-57	c 31	N80-32584 *
US-PATENT-CLASS-358-104	c 74	N79-13855 *	US-PATENT-CLASS-363-61	c 33	N85-29147 *	US-PATENT-CLASS-367-88	c 32	N82-18443 *
US-PATENT-CLASS-358-104	c 36	N83-34304 *	US-PATENT-CLASS-363-65	c 33	N84-16453 *	US-PATENT-CLASS-367-88	c 32	N83-31918 *
US-PATENT-CLASS-358-105	c 39	N83-20280 *	US-PATENT-CLASS-363-67	c 33	N84-16453 *	US-PATENT-CLASS-367-88	c 43	N86-19711 *
US-PATENT-CLASS-358-105	c 74	N86-21348 *	US-PATENT-CLASS-363-70	c 33	N77-30365 *	US-PATENT-CLASS-367-908	c 35	N89-14407 *
US-PATENT-CLASS-358-105	c 17	N87-25348 *	US-PATENT-CLASS-363-71	c 33	N79-24254 *	US-PATENT-CLASS-367-95	c 32	N82-23376 *
US-PATENT-CLASS-358-106	c 39	N78-16387 *	US-PATENT-CLASS-363-71	c 33	N79-24257 *	US-PATENT-CLASS-367-99	c 32	N87-14559 *
US-PATENT-CLASS-358-107	c 35	N79-18296 *	US-PATENT-CLASS-363-71	c 33	N81-14220 *	US-PATENT-CLASS-368-184	c 33	N83-36357 *
US-PATENT-CLASS-358-107	c 36	N88-24958 *	US-PATENT-CLASS-363-71	c 33	N84-16453 *	US-PATENT-CLASS-368-200	c 33	N83-36357 *
US-PATENT-CLASS-358-109	c 32	N79-20297 *	US-PATENT-CLASS-363-71	c 33	N85-29147 *	US-PATENT-CLASS-368-201	c 33	N83-36357 *
US-PATENT-CLASS-358-109	c 33	N81-33403 *	US-PATENT-CLASS-363-78	c 33	N81-14220 *	US-PATENT-CLASS-368-47	c 33	N81-14221 *
US-PATENT-CLASS-358-109	c 43	N82-13465 *	US-PATENT-CLASS-363-87	c 33	N83-10345 *	US-PATENT-CLASS-37N	c 27	N81-15104 *
US-PATENT-CLASS-358-109	c 36	N83-34304 *	US-PATENT-CLASS-363-89	c 33	N78-10377 *	US-PATENT-CLASS-370-100	c 60	N82-16747 *
US-PATENT-CLASS-358-109	c 32	N85-29117 *	US-PATENT-CLASS-363-95	c 33	N79-24257 *	US-PATENT-CLASS-370-58	c 60	N81-27814 *
US-PATENT-CLASS-358-111	c 52	N79-10724 *	US-PATENT-CLASS-363-97	c 33	N79-24254 *	US-PATENT-CLASS-370-67	c 33	N82-29538 *
US-PATENT-CLASS-358-125	c 74	N84-23247 *	US-PATENT-CLASS-363-97	c 09	N88-28939 *	US-PATENT-CLASS-370-85	c 33	N81-14221 *
US-PATENT-CLASS-358-125	c 74	N86-21348 *	US-PATENT-CLASS-364-106	c 07	N81-19115 *	US-PATENT-CLASS-371-20	c 33	N81-26359 *
US-PATENT-CLASS-358-133	c 32	N77-24328 *	US-PATENT-CLASS-364-120	c 52	N79-12694 *	US-PATENT-CLASS-371-25	c 33	N81-26359 *
US-PATENT-CLASS-358-133	c 32	N85-29117 *	US-PATENT-CLASS-364-131	c 60	N89-26400 *	US-PATENT-CLASS-371-37	c 60	N87-21591 *
US-PATENT-CLASS-358-133	c 17	N87-25348 *	US-PATENT-CLASS-364-200	c 62	N81-24779 *	US-PATENT-CLASS-371-40	c 60	N87-21591 *
US-PATENT-CLASS-358-138	c 32	N77-24328 *	US-PATENT-CLASS-364-200	c 60	N81-27814 *	US-PATENT-CLASS-371-43	c 33	N87-25531 *
US-PATENT-CLASS-358-138	c 17	N87-25348 *	US-PATENT-CLASS-364-200	c 60	N83-25378 *	US-PATENT-CLASS-371-63	c 17	N87-16863 *
US-PATENT-CLASS-358-142	c 74	N78-14889 *	US-PATENT-CLASS-364-200	c 60	N83-32342 *	US-PATENT-CLASS-371-68	c 60	N82-29013 *
US-PATENT-CLASS-358-161	c 32	N85-21427 *	US-PATENT-CLASS-364-200	c 32	N85-21428 *	US-PATENT-CLASS-371-6	c 32	N83-13233 *
US-PATENT-CLASS-358-168	c 32	N86-20647 *	US-PATENT-CLASS-364-200	c 60	N85-21992 *	US-PATENT-CLASS-372-100	c 36	N84-14509 *
US-PATENT-CLASS-358-174	c 32	N85-21427 *	US-PATENT-CLASS-364-200	c 60	N88-29310 *	US-PATENT-CLASS-372-103	c 36	N84-28065 *
US-PATENT-CLASS-358-213	c 33	N81-33403 *	US-PATENT-CLASS-364-300	c 52	N79-12694 *	US-PATENT-CLASS-372-103	c 36	N87-23960 *
US-PATENT-CLASS-358-213	c 33	N82-24416 *	US-PATENT-CLASS-364-400	c 33	N85-29142 *	US-PATENT-CLASS-372-108	c 36	N84-14509 *
US-PATENT-CLASS-358-213	c 74	N84-23247 *	US-PATENT-CLASS-364-413	c 39	N83-20280 *	US-PATENT-CLASS-372-18	c 36	N87-23960 *
US-PATENT-CLASS-358-217	c 32	N85-21427 *	US-PATENT-CLASS-364-415	c 52	N79-12694 *	US-PATENT-CLASS-372-20	c 36	N84-22943 *
US-PATENT-CLASS-358-219	c 32	N85-21427 *	US-PATENT-CLASS-364-415	c 35	N84-12445 *	US-PATENT-CLASS-372-20	c 36	N87-25567 *
US-PATENT-CLASS-358-222	c 74	N86-28732 *	US-PATENT-CLASS-364-417	c 52	N79-10724 *	US-PATENT-CLASS-372-25	c 33	N83-34189 *
US-PATENT-CLASS-358-225	c 74	N78-17865 *	US-PATENT-CLASS-364-431	c 07	N81-19115 *	US-PATENT-CLASS-372-28	c 36	N84-22943 *
US-PATENT-CLASS-358-236	c 32	N75-21485 *	US-PATENT-CLASS-364-433	c 06	N86-27280 *	US-PATENT-CLASS-372-32	c 36	N84-22943 *
US-PATENT-CLASS-358-41	c 74	N78-17865 *	US-PATENT-CLASS-364-434	c 08	N79-23097 *	US-PATENT-CLASS-372-32	c 33	N85-34333 *
US-PATENT-CLASS-358-44	c 74	N77-18893 *	US-PATENT-CLASS-364-434	c 08	N81-24106 *	US-PATENT-CLASS-372-38	c 36	N85-30305 *
US-PATENT-CLASS-358-55	c 74	N78-17865 *	US-PATENT-CLASS-364-435	c 06	N86-27280 *	US-PATENT-CLASS-372-43	c 36	N87-23960 *
US-PATENT-CLASS-358-81	c 32	N79-20297 *	US-PATENT-CLASS-364-452	c 04	N84-27713 *	US-PATENT-CLASS-372-46	c 36	N85-30305 *
US-PATENT-CLASS-358-88	c 74	N86-21348 *	US-PATENT-CLASS-364-453	c 18	N81-29152 *	US-PATENT-CLASS-372-4	c 36	N84-28065 *
US-PATENT-CLASS-358-88	c 32	N89-28676 *	US-PATENT-CLASS-364-453	c 33	N85-29142 *	US-PATENT-CLASS-372-4	c 36	N87-25567 *
US-PATENT-CLASS-358-91	c 32	N89-28676 *	US-PATENT-CLASS-364-458	c 32	N79-14267 *	US-PATENT-CLASS-372-50	c 36	N85-30305 *
US-PATENT-CLASS-358-92	c 32	N89-28676 *	US-PATENT-CLASS-364-484	c 33	N89-14385 *	US-PATENT-CLASS-372-55	c 36	N84-16542 *
US-PATENT-CLASS-358-96	c 52	N79-10724 *	US-PATENT-CLASS-364-500	c 25	N88-29002 *	US-PATENT-CLASS-372-56	c 36	N82-28616 *
US-PATENT-CLASS-36-119	c 54	N78-17675 *	US-PATENT-CLASS-364-510	c 34	N81-26402 *	US-PATENT-CLASS-372-56	c 36	N83-10417 *
US-PATENT-CLASS-36-92	c 54	N78-17675 *	US-PATENT-CLASS-364-514	c 33	N81-33405 *	US-PATENT-CLASS-372-58	c 36	N82-28616 *
US-PATENT-CLASS-360-101	c 35	N76-16391 *	US-PATENT-CLASS-364-522	c 39	N83-20280 *	US-PATENT-CLASS-372-59	c 36	N83-10417 *
US-PATENT-CLASS-360-10	c 35	N76-16391 *	US-PATENT-CLASS-364-556	c 36	N85-29264 *	US-PATENT-CLASS-372-60	c 36	N83-10417 *
US-PATENT-CLASS-360-25	c 35	N77-17426 *	US-PATENT-CLASS-364-557	c 35	N84-14491 *	US-PATENT-CLASS-372-61	c 74	N87-14971 *
US-PATENT-CLASS-360-26	c 33	N76-18353 *	US-PATENT-CLASS-364-557	c 25	N88-29002 *	US-PATENT-CLASS-372-68	c 36	N87-23961 *
US-PATENT-CLASS-360-31	c 35	N77-17426 *	US-PATENT-CLASS-364-558	c 35	N84-14491 *	US-PATENT-CLASS-372-69	c 36	N87-25567 *
US-PATENT-CLASS-360-35	c 35	N76-16391 *	US-PATENT-CLASS-364-558	c 07	N84-22559 *	US-PATENT-CLASS-372-71	c 36	N84-28065 *
US-PATENT-CLASS-360-51	c 33	N76-18353 *	US-PATENT-CLASS-364-559	c 39	N83-20280 *	US-PATENT-CLASS-372-74	c 35	N84-12444 *
US-PATENT-CLASS-360-9	c 35	N76-16391 *	US-PATENT-CLASS-364-560	c 43	N79-26439 *	US-PATENT-CLASS-372-79	c 36	N84-16542 *
US-PATENT-CLASS-361-100	c 33	N83-34190 *	US-PATENT-CLASS-364-561	c 36	N88-24958 *	US-PATENT-CLASS-372-79	c 36	N86-29204 *
US-PATENT-CLASS-361-141	c 33	N82-11357 *	US-PATENT-CLASS-364-566	c 18	N81-29152 *	US-PATENT-CLASS-372-81	c 36	N87-23961 *
US-PATENT-CLASS-361-170	c 33	N79-28415 *	US-PATENT-CLASS-364-571	c 34	N81-26402 *	US-PATENT-CLASS-372-82	c 36	N82-28616 *
US-PATENT-CLASS-361-218	c 03	N88-14083 *	US-PATENT-CLASS-364-571	c 35	N84-14491 *	US-PATENT-CLASS-372-93	c 36	N84-14509 *
US-PATENT-CLASS-361-222	c 03	N88-14083 *	US-PATENT-CLASS-364-571	c 33	N85-34333 *	US-PATENT-CLASS-372-93	c 36	N84-28065 *
US-PATENT-CLASS-361-226	c 28	N82-18401 *	US-PATENT-CLASS-364-571	c 25	N88-29002 *	US-PATENT-CLASS-372-94	c 36	N84-14509 *
US-PATENT-CLASS-361-230	c 28	N82-18401 *	US-PATENT-CLASS-364-578	c 33	N85-34333 *	US-PATENT-CLASS-372-95	c 36	N84-28065 *
US-PATENT-CLASS-361-283	c 33	N82-26572 *	US-PATENT-CLASS-364-604	c 32	N79-14267 *	US-PATENT-CLASS-372-98	c 36	N84-14509 *
US-PATENT-CLASS-361-334	c 35	N81-26431 *	US-PATENT-CLASS-364-713	c 32	N79-20297 *	US-PATENT-CLASS-372-99	c 36	N87-25567 *
US-PATENT-CLASS-361-395	c 32	N78-24391 *	US-PATENT-CLASS-364-717	c 32	N82-31583 *	US-PATENT-CLASS-373-10	c 35	N87-23944 *
US-PATENT-CLASS-361-56	c 33	N81-27397 *	US-PATENT-CLASS-364-723	c 60	N85-33701 *	US-PATENT-CLASS-373-15	c 35	N87-23944 *
US-PATENT-CLASS-361-91	c 33	N81-27397 *	US-PATENT-CLASS-364-724.01	c 33	N89-28713 *	US-PATENT-CLASS-374-115	c 35	N86-19580 *
US-PATENT-CLASS-362-11	c 74	N81-17886 *	US-PATENT-CLASS-364-724.05	c 33	N89-28713 *	US-PATENT-CLASS-374-117	c 52	N85-30618 *
US-PATENT-CLASS-362-241	c 74	N81-17886 *	US-PATENT-CLASS-364-728	c 32	N79-14267 *	US-PATENT-CLASS-374-120	c 35	N86-19580 *
US-PATENT-CLASS-362-269	c 17	N78-17140 *	US-PATENT-CLASS-364-728	c 60	N86-21154 *	US-PATENT-CLASS-374-122	c 06	N83-10040 *
US-PATENT-CLASS-363-100	c 33	N85-29147 *	US-PATENT-CLASS-364-728	c 60	N88-24169 *	US-PATENT-CLASS-374-122	c 43	N85-21723 *
US-PATENT-CLASS-363-101	c 33	N78-32341 *	US-PATENT-CLASS-364-735	c 33	N89-28713 *	US-PATENT-CLASS-374-122	c 32	N87-21206 *
US-PATENT-CLASS-363-101	c 33	N81-19392 *	US-PATENT-CLASS-364-754	c 33	N89-28713 *	US-PATENT-CLASS-374-123	c 06	N83-10040 *
US-PATENT-CLASS-363-132	c 33	N82-18494 *	US-PATENT-CLASS-364-757	c 60	N88-24169 *	US-PATENT-CLASS-374-137	c 36	N85-21639 *
US-PATENT-CLASS-363-134	c 33	N79-24257 *	US-PATENT-CLASS-364-822	c 32	N83-18975 *	US-PATENT-CLASS-374-160	c 52	N85-30618 *
US-PATENT-CLASS-363-147	c 44	N81-12542 *	US-PATENT-CLASS-364-822	c 74	N86-21348 *	US-PATENT-CLASS-374-162R	c 74	N82-30071 *
US-PATENT-CLASS-363-16	c 33	N78-32341 *	US-PATENT-CLASS-364-825	c 33	N82-24417 *	US-PATENT-CLASS-374-163	c 35	N86-19580 *
US-PATENT-CLASS-363-17	c 33	N82-18494 *	US-PATENT-CLASS-364-853	c 60	N85-33701 *	US-PATENT-CLASS-374-17	c 35	N83-29650 *
US-PATENT-CLASS-363-19	c 33	N85-29147 *	US-PATENT-CLASS-364-861	c 32	N83-18975 *	US-PATENT-CLASS-374-183	c 33	N86-32624 *
US-PATENT-CLASS-363-21	c 33	N81-19392 *	US-PATENT-CLASS-364-900	c 52	N79-12694 *	US-PATENT-CLASS-374-1	c 35	N84-28019 *
US-PATENT-CLASS-363-21	c 33	N81-19393 *	US-PATENT-CLASS-364-900	c 60	N79-20751 *	US-PATENT-CLASS-374-208	c 37	N85-21651 *
US-PATENT-CLASS-363-22	c 33	N84-33663 *	US-PATENT-CLASS-364-900	c 60	N81-27814 *	US-PATENT-CLASS-374-210	c 37	N85-21651 *
US-PATENT-CLASS-363-23	c 33	N85-29147 *	US-PATENT-CLASS-364-900	c 60	N83-32342 *	US-PATENT-CLASS-374-36	c 25	N88-29002 *
US-PATENT-CLASS-363-24	c 33	N81-33404 *	US-PATENT-CLASS-364-900	c 60	N84-28491 *	US-PATENT-CLASS-374-46	c 34	N83-34221 *
US-PATENT-CLASS-363-25	c 33	N84-16453 *	US-PATENT-CLASS-364-900	c 60	N84-28492 *	US-PATENT-CLASS-374-46	c 25	N86-19413 *
US-PATENT-CLASS-363-27	c 44	N81-12542 *	US-PATENT-CLASS-364-900	c 33	N89-14384 *	US-PATENT-CLASS-374-51	c 39	N83-32081 *
US-PATENT-CLASS-363-36	c 33	N81-19393 *	US-PATENT-CLASS-365-120	c 33	N81-29342 *	US-PATENT-CLASS-374-8	c 25	N86-19413 *
US-PATENT-CLASS-363-40	c 33	N81-19393 *	US-PATENT-CLASS-365-768	c 32	N86-27513 *	US-PATENT-CLASS-374-9	c 32	N87-21206 *
US-PATENT-CLASS-363-47	c 33	N81-19393 *	US-PATENT-CLASS-366-106	c 71	N84-28568 *	US-PATENT-CLASS-375-101	c 32	N87-25511 *

US-PATENT-CLASS-375-102	c 32	N87-25511 *	US-PATENT-CLASS-403-341	c 18	N87-27713 *	US-PATENT-CLASS-415-174	c 37	N84-22957 *
US-PATENT-CLASS-375-104	c 35	N81-19427 *	US-PATENT-CLASS-403-348	c 37	N85-30336 *	US-PATENT-CLASS-415-174	c 37	N86-20788 *
US-PATENT-CLASS-375-106	c 60	N82-16747 *	US-PATENT-CLASS-403-388	c 37	N86-27630 *	US-PATENT-CLASS-415-175	c 07	N83-31603 *
US-PATENT-CLASS-375-106	c 32	N82-31583 *	US-PATENT-CLASS-403-408.1	c 37	N86-27630 *	US-PATENT-CLASS-415-178	c 07	N82-32366 *
US-PATENT-CLASS-375-107	c 32	N81-14186 *	US-PATENT-CLASS-403-408	c 37	N85-29285 *	US-PATENT-CLASS-415-178	c 07	N83-31603 *
US-PATENT-CLASS-375-110	c 32	N87-21207 *	US-PATENT-CLASS-403-4	c 18	N89-28554 *	US-PATENT-CLASS-415-180	c 07	N77-23106 *
US-PATENT-CLASS-375-114	c 60	N82-16747 *	US-PATENT-CLASS-403-51	c 18	N89-28553 *	US-PATENT-CLASS-415-180	c 37	N78-10467 *
US-PATENT-CLASS-375-115	c 32	N81-15179 *	US-PATENT-CLASS-403-56	c 18	N85-29991 *	US-PATENT-CLASS-415-181	c 07	N74-28226 *
US-PATENT-CLASS-375-116	c 60	N82-16747 *	US-PATENT-CLASS-403-64	c 31	N86-19479 *	US-PATENT-CLASS-415-181	c 07	N74-31270 *
US-PATENT-CLASS-375-120	c 32	N84-27952 *	US-PATENT-CLASS-403-76	c 18	N85-29991 *	US-PATENT-CLASS-415-196	c 37	N80-26658 *
US-PATENT-CLASS-375-120	c 32	N87-21207 *	US-PATENT-CLASS-403-85	c 18	N87-14373 *	US-PATENT-CLASS-415-196	c 37	N82-19540 *
US-PATENT-CLASS-375-120	c 33	N87-25531 *	US-PATENT-CLASS-403-90	c 18	N85-29991 *	US-PATENT-CLASS-415-197	c 18	N83-20996 *
US-PATENT-CLASS-375-1	c 32	N81-15179 *	US-PATENT-CLASS-405-229	c 44	N79-24432 *	US-PATENT-CLASS-415-199	c 05	N80-14107 *
US-PATENT-CLASS-375-1	c 35	N81-19427 *	US-PATENT-CLASS-405-263	c 44	N79-24432 *	US-PATENT-CLASS-415-1	c 34	N79-20335 *
US-PATENT-CLASS-375-1	c 33	N81-33405 *	US-PATENT-CLASS-405-155	c 37	N84-16561 *	US-PATENT-CLASS-415-1	c 07	N83-31603 *
US-PATENT-CLASS-375-23	c 32	N87-21207 *	US-PATENT-CLASS-407-117	c 37	N81-14319 *	US-PATENT-CLASS-415-1	c 37	N85-29282 *
US-PATENT-CLASS-375-34	c 35	N81-19427 *	US-PATENT-CLASS-408-85	c 37	N81-14319 *	US-PATENT-CLASS-415-2R	c 44	N82-24639 *
US-PATENT-CLASS-375-39	c 32	N87-25511 *	US-PATENT-CLASS-408-1R	c 31	N87-25491 *	US-PATENT-CLASS-415-2R	c 44	N84-23018 *
US-PATENT-CLASS-375-54	c 33	N81-15192 *	US-PATENT-CLASS-408-1R	c 37	N81-14319 *	US-PATENT-CLASS-415-200	c 07	N79-14096 *
US-PATENT-CLASS-375-54	c 32	N87-25511 *	US-PATENT-CLASS-408-111	c 31	N83-27058 *	US-PATENT-CLASS-415-200	c 37	N79-18318 *
US-PATENT-CLASS-375-54	c 33	N87-25531 *	US-PATENT-CLASS-408-112	c 37	N74-25968 *	US-PATENT-CLASS-415-201	c 07	N79-14096 *
US-PATENT-CLASS-375-58	c 32	N81-15179 *	US-PATENT-CLASS-408-137	c 37	N75-25186 *	US-PATENT-CLASS-415-2	c 44	N80-21828 *
US-PATENT-CLASS-375-59	c 33	N87-25531 *	US-PATENT-CLASS-408-166	c 15	N71-33518 *	US-PATENT-CLASS-415-47	c 07	N83-31603 *
US-PATENT-CLASS-375-67	c 33	N81-15192 *	US-PATENT-CLASS-408-183	c 37	N75-25186 *	US-PATENT-CLASS-415-68	c 37	N85-29282 *
US-PATENT-CLASS-375-76	c 33	N87-25531 *	US-PATENT-CLASS-408-193	c 37	N75-25186 *	US-PATENT-CLASS-415-9	c 44	N79-14527 *
US-PATENT-CLASS-375-77	c 32	N84-27952 *	US-PATENT-CLASS-408-195	c 37	N75-25186 *	US-PATENT-CLASS-416-104	c 05	N77-17029 *
US-PATENT-CLASS-375-81	c 32	N84-27952 *	US-PATENT-CLASS-408-61	c 31	N83-27058 *	US-PATENT-CLASS-416-114	c 05	N81-19087 *
US-PATENT-CLASS-375-88	c 17	N87-16863 *	US-PATENT-CLASS-408-80	c 37	N74-25968 *	US-PATENT-CLASS-416-114	c 08	N87-23631 *
US-PATENT-CLASS-375-99	c 35	N81-19427 *	US-PATENT-CLASS-409-131	c 31	N83-27058 *	US-PATENT-CLASS-416-115	c 02	N72-11018 *
US-PATENT-CLASS-376-127	c 72	N87-21661 *	US-PATENT-CLASS-41R	c 27	N81-15104 *	US-PATENT-CLASS-416-117	c 37	N84-12493 *
US-PATENT-CLASS-376-159	c 25	N85-21279 *	US-PATENT-CLASS-410-156	c 37	N85-34401 *	US-PATENT-CLASS-416-121	c 02	N72-11018 *
US-PATENT-CLASS-377-39	c 33	N89-14385 *	US-PATENT-CLASS-410-79	c 18	N85-29991 *	US-PATENT-CLASS-416-127	c 02	N72-11018 *
US-PATENT-CLASS-378-104	c 33	N85-29147 *	US-PATENT-CLASS-410-90	c 18	N85-29991 *	US-PATENT-CLASS-416-130	c 02	N72-11018 *
US-PATENT-CLASS-378-112	c 33	N85-29147 *	US-PATENT-CLASS-411-103	c 37	N85-30335 *	US-PATENT-CLASS-416-132B	c 37	N84-12493 *
US-PATENT-CLASS-378-2	c 34	N83-19015 *	US-PATENT-CLASS-411-108	c 37	N85-30335 *	US-PATENT-CLASS-416-132R	c 05	N79-17847 *
US-PATENT-CLASS-378-2	c 74	N84-11920 *	US-PATENT-CLASS-411-166	c 37	N87-22976 *	US-PATENT-CLASS-416-135	c 07	N77-32148 *
US-PATENT-CLASS-378-43	c 34	N83-19015 *	US-PATENT-CLASS-411-353	c 37	N83-19091 *	US-PATENT-CLASS-416-135	c 37	N78-10468 *
US-PATENT-CLASS-378-43	c 74	N86-20124 *	US-PATENT-CLASS-411-368	c 37	N85-29285 *	US-PATENT-CLASS-416-138	c 05	N77-17029 *
US-PATENT-CLASS-378-58	c 74	N86-20126 *	US-PATENT-CLASS-411-368	c 37	N87-22976 *	US-PATENT-CLASS-416-138	c 05	N79-17847 *
US-PATENT-CLASS-378-59	c 74	N86-20126 *	US-PATENT-CLASS-411-378	c 37	N85-29285 *	US-PATENT-CLASS-416-141	c 05	N77-17029 *
US-PATENT-CLASS-378-85	c 74	N86-20124 *	US-PATENT-CLASS-411-424	c 37	N87-22976 *	US-PATENT-CLASS-416-141	c 37	N78-10468 *
US-PATENT-CLASS-381-183	c 54	N89-29953 *	US-PATENT-CLASS-411-426	c 37	N85-29285 *	US-PATENT-CLASS-416-144	c 35	N78-24515 *
US-PATENT-CLASS-381-187	c 54	N89-29953 *	US-PATENT-CLASS-411-427	c 37	N87-22976 *	US-PATENT-CLASS-416-145	c 05	N85-29947 *
US-PATENT-CLASS-382-31	c 74	N89-14078 *	US-PATENT-CLASS-411-501	c 37	N85-29285 *	US-PATENT-CLASS-416-149	c 02	N72-11018 *
US-PATENT-CLASS-382-41	c 60	N89-26400 *	US-PATENT-CLASS-411-517	c 37	N83-19091 *	US-PATENT-CLASS-416-153	c 07	N77-14025 *
US-PATENT-CLASS-382-42	c 74	N86-21348 *	US-PATENT-CLASS-411-531	c 37	N85-29285 *	US-PATENT-CLASS-416-157B	c 07	N79-14095 *
US-PATENT-CLASS-382-42	c 60	N89-26400 *	US-PATENT-CLASS-411-531	c 37	N87-22976 *	US-PATENT-CLASS-416-158	c 08	N87-23631 *
US-PATENT-CLASS-382-42	c 60	N89-26400 *	US-PATENT-CLASS-414-1	c 37	N80-14398 *	US-PATENT-CLASS-416-160	c 07	N77-14025 *
US-PATENT-CLASS-382-49	c 60	N89-26400 *	US-PATENT-CLASS-414-1	c 37	N81-14320 *	US-PATENT-CLASS-416-160	c 07	N79-14095 *
US-PATENT-CLASS-384-101	c 37	N85-33490 *	US-PATENT-CLASS-414-1	c 54	N86-28618 *	US-PATENT-CLASS-416-162	c 07	N77-14025 *
US-PATENT-CLASS-384-103	c 37	N86-19606 *	US-PATENT-CLASS-414-217	c 37	N85-29286 *	US-PATENT-CLASS-416-162	c 07	N79-14095 *
US-PATENT-CLASS-384-106	c 37	N86-19606 *	US-PATENT-CLASS-414-222	c 37	N82-32731 *	US-PATENT-CLASS-416-165	c 07	N77-14025 *
US-PATENT-CLASS-384-124	c 27	N83-34043 *	US-PATENT-CLASS-414-226	c 37	N82-32731 *	US-PATENT-CLASS-416-167	c 07	N77-14025 *
US-PATENT-CLASS-384-99	c 37	N85-33490 *	US-PATENT-CLASS-414-288	c 85	N85-34722 *	US-PATENT-CLASS-416-167	c 07	N79-14095 *
US-PATENT-CLASS-39-25.35	c 33	N86-20671 *	US-PATENT-CLASS-414-328	c 85	N85-34722 *	US-PATENT-CLASS-416-190	c 07	N77-32148 *
US-PATENT-CLASS-4-10	c 54	N74-20725 *	US-PATENT-CLASS-414-373	c 85	N85-34722 *	US-PATENT-CLASS-416-193A	c 07	N77-32148 *
US-PATENT-CLASS-4-110	c 05	N72-22093 *	US-PATENT-CLASS-414-4	c 37	N79-28551 *	US-PATENT-CLASS-416-1	c 34	N83-27144 *
US-PATENT-CLASS-4-120	c 54	N74-20725 *	US-PATENT-CLASS-414-4	c 54	N81-26718 *	US-PATENT-CLASS-416-200	c 02	N72-11018 *
US-PATENT-CLASS-4-144.3	c 52	N81-27411 *	US-PATENT-CLASS-414-4	c 37	N86-20789 *	US-PATENT-CLASS-416-214A	c 07	N78-33101 *
US-PATENT-CLASS-4-144.3	c 52	N81-28740 *	US-PATENT-CLASS-414-5	c 54	N86-28618 *	US-PATENT-CLASS-416-220R	c 07	N77-27116 *
US-PATENT-CLASS-4-498	c 44	N84-34792 *	US-PATENT-CLASS-414-689	c 18	N89-12621 *	US-PATENT-CLASS-416-220R	c 37	N78-10468 *
US-PATENT-CLASS-4-99	c 05	N72-22093 *	US-PATENT-CLASS-414-6	c 54	N79-24652 *	US-PATENT-CLASS-416-221	c 07	N77-27116 *
US-PATENT-CLASS-40-28	c 12	N71-18603 *	US-PATENT-CLASS-414-718	c 37	N86-20789 *	US-PATENT-CLASS-416-223-R	c 02	N89-14224 *
US-PATENT-CLASS-403-102	c 37	N85-30336 *	US-PATENT-CLASS-414-718	c 18	N89-12621 *	US-PATENT-CLASS-416-223R	c 02	N84-11136 *
US-PATENT-CLASS-403-102	c 18	N87-14373 *	US-PATENT-CLASS-414-730	c 37	N81-27519 *	US-PATENT-CLASS-416-223R	c 02	N84-28732 *
US-PATENT-CLASS-403-105	c 37	N79-14382 *	US-PATENT-CLASS-414-730	c 37	N86-19603 *	US-PATENT-CLASS-416-223	c 07	N74-28226 *
US-PATENT-CLASS-403-113	c 37	N86-19605 *	US-PATENT-CLASS-414-735	c 54	N81-26718 *	US-PATENT-CLASS-416-224	c 24	N77-19170 *
US-PATENT-CLASS-403-119	c 18	N87-14373 *	US-PATENT-CLASS-414-735	c 18	N88-23828 *	US-PATENT-CLASS-416-224	c 07	N84-22682 *
US-PATENT-CLASS-403-120	c 37	N86-19605 *	US-PATENT-CLASS-414-735	c 18	N89-12621 *	US-PATENT-CLASS-416-228	c 05	N80-14107 *
US-PATENT-CLASS-403-143	c 18	N85-29991 *	US-PATENT-CLASS-414-739	c 37	N82-32731 *	US-PATENT-CLASS-416-230	c 24	N77-19170 *
US-PATENT-CLASS-403-146	c 18	N87-14373 *	US-PATENT-CLASS-414-744A	c 54	N81-26718 *	US-PATENT-CLASS-416-233	c 07	N84-22560 *
US-PATENT-CLASS-403-15	c 37	N85-30334 *	US-PATENT-CLASS-414-750	c 18	N88-23828 *	US-PATENT-CLASS-416-237	c 07	N74-28226 *
US-PATENT-CLASS-403-163	c 18	N87-14373 *	US-PATENT-CLASS-414-753	c 37	N86-20789 *	US-PATENT-CLASS-416-238	c 05	N80-14107 *
US-PATENT-CLASS-403-164	c 54	N86-29507 *	US-PATENT-CLASS-414-786	c 85	N85-34722 *	US-PATENT-CLASS-416-238	c 05	N85-29947 *
US-PATENT-CLASS-403-16	c 37	N85-30334 *	US-PATENT-CLASS-414-7	c 54	N86-28618 *	US-PATENT-CLASS-416-241A	c 07	N77-32148 *
US-PATENT-CLASS-403-171	c 31	N81-25258 *	US-PATENT-CLASS-414-7	c 54	N86-28620 *	US-PATENT-CLASS-416-241R	c 26	N84-33555 *
US-PATENT-CLASS-403-171	c 37	N88-29180 *	US-PATENT-CLASS-414-8	c 54	N86-28618 *	US-PATENT-CLASS-416-242	c 02	N84-11136 *
US-PATENT-CLASS-403-179	c 27	N76-14264 *	US-PATENT-CLASS-415-DIG.8	c 44	N82-24639 *	US-PATENT-CLASS-416-242	c 02	N84-28732 *
US-PATENT-CLASS-403-217	c 37	N82-32732 *	US-PATENT-CLASS-415-DIG.8	c 44	N84-23018 *	US-PATENT-CLASS-416-244A	c 07	N78-33101 *
US-PATENT-CLASS-403-217	c 37	N88-29180 *	US-PATENT-CLASS-415-101	c 44	N80-21828 *	US-PATENT-CLASS-416-248	c 37	N78-10468 *
US-PATENT-CLASS-403-273	c 37	N77-23482 *	US-PATENT-CLASS-415-115	c 07	N79-10057 *	US-PATENT-CLASS-416-25	c 05	N75-12930 *
US-PATENT-CLASS-403-282	c 26	N83-10170 *	US-PATENT-CLASS-415-115	c 07	N84-33410 *	US-PATENT-CLASS-416-2	c 44	N79-14527 *
US-PATENT-CLASS-403-28	c 27	N76-14264 *	US-PATENT-CLASS-415-115	c 34	N85-33433 *	US-PATENT-CLASS-416-500	c 05	N81-19087 *
US-PATENT-CLASS-403-28	c 37	N85-29285 *	US-PATENT-CLASS-415-116	c 07	N79-10057 *	US-PATENT-CLASS-416-500	c 05	N85-29947 *
US-PATENT-CLASS-403-30	c 18	N89-28554 *	US-PATENT-CLASS-415-118	c 35	N83-35338 *	US-PATENT-CLASS-416-51	c 05	N79-17847 *
US-PATENT-CLASS-403-312	c 37	N86-27630 *	US-PATENT-CLASS-415-136	c 37	N88-23978 *	US-PATENT-CLASS-416-61	c 35	N78-24515 *
US-PATENT-CLASS-403-315	c 37	N82-24494 *	US-PATENT-CLASS-415-143	c 34	N79-20335 *	US-PATENT-CLASS-416-61	c 37	N79-14382 *
US-PATENT-CLASS-403-317	c 37	N82-32732 *	US-PATENT-CLASS-415-145	c 07	N77-28118 *	US-PATENT-CLASS-416-88	c 05	N79-17847 *
US-PATENT-CLASS-403-317	c 37	N85-21649 *	US-PATENT-CLASS-415-145	c 07	N82-32366 *	US-PATENT-CLASS-416-92	c 05	N84-22560 *
US-PATENT-CLASS-403-322	c 18	N84-22605 *	US-PATENT-CLASS-415-170-R	c 37	N88-23978 *	US-PATENT-CLASS-416-97A	c 34	N85-33433 *
US-PATENT-CLASS-403-322	c 37	N85-30334 *	US-PATENT-CLASS-415-174	c 37	N79-18318 *	US-PATENT-CLASS-416-97R	c 34	N83-27144 *
US-PATENT-CLASS-403-322	c 37	N85-30336 *	US-PATENT-CLASS-415-174	c 37	N80-26658 *	US-PATENT-CLASS-416-97R	c 07	N84-22560 *
US-PATENT-CLASS-403-328	c 18	N86-20469 *	US-PATENT-CLASS-415-174	c 37	N82-19540 *	US-PATENT-CLASS-417-138	c 35	N75-19611 *
US-PATENT-CLASS-403-331	c 37	N82-32732 *	US-PATENT-CLASS-415-174	c 27	N82-29453 *	US-PATENT-CLASS-417-141	c 44	N76-29701 *
US-PATENT-CLASS-403-340	c 37	N82-32732 *	US-PATENT-CLASS-415-174	c 18	N83-20996 *	US-PATENT-CLASS-417-152	c 15	N72-22489 *

US-PATENT-CLASS-417-159	c 09	N84-27749 *	US-PATENT-CLASS-423-33-5	c 25	N79-28253 *	US-PATENT-CLASS-427-126	c 44	N79-11472 *
US-PATENT-CLASS-417-15	c 37	N83-26078 *	US-PATENT-CLASS-423-338	c 76	N87-29360 *	US-PATENT-CLASS-427-130	c 44	N77-32583 *
US-PATENT-CLASS-417-207	c 44	N76-29701 *	US-PATENT-CLASS-423-339	c 76	N87-29360 *	US-PATENT-CLASS-427-140	c 27	N82-33520 *
US-PATENT-CLASS-417-209	c 34	N76-17317 *	US-PATENT-CLASS-423-345	c 76	N76-25049 *	US-PATENT-CLASS-427-140	c 24	N83-13172 *
US-PATENT-CLASS-417-209	c 44	N76-29701 *	US-PATENT-CLASS-423-345	c 76	N79-23798 *	US-PATENT-CLASS-427-160	c 34	N77-18382 *
US-PATENT-CLASS-417-225	c 35	N78-10428 *	US-PATENT-CLASS-423-346	c 76	N76-25049 *	US-PATENT-CLASS-427-160	c 44	N78-19599 *
US-PATENT-CLASS-417-328	c 37	N84-28081 *	US-PATENT-CLASS-423-348	c 26	N80-14294 *	US-PATENT-CLASS-427-162	c 12	N76-15189 *
US-PATENT-CLASS-417-36	c 35	N75-19611 *	US-PATENT-CLASS-423-350	c 37	N80-10429 *	US-PATENT-CLASS-427-162	c 27	N86-31727 *
US-PATENT-CLASS-417-379	c 44	N76-29701 *	US-PATENT-CLASS-423-350	c 31	N80-18231 *	US-PATENT-CLASS-427-164	c 27	N78-14164 *
US-PATENT-CLASS-417-383	c 37	N80-31790 *	US-PATENT-CLASS-423-352	c 36	N76-18427 *	US-PATENT-CLASS-427-164	c 27	N78-31233 *
US-PATENT-CLASS-417-391	c 15	N73-24513 *	US-PATENT-CLASS-423-407	c 24	N76-14203 *	US-PATENT-CLASS-427-164	c 74	N78-32854 *
US-PATENT-CLASS-417-392	c 37	N84-28081 *	US-PATENT-CLASS-423-414	c 24	N84-22695 *	US-PATENT-CLASS-427-164	c 27	N80-24437 *
US-PATENT-CLASS-417-395	c 35	N75-19611 *	US-PATENT-CLASS-423-414	c 31	N85-20153 *	US-PATENT-CLASS-427-164	c 27	N86-31727 *
US-PATENT-CLASS-417-399	c 44	N83-14693 *	US-PATENT-CLASS-423-417	c 26	N80-14229 *	US-PATENT-CLASS-427-165	c 27	N86-31727 *
US-PATENT-CLASS-417-417	c 44	N83-28574 *	US-PATENT-CLASS-423-419P	c 25	N83-33977 *	US-PATENT-CLASS-427-178	c 24	N85-30027 *
US-PATENT-CLASS-417-417	c 31	N85-21404 *	US-PATENT-CLASS-423-445	c 24	N84-22695 *	US-PATENT-CLASS-427-191	c 26	N85-35267 *
US-PATENT-CLASS-417-462	c 37	N84-28081 *	US-PATENT-CLASS-423-445	c 31	N85-20153 *	US-PATENT-CLASS-427-191	c 26	N86-32550 *
US-PATENT-CLASS-417-470	c 35	N74-15126 *	US-PATENT-CLASS-423-445	c 24	N85-21267 *	US-PATENT-CLASS-427-192	c 26	N86-32550 *
US-PATENT-CLASS-417-471	c 35	N74-15126 *	US-PATENT-CLASS-423-446	c 15	N73-19457 *	US-PATENT-CLASS-427-196	c 27	N76-15310 *
US-PATENT-CLASS-417-475	c 37	N86-32738 *	US-PATENT-CLASS-423-446	c 24	N84-22695 *	US-PATENT-CLASS-427-203	c 27	N76-16229 *
US-PATENT-CLASS-417-488	c 31	N85-21404 *	US-PATENT-CLASS-423-446	c 31	N85-20153 *	US-PATENT-CLASS-427-204	c 27	N76-16229 *
US-PATENT-CLASS-417-50	c 15	N71-27084 *	US-PATENT-CLASS-423-446	c 24	N85-21267 *	US-PATENT-CLASS-427-205	c 27	N76-16229 *
US-PATENT-CLASS-417-52	c 37	N74-27904 *	US-PATENT-CLASS-423-447.2	c 24	N83-25789 *	US-PATENT-CLASS-427-205	c 27	N82-28441 *
US-PATENT-CLASS-417-88	c 44	N78-32539 *	US-PATENT-CLASS-423-447.6	c 24	N83-25789 *	US-PATENT-CLASS-427-215	c 27	N78-32260 *
US-PATENT-CLASS-418-113	c 37	N82-16408 *	US-PATENT-CLASS-423-447.7	c 24	N83-25789 *	US-PATENT-CLASS-427-215	c 24	N83-33950 *
US-PATENT-CLASS-418-142	c 37	N82-16408 *	US-PATENT-CLASS-423-449	c 24	N84-22695 *	US-PATENT-CLASS-427-216	c 33	N84-16456 *
US-PATENT-CLASS-42-1F	c 11	N72-22247 *	US-PATENT-CLASS-423-449	c 31	N85-20153 *	US-PATENT-CLASS-427-217	c 33	N84-16456 *
US-PATENT-CLASS-42-101	c 44	N86-25874 *	US-PATENT-CLASS-423-449	c 24	N85-21267 *	US-PATENT-CLASS-427-219.2	c 27	N83-31855 *
US-PATENT-CLASS-42-215	c 44	N76-29704 *	US-PATENT-CLASS-423-539	c 25	N82-28368 *	US-PATENT-CLASS-427-221	c 27	N81-19296 *
US-PATENT-CLASS-420-445	c 26	N82-31505 *	US-PATENT-CLASS-423-540	c 25	N82-28368 *	US-PATENT-CLASS-427-226	c 33	N84-16456 *
US-PATENT-CLASS-420-460	c 26	N87-14482 *	US-PATENT-CLASS-423-542	c 25	N82-28368 *	US-PATENT-CLASS-427-226	c 44	N84-28205 *
US-PATENT-CLASS-420-529	c 26	N89-28621 *	US-PATENT-CLASS-423-579	c 46	N74-13011 *	US-PATENT-CLASS-427-228	c 26	N85-35267 *
US-PATENT-CLASS-420-533	c 26	N89-28621 *	US-PATENT-CLASS-423-579	c 25	N82-28368 *	US-PATENT-CLASS-427-229	c 25	N78-10225 *
US-PATENT-CLASS-420-54	c 26	N89-14303 *	US-PATENT-CLASS-423-581	c 25	N79-10162 *	US-PATENT-CLASS-427-229	c 37	N87-21334 *
US-PATENT-CLASS-420-551	c 26	N82-31505 *	US-PATENT-CLASS-423-582	c 26	N78-32229 *	US-PATENT-CLASS-427-230	c 37	N76-31524 *
US-PATENT-CLASS-420-588	c 26	N82-31505 *	US-PATENT-CLASS-423-583	c 26	N78-32229 *	US-PATENT-CLASS-427-240	c 37	N81-33482 *
US-PATENT-CLASS-420-62	c 26	N89-14303 *	US-PATENT-CLASS-423-600	c 25	N83-33977 *	US-PATENT-CLASS-427-241	c 24	N83-33950 *
US-PATENT-CLASS-420-79	c 26	N89-14303 *	US-PATENT-CLASS-423-625	c 15	N73-19457 *	US-PATENT-CLASS-427-243	c 31	N83-35177 *
US-PATENT-CLASS-420-80	c 26	N89-14303 *	US-PATENT-CLASS-423-625	c 26	N80-14229 *	US-PATENT-CLASS-427-244	c 25	N82-21268 *
US-PATENT-CLASS-420-81	c 26	N89-14303 *	US-PATENT-CLASS-423-644	c 36	N76-18427 *	US-PATENT-CLASS-427-245	c 31	N88-29052 *
US-PATENT-CLASS-422-103	c 35	N85-29213 *	US-PATENT-CLASS-423-648R	c 44	N77-22607 *	US-PATENT-CLASS-427-245	c 25	N82-21268 *
US-PATENT-CLASS-422-109	c 54	N81-24724 *	US-PATENT-CLASS-423-648R	c 28	N78-24365 *	US-PATENT-CLASS-427-246	c 31	N83-35177 *
US-PATENT-CLASS-422-121	c 35	N84-17555 *	US-PATENT-CLASS-423-648R	c 28	N80-20402 *	US-PATENT-CLASS-427-247	c 27	N86-31727 *
US-PATENT-CLASS-422-129	c 37	N85-21652 *	US-PATENT-CLASS-423-648R	c 28	N81-14103 *	US-PATENT-CLASS-427-248.1	c 37	N78-13436 *
US-PATENT-CLASS-422-169	c 35	N84-17555 *	US-PATENT-CLASS-423-648R	c 25	N82-28368 *	US-PATENT-CLASS-427-248E	c 44	N78-24609 *
US-PATENT-CLASS-422-178	c 35	N84-17555 *	US-PATENT-CLASS-423-648R	c 25	N83-29324 *	US-PATENT-CLASS-427-248J	c 44	N76-28635 *
US-PATENT-CLASS-422-186	c 25	N82-28368 *	US-PATENT-CLASS-423-649	c 25	N83-29324 *	US-PATENT-CLASS-427-248	c 44	N76-28635 *
US-PATENT-CLASS-422-186	c 35	N84-17555 *	US-PATENT-CLASS-423-650	c 44	N76-18642 *	US-PATENT-CLASS-427-249	c 44	N78-24609 *
US-PATENT-CLASS-422-187	c 37	N80-10494 *	US-PATENT-CLASS-423-650	c 44	N76-29700 *	US-PATENT-CLASS-427-250	c 12	N76-15189 *
US-PATENT-CLASS-422-198	c 25	N82-28368 *	US-PATENT-CLASS-423-650	c 44	N76-29704 *	US-PATENT-CLASS-427-250	c 44	N76-28635 *
US-PATENT-CLASS-422-199	c 37	N80-10494 *	US-PATENT-CLASS-423-650	c 28	N80-10374 *	US-PATENT-CLASS-427-250	c 37	N78-13436 *
US-PATENT-CLASS-422-199	c 37	N85-21652 *	US-PATENT-CLASS-423-650.5	c 28	N81-15119 *	US-PATENT-CLASS-427-253	c 27	N82-28441 *
US-PATENT-CLASS-422-200	c 44	N83-10501 *	US-PATENT-CLASS-424-12	c 25	N79-14169 *	US-PATENT-CLASS-427-255	c 37	N78-13436 *
US-PATENT-CLASS-422-202	c 44	N83-10501 *	US-PATENT-CLASS-424-12	c 51	N80-16715 *	US-PATENT-CLASS-427-261	c 44	N78-25527 *
US-PATENT-CLASS-422-208	c 37	N80-10494 *	US-PATENT-CLASS-424-156	c 25	N83-33977 *	US-PATENT-CLASS-427-261	c 44	N79-11472 *
US-PATENT-CLASS-422-224	c 31	N80-18231 *	US-PATENT-CLASS-424-180	c 52	N75-15270 *	US-PATENT-CLASS-427-270	c 27	N76-16229 *
US-PATENT-CLASS-422-224	c 44	N83-10501 *	US-PATENT-CLASS-424-180	c 52	N81-29764 *	US-PATENT-CLASS-427-275	c 27	N76-16229 *
US-PATENT-CLASS-422-235	c 37	N80-10494 *	US-PATENT-CLASS-424-247	c 52	N81-29764 *	US-PATENT-CLASS-427-287	c 27	N76-16229 *
US-PATENT-CLASS-422-242	c 37	N80-10494 *	US-PATENT-CLASS-424-267	c 52	N81-14613 *	US-PATENT-CLASS-427-292	c 24	N79-17916 *
US-PATENT-CLASS-422-246	c 76	N80-32244 *	US-PATENT-CLASS-424-274	c 52	N81-29764 *	US-PATENT-CLASS-427-292	c 24	N83-13172 *
US-PATENT-CLASS-422-246	c 33	N81-19389 *	US-PATENT-CLASS-424-274	c 51	N77-27677 *	US-PATENT-CLASS-427-294	c 27	N79-14214 *
US-PATENT-CLASS-422-246	c 76	N82-30105 *	US-PATENT-CLASS-424-3	c 31	N75-13111 *	US-PATENT-CLASS-427-294	c 26	N85-35267 *
US-PATENT-CLASS-422-246	c 76	N84-35113 *	US-PATENT-CLASS-425-10	c 31	N83-35176 *	US-PATENT-CLASS-427-296	c 26	N84-22734 *
US-PATENT-CLASS-422-246	c 76	N88-24544 *	US-PATENT-CLASS-425-113	c 15	N73-13464 *	US-PATENT-CLASS-427-302	c 74	N78-32854 *
US-PATENT-CLASS-422-249	c 33	N81-19389 *	US-PATENT-CLASS-425-128	c 31	N74-32920 *	US-PATENT-CLASS-427-302	c 24	N83-13172 *
US-PATENT-CLASS-422-249	c 76	N84-35113 *	US-PATENT-CLASS-425-133	c 15	N73-13464 *	US-PATENT-CLASS-427-306	c 26	N84-22734 *
US-PATENT-CLASS-422-251	c 76	N88-14835 *	US-PATENT-CLASS-425-176	c 15	N73-13464 *	US-PATENT-CLASS-427-318	c 26	N83-31795 *
US-PATENT-CLASS-422-260	c 76	N88-14835 *	US-PATENT-CLASS-425-28B	c 31	N74-32917 *	US-PATENT-CLASS-427-322	c 34	N77-18382 *
US-PATENT-CLASS-422-27	c 54	N81-24724 *	US-PATENT-CLASS-425-35	c 31	N74-32917 *	US-PATENT-CLASS-427-322	c 74	N78-32854 *
US-PATENT-CLASS-422-30	c 54	N81-24724 *	US-PATENT-CLASS-425-378R	c 31	N81-15154 *	US-PATENT-CLASS-427-322	c 27	N83-34039 *
US-PATENT-CLASS-422-34	c 54	N81-24724 *	US-PATENT-CLASS-425-4R	c 27	N88-23894 *	US-PATENT-CLASS-427-327	c 24	N79-17916 *
US-PATENT-CLASS-422-3	c 35	N82-11432 *	US-PATENT-CLASS-425-405R	c 31	N75-13111 *	US-PATENT-CLASS-427-328	c 24	N79-17916 *
US-PATENT-CLASS-422-40	c 52	N79-14749 *	US-PATENT-CLASS-425-415	c 31	N74-32920 *	US-PATENT-CLASS-427-340	c 27	N83-34039 *
US-PATENT-CLASS-422-48	c 52	N79-14749 *	US-PATENT-CLASS-425-438	c 31	N75-13111 *	US-PATENT-CLASS-427-343	c 44	N79-11472 *
US-PATENT-CLASS-422-52	c 51	N80-16714 *	US-PATENT-CLASS-425-468	c 31	N75-13111 *	US-PATENT-CLASS-427-346	c 71	N84-16940 *
US-PATENT-CLASS-422-52	c 51	N83-27569 *	US-PATENT-CLASS-425-6	c 31	N81-33319 *	US-PATENT-CLASS-427-34	c 34	N78-18355 *
US-PATENT-CLASS-422-68	c 51	N80-27067 *	US-PATENT-CLASS-425-6	c 27	N82-28442 *	US-PATENT-CLASS-427-34	c 24	N79-17916 *
US-PATENT-CLASS-422-78	c 25	N86-19413 *	US-PATENT-CLASS-425-6	c 31	N83-31896 *	US-PATENT-CLASS-427-34	c 27	N82-29453 *
US-PATENT-CLASS-422-80	c 25	N82-12166 *	US-PATENT-CLASS-425-6	c 31	N83-35176 *	US-PATENT-CLASS-427-34	c 27	N83-31855 *
US-PATENT-CLASS-422-86	c 35	N85-29213 *	US-PATENT-CLASS-425-6	c 71	N84-28568 *	US-PATENT-CLASS-427-34	c 31	N83-35177 *
US-PATENT-CLASS-422-88	c 35	N85-29213 *	US-PATENT-CLASS-425-6	c 26	N86-32551 *	US-PATENT-CLASS-427-34	c 37	N84-22957 *
US-PATENT-CLASS-422-9	c 45	N80-14579 *	US-PATENT-CLASS-425-77	c 15	N72-20446 *	US-PATENT-CLASS-427-350	c 26	N84-27855 *
US-PATENT-CLASS-423-DIG.10	c 24	N84-22695 *	US-PATENT-CLASS-425-77	c 31	N83-35176 *	US-PATENT-CLASS-427-352	c 24	N79-25142 *
US-PATENT-CLASS-423-DIG.10	c 31	N85-20153 *	US-PATENT-CLASS-427-113	c 44	N76-28635 *	US-PATENT-CLASS-427-352	c 27	N83-34039 *
US-PATENT-CLASS-423-131	c 28	N81-15119 *	US-PATENT-CLASS-427-113	c 44	N78-24609 *	US-PATENT-CLASS-427-355	c 24	N79-17916 *
US-PATENT-CLASS-423-149	c 26	N80-14229 *	US-PATENT-CLASS-427-113	c 44	N84-28205 *	US-PATENT-CLASS-427-372.2	c 27	N82-33520 *
US-PATENT-CLASS-423-1	c 28	N81-15119 *	US-PATENT-CLASS-427-115	c 25	N82-21268 *	US-PATENT-CLASS-427-372.2	c 44	N84-28205 *
US-PATENT-CLASS-423-231	c 25	N74-12813 *	US-PATENT-CLASS-427-115	c 26	N84-22734 *	US-PATENT-CLASS-427-372A	c 24	N79-25142 *
US-PATENT-CLASS-423-235	c 25	N82-28368 *	US-PATENT-CLASS-427-123	c 44	N84-28205 *	US-PATENT-CLASS-427-376.2	c 26	N85-35267 *
US-PATENT-CLASS-423-242	c 45	N79-12584 *	US-PATENT-CLASS-427-123	c 44	N79-11472 *	US-PATENT-CLASS-427-376.6	c 33	N84-16456 *
US-PATENT-CLASS-423-249	c 25	N76-27383 *	US-PATENT-CLASS-427-124	c 37	N78-13436 *	US-PATENT-CLASS-427-376.7	c 33	N84-16456 *
US-PATENT-CLASS-423-276	c 23	N87-23698 *	US-PATENT-CLASS-427-125	c 26	N84-22734 *	US-PATENT-CLASS-427-376A	c 27	N78-32260 *
US-PATENT-CLASS-423-284	c 23	N87-23698 *	US-PATENT-CLASS-427-125	c 44	N84-28205 *	US-PATENT-CLASS-427-376B	c 27	N78-32260 *
US-PATENT-CLASS-423-293	c 26	N80-14229 *	US-PATENT-CLASS-427-126.6	c 26	N84-22734 *	US-PATENT-CLASS-427-376B	c 24	N79-17916 *
US-PATENT-CLASS-423-303	c 44	N84-23019 *	US-PATENT-CLASS-427-126	c 37	N78-13436 *	US-PATENT-CLASS-427-376C	c 24	N79-17916 *

US-PATENT-CLASS-427-376	c 27	N76-22377 *	US-PATENT-CLASS-427-86	c 44	N78-24609 *	US-PATENT-CLASS-428-312.6	c 27	N82-29456 *
US-PATENT-CLASS-427-376	c 27	N76-23426 *	US-PATENT-CLASS-427-88	c 44	N79-31752 *	US-PATENT-CLASS-428-312.6	c 44	N83-34448 *
US-PATENT-CLASS-427-379	c 27	N76-23477 *	US-PATENT-CLASS-427-88	c 44	N83-13579 *	US-PATENT-CLASS-428-312	c 27	N78-32260 *
US-PATENT-CLASS-427-379	c 27	N76-23426 *	US-PATENT-CLASS-427-88	c 33	N84-16456 *	US-PATENT-CLASS-428-313	c 24	N78-27180 *
US-PATENT-CLASS-427-379	c 27	N78-32260 *	US-PATENT-CLASS-427-89	c 44	N83-13579 *	US-PATENT-CLASS-428-317.9	c 27	N82-29456 *
US-PATENT-CLASS-427-379	c 27	N81-19296 *	US-PATENT-CLASS-427-90	c 44	N83-13579 *	US-PATENT-CLASS-428-319.1	c 03	N84-33394 *
US-PATENT-CLASS-427-379	c 24	N83-13171 *	US-PATENT-CLASS-427-91	c 44	N83-13579 *	US-PATENT-CLASS-428-325	c 27	N78-32260 *
US-PATENT-CLASS-427-379	c 24	N83-13172 *	US-PATENT-CLASS-427-95	c 25	N79-28253 *	US-PATENT-CLASS-428-325	c 27	N82-29456 *
US-PATENT-CLASS-427-379	c 44	N84-28205 *	US-PATENT-CLASS-427-96	c 33	N84-16456 *	US-PATENT-CLASS-428-325	c 44	N83-34448 *
US-PATENT-CLASS-427-37	c 24	N85-30027 *	US-PATENT-CLASS-428-109	c 27	N76-14264 *	US-PATENT-CLASS-428-328	c 24	N77-27188 *
US-PATENT-CLASS-427-380	c 27	N76-22377 *	US-PATENT-CLASS-428-109	c 33	N79-12331 *	US-PATENT-CLASS-428-331	c 27	N78-32260 *
US-PATENT-CLASS-427-380	c 27	N76-23426 *	US-PATENT-CLASS-428-113	c 24	N81-14000 *	US-PATENT-CLASS-428-331	c 27	N83-18908 *
US-PATENT-CLASS-427-380	c 27	N78-32260 *	US-PATENT-CLASS-428-114	c 24	N81-13999 *	US-PATENT-CLASS-428-332	c 27	N76-22377 *
US-PATENT-CLASS-427-380	c 44	N84-28205 *	US-PATENT-CLASS-428-114	c 24	N81-14000 *	US-PATENT-CLASS-428-332	c 27	N76-23426 *
US-PATENT-CLASS-427-380	c 26	N85-35267 *	US-PATENT-CLASS-428-116	c 24	N78-10214 *	US-PATENT-CLASS-428-332	c 24	N78-27180 *
US-PATENT-CLASS-427-384	c 24	N83-13171 *	US-PATENT-CLASS-428-116	c 24	N78-17149 *	US-PATENT-CLASS-428-332	c 27	N79-12221 *
US-PATENT-CLASS-427-384	c 24	N83-13172 *	US-PATENT-CLASS-428-116	c 24	N86-28131 *	US-PATENT-CLASS-428-332	c 24	N79-25142 *
US-PATENT-CLASS-427-385.5	c 27	N81-14078 *	US-PATENT-CLASS-428-117	c 37	N76-24575 *	US-PATENT-CLASS-428-332	c 27	N82-24340 *
US-PATENT-CLASS-427-385.5	c 27	N86-20561 *	US-PATENT-CLASS-428-117	c 24	N78-15180 *	US-PATENT-CLASS-428-334	c 74	N78-15879 *
US-PATENT-CLASS-427-385B	c 44	N78-25530 *	US-PATENT-CLASS-428-117	c 24	N79-16915 *	US-PATENT-CLASS-428-336	c 74	N78-15879 *
US-PATENT-CLASS-427-385C	c 44	N78-25530 *	US-PATENT-CLASS-428-119	c 24	N79-16915 *	US-PATENT-CLASS-428-336	c 27	N86-31727 *
US-PATENT-CLASS-427-386	c 24	N78-27180 *	US-PATENT-CLASS-428-133	c 37	N79-10422 *	US-PATENT-CLASS-428-339	c 27	N82-24340 *
US-PATENT-CLASS-427-387	c 74	N78-32854 *	US-PATENT-CLASS-428-137	c 24	N79-25142 *	US-PATENT-CLASS-428-341	c 27	N78-32260 *
US-PATENT-CLASS-427-387	c 24	N83-13171 *	US-PATENT-CLASS-428-138	c 24	N78-10214 *	US-PATENT-CLASS-428-347	c 27	N84-14323 *
US-PATENT-CLASS-427-387	c 24	N83-13172 *	US-PATENT-CLASS-428-139	c 23	N81-29160 *	US-PATENT-CLASS-428-35	c 34	N77-18382 *
US-PATENT-CLASS-427-388.1	c 27	N86-20561 *	US-PATENT-CLASS-428-140	c 24	N81-14000 *	US-PATENT-CLASS-428-366	c 24	N79-24062 *
US-PATENT-CLASS-427-388A	c 24	N78-27180 *	US-PATENT-CLASS-428-141	c 24	N77-28225 *	US-PATENT-CLASS-428-367	c 27	N81-27272 *
US-PATENT-CLASS-427-38	c 74	N78-32854 *	US-PATENT-CLASS-428-141	c 27	N82-28440 *	US-PATENT-CLASS-428-367	c 24	N83-33950 *
US-PATENT-CLASS-427-38	c 27	N80-24437 *	US-PATENT-CLASS-428-141	c 27	N82-33521 *	US-PATENT-CLASS-428-367	c 27	N84-14322 *
US-PATENT-CLASS-427-38	c 26	N85-29005 *	US-PATENT-CLASS-428-155	c 37	N84-22957 *	US-PATENT-CLASS-428-367	c 27	N87-28656 *
US-PATENT-CLASS-427-38	c 27	N86-19458 *	US-PATENT-CLASS-428-161	c 24	N77-28225 *	US-PATENT-CLASS-428-367	c 27	N89-29538 *
US-PATENT-CLASS-427-38	c 26	N88-14179 *	US-PATENT-CLASS-428-182	c 18	N84-33450 *	US-PATENT-CLASS-428-368	c 24	N77-27188 *
US-PATENT-CLASS-427-393.3	c 27	N82-16238 *	US-PATENT-CLASS-428-182	c 31	N89-12786 *	US-PATENT-CLASS-428-368	c 27	N83-18908 *
US-PATENT-CLASS-427-397.7	c 27	N82-33520 *	US-PATENT-CLASS-428-184	c 18	N84-33450 *	US-PATENT-CLASS-428-370	c 27	N84-22745 *
US-PATENT-CLASS-427-397.7	c 26	N85-35267 *	US-PATENT-CLASS-428-189	c 27	N79-12221 *	US-PATENT-CLASS-428-375	c 24	N79-16915 *
US-PATENT-CLASS-427-398A	c 44	N79-11472 *	US-PATENT-CLASS-428-192	c 27	N82-24339 *	US-PATENT-CLASS-428-375	c 24	N83-33950 *
US-PATENT-CLASS-427-399	c 44	N79-11472 *	US-PATENT-CLASS-428-193	c 27	N82-24339 *	US-PATENT-CLASS-428-375	c 27	N89-29538 *
US-PATENT-CLASS-427-399	c 36	N84-22944 *	US-PATENT-CLASS-428-202	c 27	N84-14323 *	US-PATENT-CLASS-428-390	c 27	N89-29538 *
US-PATENT-CLASS-427-39	c 24	N85-21267 *	US-PATENT-CLASS-428-212	c 27	N76-14264 *	US-PATENT-CLASS-428-392	c 24	N83-33950 *
US-PATENT-CLASS-427-39	c 31	N86-32587 *	US-PATENT-CLASS-428-212	c 27	N79-12221 *	US-PATENT-CLASS-428-406	c 27	N78-32260 *
US-PATENT-CLASS-427-400	c 27	N83-34039 *	US-PATENT-CLASS-428-212	c 27	N82-29456 *	US-PATENT-CLASS-428-408	c 27	N81-27272 *
US-PATENT-CLASS-427-402	c 27	N76-22377 *	US-PATENT-CLASS-428-214	c 27	N76-14264 *	US-PATENT-CLASS-428-408	c 27	N84-14322 *
US-PATENT-CLASS-427-402	c 27	N76-23426 *	US-PATENT-CLASS-428-218	c 27	N82-29456 *	US-PATENT-CLASS-428-408	c 27	N84-22745 *
US-PATENT-CLASS-427-405	c 34	N78-18355 *	US-PATENT-CLASS-428-218	c 24	N83-13171 *	US-PATENT-CLASS-428-408	c 27	N85-34281 *
US-PATENT-CLASS-427-405	c 27	N82-28441 *	US-PATENT-CLASS-428-220	c 15	N79-26100 *	US-PATENT-CLASS-428-408	c 24	N86-28131 *
US-PATENT-CLASS-427-405	c 27	N83-18355 *	US-PATENT-CLASS-428-241	c 27	N82-24339 *	US-PATENT-CLASS-428-408	c 27	N89-29538 *
US-PATENT-CLASS-427-405	c 26	N84-27855 *	US-PATENT-CLASS-428-241	c 27	N83-18908 *	US-PATENT-CLASS-428-40	c 27	N84-14323 *
US-PATENT-CLASS-427-407.1	c 27	N83-34039 *	US-PATENT-CLASS-428-242	c 27	N82-24339 *	US-PATENT-CLASS-428-410	c 23	N86-19376 *
US-PATENT-CLASS-427-40	c 27	N78-31233 *	US-PATENT-CLASS-428-244	c 27	N83-18908 *	US-PATENT-CLASS-428-411	c 27	N78-14164 *
US-PATENT-CLASS-427-40	c 27	N79-18052 *	US-PATENT-CLASS-428-245	c 27	N82-24339 *	US-PATENT-CLASS-428-411	c 27	N78-31233 *
US-PATENT-CLASS-427-40	c 27	N80-24437 *	US-PATENT-CLASS-428-245	c 27	N83-18908 *	US-PATENT-CLASS-428-411	c 27	N79-14214 *
US-PATENT-CLASS-427-419.2	c 26	N83-31795 *	US-PATENT-CLASS-428-246	c 27	N84-14322 *	US-PATENT-CLASS-428-412	c 27	N76-16230 *
US-PATENT-CLASS-427-419.2	c 26	N84-27855 *	US-PATENT-CLASS-428-246	c 03	N84-33394 *	US-PATENT-CLASS-428-412	c 27	N78-31233 *
US-PATENT-CLASS-427-419A	c 34	N78-18355 *	US-PATENT-CLASS-428-247	c 33	N79-12331 *	US-PATENT-CLASS-428-412	c 74	N78-32854 *
US-PATENT-CLASS-427-41	c 27	N78-31233 *	US-PATENT-CLASS-428-247	c 33	N82-26571 *	US-PATENT-CLASS-428-412	c 27	N79-18052 *
US-PATENT-CLASS-427-41	c 74	N78-32854 *	US-PATENT-CLASS-428-251	c 27	N82-24339 *	US-PATENT-CLASS-428-413	c 27	N76-16230 *
US-PATENT-CLASS-427-41	c 27	N79-14214 *	US-PATENT-CLASS-428-257	c 27	N82-24339 *	US-PATENT-CLASS-428-413	c 15	N79-26100 *
US-PATENT-CLASS-427-41	c 27	N79-18052 *	US-PATENT-CLASS-428-258	c 33	N79-12331 *	US-PATENT-CLASS-428-413	c 24	N81-14000 *
US-PATENT-CLASS-427-41	c 27	N80-23452 *	US-PATENT-CLASS-428-259	c 33	N79-12331 *	US-PATENT-CLASS-428-413	c 27	N85-34281 *
US-PATENT-CLASS-427-421	c 71	N84-16940 *	US-PATENT-CLASS-428-260	c 27	N81-27272 *	US-PATENT-CLASS-428-413	c 27	N87-25469 *
US-PATENT-CLASS-427-421	c 26	N86-32550 *	US-PATENT-CLASS-428-260	c 27	N82-24339 *	US-PATENT-CLASS-428-414	c 15	N79-26100 *
US-PATENT-CLASS-427-422	c 24	N85-30027 *	US-PATENT-CLASS-428-260	c 27	N83-18908 *	US-PATENT-CLASS-428-416	c 27	N76-14264 *
US-PATENT-CLASS-427-423	c 34	N78-18355 *	US-PATENT-CLASS-428-260	c 27	N84-14322 *	US-PATENT-CLASS-428-417	c 27	N87-25469 *
US-PATENT-CLASS-427-423	c 27	N82-29453 *	US-PATENT-CLASS-428-262	c 27	N85-34281 *	US-PATENT-CLASS-428-418	c 24	N77-27188 *
US-PATENT-CLASS-427-423	c 27	N83-18355 *	US-PATENT-CLASS-428-262	c 27	N87-14516 *	US-PATENT-CLASS-428-418	c 15	N79-26100 *
US-PATENT-CLASS-427-423	c 31	N83-35177 *	US-PATENT-CLASS-428-263	c 27	N82-16238 *	US-PATENT-CLASS-428-421	c 34	N77-18382 *
US-PATENT-CLASS-427-423	c 37	N84-22957 *	US-PATENT-CLASS-428-264	c 27	N82-16238 *	US-PATENT-CLASS-428-421	c 15	N79-26100 *
US-PATENT-CLASS-427-425	c 37	N82-24492 *	US-PATENT-CLASS-428-265	c 27	N82-16238 *	US-PATENT-CLASS-428-421	c 27	N80-24437 *
US-PATENT-CLASS-427-426	c 27	N76-15310 *	US-PATENT-CLASS-428-266	c 27	N82-24339 *	US-PATENT-CLASS-428-421	c 76	N83-34796 *
US-PATENT-CLASS-427-426	c 71	N84-16940 *	US-PATENT-CLASS-428-267	c 27	N82-16238 *	US-PATENT-CLASS-428-421	c 27	N87-16909 *
US-PATENT-CLASS-427-427	c 24	N78-24290 *	US-PATENT-CLASS-428-272	c 27	N82-16238 *	US-PATENT-CLASS-428-421	c 27	N87-23736 *
US-PATENT-CLASS-427-427	c 26	N86-32550 *	US-PATENT-CLASS-428-280	c 27	N79-12221 *	US-PATENT-CLASS-428-422	c 27	N78-31233 *
US-PATENT-CLASS-427-429	c 27	N81-14078 *	US-PATENT-CLASS-428-280	c 03	N84-33394 *	US-PATENT-CLASS-428-422	c 76	N83-34796 *
US-PATENT-CLASS-427-436	c 33	N84-16456 *	US-PATENT-CLASS-428-282	c 24	N79-25142 *	US-PATENT-CLASS-428-422	c 27	N87-23736 *
US-PATENT-CLASS-427-437	c 33	N84-16456 *	US-PATENT-CLASS-428-283	c 24	N82-29362 *	US-PATENT-CLASS-428-423.5	c 03	N84-33394 *
US-PATENT-CLASS-427-443.2	c 25	N84-12262 *	US-PATENT-CLASS-428-283	c 27	N82-29456 *	US-PATENT-CLASS-428-425	c 24	N77-28225 *
US-PATENT-CLASS-427-443	c 44	N84-28205 *	US-PATENT-CLASS-428-284	c 24	N82-29362 *	US-PATENT-CLASS-428-426	c 74	N78-15879 *
US-PATENT-CLASS-427-44	c 74	N78-32854 *	US-PATENT-CLASS-428-285	c 27	N79-12221 *	US-PATENT-CLASS-428-427	c 27	N78-32260 *
US-PATENT-CLASS-427-44	c 27	N80-32516 *	US-PATENT-CLASS-428-286	c 27	N79-12221 *	US-PATENT-CLASS-428-427	c 44	N83-34448 *
US-PATENT-CLASS-427-47	c 44	N77-32583 *	US-PATENT-CLASS-428-286	c 24	N82-29362 *	US-PATENT-CLASS-428-428	c 27	N76-22377 *
US-PATENT-CLASS-427-47	c 26	N85-29005 *	US-PATENT-CLASS-428-287	c 24	N82-29362 *	US-PATENT-CLASS-428-428	c 27	N76-23426 *
US-PATENT-CLASS-427-4	c 51	N77-27677 *	US-PATENT-CLASS-428-287	c 03	N84-33394 *	US-PATENT-CLASS-428-428	c 74	N78-15879 *
US-PATENT-CLASS-427-53.1	c 36	N84-22944 *	US-PATENT-CLASS-428-288	c 24	N82-29362 *	US-PATENT-CLASS-428-428	c 27	N78-32260 *
US-PATENT-CLASS-427-53.1	c 37	N84-22957 *	US-PATENT-CLASS-428-288	c 27	N89-29538 *	US-PATENT-CLASS-428-428	c 44	N83-34448 *
US-PATENT-CLASS-427-531	c 44	N82-28780 *	US-PATENT-CLASS-428-289	c 27	N82-29456 *	US-PATENT-CLASS-428-432	c 27	N84-33589 *
US-PATENT-CLASS-427-57	c 71	N84-16940 *	US-PATENT-CLASS-428-290	c 24	N78-15180 *	US-PATENT-CLASS-428-432	c 76	N85-33826 *
US-PATENT-CLASS-427-58	c 33	N84-16456 *	US-PATENT-CLASS-428-290	c 24	N79-25142 *	US-PATENT-CLASS-428-446	c 27	N78-32260 *
US-PATENT-CLASS-427-6	c 71	N84-16940 *	US-PATENT-CLASS-428-294	c 27	N87-28657 *	US-PATENT-CLASS-428-446	c 27	N82-29456 *
US-PATENT-CLASS-427-74	c 44	N82-28780 *	US-PATENT-CLASS-428-294	c 24	N78-17150 *	US-PATENT-CLASS-428-447	c 27	N86-19458 *
US-PATENT-CLASS-427-75	c 44	N78-25527 *	US-PATENT-CLASS-428-301	c 76	N83-34796 *	US-PATENT-CLASS-428-447	c 27	N76-14264 *
US-PATENT-CLASS-427-75	c 44	N79-11468 *	US-PATENT-CLASS-428-301	c 24	N77-27188 *	US-PATENT-CLASS-428-447	c 27	N76-16230 *
US-PATENT-CLASS-427-75	c 44	N79-11472 *	US-PATENT-CLASS-428-302	c 24	N78-17150 *	US-PATENT-CLASS-428-447	c 27	N78-31233 *
US-PATENT-CLASS-427-75	c 33	N84-16456 *	US-PATENT-CLASS-428-303	c 27	N76-15310 *	US-PATENT-CLASS-428-447	c 74	N78-32854 *
US-PATENT-CLASS-427-84	c 44	N79-11472 *	US-PATENT-CLASS-428-304.4	c 03	N84-33394 *	US-PATENT-CLASS-428-447	c 27	N79-12221 *
US-PATENT-CLASS-427-85	c 44	N85-20530 *	US-PATENT-CLASS-428-307.7	c 27	N82-29456 *	US-PATENT-CLASS-428-447	c 27	N79-18052 *
US-PATENT-CLASS-427-86	c 44	N76-28635 *	US-PATENT-CLASS-428-311.5	c 27	N82-29456 *	US-PATENT-CLASS-428-447	c 24	N79-25142 *

US-PATENT-CLASS-428-447	c 27	N82-24339 *	US-PATENT-CLASS-428-678	c 24	N85-21266 *	US-PATENT-CLASS-429-13	c 44	N79-10513 *
US-PATENT-CLASS-428-447	c 27	N87-14516 *	US-PATENT-CLASS-428-678	c 24	N85-35233 *	US-PATENT-CLASS-429-144	c 44	N82-29708 *
US-PATENT-CLASS-428-447	c 27	N87-23736 *	US-PATENT-CLASS-428-679	c 44	N78-19599 *	US-PATENT-CLASS-429-144	c 44	N83-32176 *
US-PATENT-CLASS-428-448	c 27	N82-24339 *	US-PATENT-CLASS-428-679	c 26	N81-25188 *	US-PATENT-CLASS-429-15	c 44	N79-26474 *
US-PATENT-CLASS-428-44	c 24	N88-18628 *	US-PATENT-CLASS-428-679	c 24	N85-21266 *	US-PATENT-CLASS-429-15	c 44	N86-19721 *
US-PATENT-CLASS-428-44	c 27	N89-12741 *	US-PATENT-CLASS-428-679	c 24	N85-35233 *	US-PATENT-CLASS-429-160	c 44	N81-24521 *
US-PATENT-CLASS-428-450	c 27	N76-16229 *	US-PATENT-CLASS-428-680	c 44	N80-16452 *	US-PATENT-CLASS-429-164	c 44	N81-24521 *
US-PATENT-CLASS-428-450	c 27	N76-22377 *	US-PATENT-CLASS-428-680	c 26	N81-25188 *	US-PATENT-CLASS-429-190	c 44	N77-22606 *
US-PATENT-CLASS-428-450	c 27	N76-23426 *	US-PATENT-CLASS-428-680	c 26	N83-31795 *	US-PATENT-CLASS-429-193	c 44	N82-29710 *
US-PATENT-CLASS-428-450	c 27	N79-12221 *	US-PATENT-CLASS-428-680	c 24	N85-21266 *	US-PATENT-CLASS-429-19	c 44	N86-19721 *
US-PATENT-CLASS-428-450	c 26	N83-31795 *	US-PATENT-CLASS-428-680	c 24	N85-35233 *	US-PATENT-CLASS-429-206	c 25	N83-13188 *
US-PATENT-CLASS-428-451	c 27	N79-18052 *	US-PATENT-CLASS-428-681	c 24	N85-21266 *	US-PATENT-CLASS-429-206	c 33	N84-14422 *
US-PATENT-CLASS-428-457	c 27	N76-16229 *	US-PATENT-CLASS-428-681	c 24	N85-35233 *	US-PATENT-CLASS-429-206	c 33	N85-29144 *
US-PATENT-CLASS-428-457	c 24	N77-27188 *	US-PATENT-CLASS-428-682	c 24	N85-21266 *	US-PATENT-CLASS-429-223	c 26	N84-22734 *
US-PATENT-CLASS-428-457	c 24	N77-28225 *	US-PATENT-CLASS-428-682	c 24	N85-35233 *	US-PATENT-CLASS-429-229	c 33	N84-14422 *
US-PATENT-CLASS-428-457	c 26	N82-30371 *	US-PATENT-CLASS-428-683	c 24	N85-21266 *	US-PATENT-CLASS-429-234	c 26	N84-22734 *
US-PATENT-CLASS-428-458	c 24	N77-28225 *	US-PATENT-CLASS-428-684	c 24	N85-21266 *	US-PATENT-CLASS-429-23	c 44	N77-14581 *
US-PATENT-CLASS-428-458	c 24	N79-16915 *	US-PATENT-CLASS-428-688	c 76	N85-33826 *	US-PATENT-CLASS-429-249	c 27	N81-24257 *
US-PATENT-CLASS-428-458	c 27	N86-20561 *	US-PATENT-CLASS-428-688	c 26	N85-35267 *	US-PATENT-CLASS-429-249	c 23	N81-29160 *
US-PATENT-CLASS-428-461	c 34	N77-18382 *	US-PATENT-CLASS-428-688	c 27	N89-29538 *	US-PATENT-CLASS-429-249	c 33	N85-29144 *
US-PATENT-CLASS-428-462	c 27	N82-24340 *	US-PATENT-CLASS-428-702	c 27	N86-19458 *	US-PATENT-CLASS-429-251	c 44	N82-29708 *
US-PATENT-CLASS-428-466	c 27	N82-24340 *	US-PATENT-CLASS-428-702	c 27	N87-23736 *	US-PATENT-CLASS-429-251	c 44	N83-32176 *
US-PATENT-CLASS-428-469	c 27	N76-16229 *	US-PATENT-CLASS-428-704	c 26	N85-35267 *	US-PATENT-CLASS-429-253	c 44	N79-25481 *
US-PATENT-CLASS-428-469	c 26	N83-31795 *	US-PATENT-CLASS-428-704	c 27	N87-16909 *	US-PATENT-CLASS-429-253	c 27	N81-24257 *
US-PATENT-CLASS-428-471	c 26	N81-25188 *	US-PATENT-CLASS-428-71	c 24	N78-15180 *	US-PATENT-CLASS-429-253	c 23	N81-29160 *
US-PATENT-CLASS-428-472	c 26	N82-30371 *	US-PATENT-CLASS-428-71	c 03	N84-33394 *	US-PATENT-CLASS-429-253	c 25	N83-13188 *
US-PATENT-CLASS-428-473.5	c 27	N81-14078 *	US-PATENT-CLASS-428-71	c 27	N89-12741 *	US-PATENT-CLASS-429-254	c 44	N78-25530 *
US-PATENT-CLASS-428-473.5	c 27	N81-29229 *	US-PATENT-CLASS-428-73	c 24	N78-10214 *	US-PATENT-CLASS-429-254	c 44	N82-29708 *
US-PATENT-CLASS-428-473.5	c 27	N84-14322 *	US-PATENT-CLASS-428-73	c 24	N78-15180 *	US-PATENT-CLASS-429-254	c 44	N83-32176 *
US-PATENT-CLASS-428-473.5	c 27	N86-19458 *	US-PATENT-CLASS-428-73	c 24	N79-16915 *	US-PATENT-CLASS-429-27	c 27	N81-24257 *
US-PATENT-CLASS-428-473.5	c 27	N86-20561 *	US-PATENT-CLASS-428-74	c 24	N88-18628 *	US-PATENT-CLASS-429-27	c 23	N81-29160 *
US-PATENT-CLASS-428-473.5	c 24	N86-25416 *	US-PATENT-CLASS-428-76	c 03	N84-33394 *	US-PATENT-CLASS-429-27	c 44	N86-25874 *
US-PATENT-CLASS-428-473.5	c 27	N86-31726 *	US-PATENT-CLASS-428-76	c 24	N88-18628 *	US-PATENT-CLASS-429-28	c 27	N81-24257 *
US-PATENT-CLASS-428-473.5	c 27	N86-31727 *	US-PATENT-CLASS-428-76	c 27	N89-12741 *	US-PATENT-CLASS-429-28	c 23	N81-29160 *
US-PATENT-CLASS-428-473.5	c 27	N87-16909 *	US-PATENT-CLASS-428-77	c 27	N76-14264 *	US-PATENT-CLASS-429-33	c 44	N79-17313 *
US-PATENT-CLASS-428-473.5	c 27	N87-23736 *	US-PATENT-CLASS-428-77	c 27	N79-12221 *	US-PATENT-CLASS-429-33	c 44	N82-29710 *
US-PATENT-CLASS-428-474	c 34	N77-18382 *	US-PATENT-CLASS-428-78	c 27	N84-14323 *	US-PATENT-CLASS-429-34	c 44	N77-14581 *
US-PATENT-CLASS-428-474.4	c 24	N86-25416 *	US-PATENT-CLASS-428-902	c 24	N77-27188 *	US-PATENT-CLASS-429-34	c 44	N83-27344 *
US-PATENT-CLASS-428-474	c 27	N79-33316 *	US-PATENT-CLASS-428-902	c 24	N78-10214 *	US-PATENT-CLASS-429-40	c 44	N82-29710 *
US-PATENT-CLASS-428-474	c 27	N80-24437 *	US-PATENT-CLASS-428-902	c 24	N78-17149 *	US-PATENT-CLASS-429-40	c 44	N83-27344 *
US-PATENT-CLASS-428-477.7	c 24	N86-25416 *	US-PATENT-CLASS-428-902	c 24	N81-14000 *	US-PATENT-CLASS-429-41	c 44	N79-10513 *
US-PATENT-CLASS-428-47	c 27	N89-12741 *	US-PATENT-CLASS-428-902	c 31	N81-25258 *	US-PATENT-CLASS-429-42	c 44	N79-10513 *
US-PATENT-CLASS-428-480	c 24	N81-14000 *	US-PATENT-CLASS-428-902	c 27	N81-27272 *	US-PATENT-CLASS-429-44	c 44	N84-28205 *
US-PATENT-CLASS-428-493	c 27	N82-24340 *	US-PATENT-CLASS-428-902	c 27	N83-18908 *	US-PATENT-CLASS-429-51	c 44	N86-19721 *
US-PATENT-CLASS-428-49	c 27	N82-24339 *	US-PATENT-CLASS-428-902	c 24	N83-33950 *	US-PATENT-CLASS-429-57	c 44	N86-25874 *
US-PATENT-CLASS-428-49	c 27	N82-29456 *	US-PATENT-CLASS-428-902	c 27	N84-14322 *	US-PATENT-CLASS-429-58	c 35	N85-21596 *
US-PATENT-CLASS-428-500	c 27	N80-32516 *	US-PATENT-CLASS-428-902	c 27	N84-22745 *	US-PATENT-CLASS-429-94	c 44	N81-24521 *
US-PATENT-CLASS-428-500	c 27	N87-16909 *	US-PATENT-CLASS-428-903	c 24	N83-33950 *	US-PATENT-CLASS-430-17	c 35	N82-11432 *
US-PATENT-CLASS-428-515	c 27	N78-31233 *	US-PATENT-CLASS-428-911	c 27	N76-16230 *	US-PATENT-CLASS-430-271	c 27	N81-25209 *
US-PATENT-CLASS-428-522	c 27	N78-14164 *	US-PATENT-CLASS-428-911	c 24	N77-27188 *	US-PATENT-CLASS-430-325	c 27	N81-25209 *
US-PATENT-CLASS-428-523	c 27	N78-31233 *	US-PATENT-CLASS-428-913	c 34	N78-25350 *	US-PATENT-CLASS-430-329	c 27	N81-25209 *
US-PATENT-CLASS-428-528	c 24	N81-13999 *	US-PATENT-CLASS-428-913	c 27	N83-18908 *	US-PATENT-CLASS-430-330	c 27	N81-25209 *
US-PATENT-CLASS-428-538	c 27	N76-22377 *	US-PATENT-CLASS-428-913	c 76	N85-33826 *	US-PATENT-CLASS-430-372	c 35	N82-11432 *
US-PATENT-CLASS-428-538	c 27	N76-23426 *	US-PATENT-CLASS-428-920	c 27	N76-16230 *	US-PATENT-CLASS-431-10	c 34	N78-27357 *
US-PATENT-CLASS-428-538	c 27	N78-31233 *	US-PATENT-CLASS-428-920	c 27	N76-22377 *	US-PATENT-CLASS-431-10	c 25	N79-11151 *
US-PATENT-CLASS-428-539	c 27	N76-16229 *	US-PATENT-CLASS-428-920	c 27	N76-23426 *	US-PATENT-CLASS-431-116	c 44	N77-10636 *
US-PATENT-CLASS-428-541	c 24	N81-13999 *	US-PATENT-CLASS-428-920	c 24	N78-15180 *	US-PATENT-CLASS-431-11	c 44	N77-10636 *
US-PATENT-CLASS-428-564	c 26	N84-33555 *	US-PATENT-CLASS-428-920	c 27	N78-32260 *	US-PATENT-CLASS-431-13	c 25	N88-29002 *
US-PATENT-CLASS-428-58	c 27	N89-12741 *	US-PATENT-CLASS-428-920	c 27	N79-12221 *	US-PATENT-CLASS-431-158	c 25	N78-10224 *
US-PATENT-CLASS-428-593	c 24	N82-24296 *	US-PATENT-CLASS-428-920	c 24	N79-25142 *	US-PATENT-CLASS-431-162	c 44	N77-10636 *
US-PATENT-CLASS-428-593	c 24	N84-11214 *	US-PATENT-CLASS-428-920	c 15	N79-26100 *	US-PATENT-CLASS-431-163	c 44	N76-29704 *
US-PATENT-CLASS-428-594	c 24	N82-24296 *	US-PATENT-CLASS-428-920	c 27	N81-27272 *	US-PATENT-CLASS-431-170	c 44	N77-10636 *
US-PATENT-CLASS-428-594	c 24	N82-32417 *	US-PATENT-CLASS-428-920	c 27	N83-18908 *	US-PATENT-CLASS-431-173	c 23	N73-30665 *
US-PATENT-CLASS-428-595	c 18	N84-33450 *	US-PATENT-CLASS-428-920	c 27	N84-14322 *	US-PATENT-CLASS-431-1	c 25	N84-16276 *
US-PATENT-CLASS-428-604	c 24	N82-24296 *	US-PATENT-CLASS-428-920	c 27	N84-22745 *	US-PATENT-CLASS-431-202	c 25	N74-33378 *
US-PATENT-CLASS-428-604	c 24	N82-32417 *	US-PATENT-CLASS-428-920	c 24	N88-18628 *	US-PATENT-CLASS-431-208	c 25	N79-11151 *
US-PATENT-CLASS-428-607	c 24	N82-32417 *	US-PATENT-CLASS-428-921	c 27	N76-16230 *	US-PATENT-CLASS-431-210	c 44	N76-29704 *
US-PATENT-CLASS-428-607	c 26	N87-25455 *	US-PATENT-CLASS-428-921	c 24	N78-27180 *	US-PATENT-CLASS-431-2	c 07	N81-29129 *
US-PATENT-CLASS-428-608	c 24	N82-32417 *	US-PATENT-CLASS-428-921	c 24	N81-13999 *	US-PATENT-CLASS-431-328	c 34	N78-27357 *
US-PATENT-CLASS-428-623	c 27	N83-31855 *	US-PATENT-CLASS-428-921	c 03	N84-33394 *	US-PATENT-CLASS-431-352	c 28	N71-28915 *
US-PATENT-CLASS-428-629	c 44	N80-16452 *	US-PATENT-CLASS-428-921	c 24	N86-28131 *	US-PATENT-CLASS-431-352	c 25	N78-10224 *
US-PATENT-CLASS-428-632	c 26	N81-25188 *	US-PATENT-CLASS-428-922	c 27	N78-14164 *	US-PATENT-CLASS-431-41	c 44	N77-10636 *
US-PATENT-CLASS-428-632	c 26	N84-27855 *	US-PATENT-CLASS-428-938	c 27	N82-28441 *	US-PATENT-CLASS-431-4	c 44	N76-29704 *
US-PATENT-CLASS-428-632	c 26	N87-25455 *	US-PATENT-CLASS-428-93	c 34	N78-25350 *	US-PATENT-CLASS-431-76	c 25	N88-29002 *
US-PATENT-CLASS-428-633	c 34	N78-18355 *	US-PATENT-CLASS-428-941	c 27	N82-28441 *	US-PATENT-CLASS-431-7	c 34	N78-27357 *
US-PATENT-CLASS-428-633	c 27	N83-31855 *	US-PATENT-CLASS-428-94	c 34	N78-25350 *	US-PATENT-CLASS-431-9	c 23	N73-30665 *
US-PATENT-CLASS-428-633	c 24	N85-21266 *	US-PATENT-CLASS-428-95	c 34	N78-25350 *	US-PATENT-CLASS-432-18	c 35	N86-20750 *
US-PATENT-CLASS-428-633	c 24	N85-35233 *	US-PATENT-CLASS-428-96	c 34	N78-25350 *	US-PATENT-CLASS-432-223	c 25	N79-11151 *
US-PATENT-CLASS-428-639	c 26	N84-33555 *	US-PATENT-CLASS-428-97	c 34	N78-25350 *	US-PATENT-CLASS-432-227	c 35	N83-24828 *
US-PATENT-CLASS-428-63	c 24	N83-13172 *	US-PATENT-CLASS-429-101	c 44	N79-17313 *	US-PATENT-CLASS-432-264	c 33	N81-19389 *
US-PATENT-CLASS-428-641	c 26	N83-31795 *	US-PATENT-CLASS-429-101	c 44	N79-26474 *	US-PATENT-CLASS-432-29	c 25	N79-11151 *
US-PATENT-CLASS-428-650	c 44	N80-16452 *	US-PATENT-CLASS-429-101	c 33	N80-20487 *	US-PATENT-CLASS-432-58	c 35	N83-24828 *
US-PATENT-CLASS-428-650	c 26	N83-31795 *	US-PATENT-CLASS-429-105	c 44	N77-22606 *	US-PATENT-CLASS-433-118	c 52	N82-29862 *
US-PATENT-CLASS-428-651	c 26	N87-25455 *	US-PATENT-CLASS-429-105	c 33	N80-20487 *	US-PATENT-CLASS-433-125	c 52	N82-29862 *
US-PATENT-CLASS-428-652	c 34	N78-18355 *	US-PATENT-CLASS-429-105	c 44	N83-27344 *	US-PATENT-CLASS-433-86	c 52	N82-29862 *
US-PATENT-CLASS-428-652	c 44	N78-19599 *	US-PATENT-CLASS-429-107	c 44	N77-22606 *	US-PATENT-CLASS-434-114	c 82	N87-29372 *
US-PATENT-CLASS-428-656	c 24	N85-21266 *	US-PATENT-CLASS-429-107	c 33	N80-20487 *	US-PATENT-CLASS-434-242	c 09	N85-19990 *
US-PATENT-CLASS-428-656	c 24	N85-35233 *	US-PATENT-CLASS-429-107	c 44	N83-27344 *	US-PATENT-CLASS-434-243	c 09	N85-19990 *
US-PATENT-CLASS-428-658	c 44	N80-16452 *	US-PATENT-CLASS-429-109	c 33	N80-20487 *	US-PATENT-CLASS-434-2	c 32	N84-27951 *
US-PATENT-CLASS-428-660	c 26	N87-25455 *	US-PATENT-CLASS-429-109	c 44	N83-27344 *	US-PATENT-CLASS-434-34	c 14	N87-25344 *
US-PATENT-CLASS-428-667	c 34	N78-18355 *	US-PATENT-CLASS-429-109	c 44	N86-19721 *	US-PATENT-CLASS-434-35	c 09	N85-19990 *
US-PATENT-CLASS-428-667	c 44	N78-19599 *	US-PATENT-CLASS-429-111	c 25	N84-12262 *	US-PATENT-CLASS-434-38	c 36	N83-34304 *
US-PATENT-CLASS-428-675	c 44	N80-16452 *	US-PATENT-CLASS-429-111	c 44	N84-23019 *	US-PATENT-CLASS-434-403	c 31	N83-34073 *
US-PATENT-CLASS-428-678	c 26	N81-25188 *	US-PATENT-CLASS-429-120	c 44	N81-24521 *	US-PATENT-CLASS-434-42	c 09	N82-24212 *
US-PATENT-CLASS-428-678	c 27	N83-31855 *	US-PATENT-CLASS-429-139	c 27	N80-32516 *	US-PATENT-CLASS-434-43	c 09	N82-24212 *
US-PATENT-CLASS-428-678	c 26	N84-33555 *	US-PATENT-CLASS-429-139	c 27	N81-24257 *	US-PATENT-CLASS-434-49	c 09	N85-19990 *



US-PATENT-CLASS-434-4	c 36	N83-34304 *	US-PATENT-CLASS-474-220	c 37	N87-17034 *	US-PATENT-CLASS-52-632	c 31	N87-25492 *
US-PATENT-CLASS-434-4	c 35	N86-32697 *	US-PATENT-CLASS-48-DIG.8	c 28	N80-10374 *	US-PATENT-CLASS-52-637	c 39	N76-31562 *
US-PATENT-CLASS-434-59	c 54	N81-27806 *	US-PATENT-CLASS-48-10-3	c 28	N80-10374 *	US-PATENT-CLASS-52-637	c 31	N86-19479 *
US-PATENT-CLASS-434-88	c 31	N83-34073 *	US-PATENT-CLASS-48-102A	c 28	N80-10374 *	US-PATENT-CLASS-52-645	c 31	N81-25259 *
US-PATENT-CLASS-435-160	c 23	N85-35227 *	US-PATENT-CLASS-48-107	c 28	N80-10374 *	US-PATENT-CLASS-52-645	c 37	N86-25789 *
US-PATENT-CLASS-435-289	c 51	N80-27067 *	US-PATENT-CLASS-48-116	c 44	N76-18642 *	US-PATENT-CLASS-52-645	c 37	N86-32737 *
US-PATENT-CLASS-435-289	c 51	N83-27569 *	US-PATENT-CLASS-48-116	c 44	N77-10636 *	US-PATENT-CLASS-52-646	c 31	N73-32749 *
US-PATENT-CLASS-435-290	c 51	N80-27067 *	US-PATENT-CLASS-48-117	c 44	N76-18642 *	US-PATENT-CLASS-52-646	c 31	N86-19479 *
US-PATENT-CLASS-435-291	c 51	N80-27067 *	US-PATENT-CLASS-48-117	c 44	N77-10636 *	US-PATENT-CLASS-52-646	c 37	N86-32737 *
US-PATENT-CLASS-435-291	c 51	N81-28698 *	US-PATENT-CLASS-48-117	c 28	N80-10374 *	US-PATENT-CLASS-52-646	c 31	N87-25492 *
US-PATENT-CLASS-435-291	c 35	N82-28604 *	US-PATENT-CLASS-48-197-R	c 25	N86-25428 *	US-PATENT-CLASS-52-646	c 18	N88-28958 *
US-PATENT-CLASS-435-291	c 51	N83-27569 *	US-PATENT-CLASS-48-197R	c 44	N76-29704 *	US-PATENT-CLASS-52-646	c 37	N88-29180 *
US-PATENT-CLASS-435-311	c 51	N80-27067 *	US-PATENT-CLASS-48-197R	c 44	N77-10636 *	US-PATENT-CLASS-52-648	c 11	N72-25287 *
US-PATENT-CLASS-435-316	c 51	N80-27067 *	US-PATENT-CLASS-48-212	c 44	N77-10636 *	US-PATENT-CLASS-52-648	c 39	N76-31562 *
US-PATENT-CLASS-435-32	c 51	N80-27067 *	US-PATENT-CLASS-48-215	c 44	N76-29700 *	US-PATENT-CLASS-52-648	c 31	N81-25258 *
US-PATENT-CLASS-435-34	c 51	N80-16714 *	US-PATENT-CLASS-48-61	c 44	N77-10636 *	US-PATENT-CLASS-52-648	c 31	N86-19479 *
US-PATENT-CLASS-435-34	c 51	N80-27067 *	US-PATENT-CLASS-48-61	c 28	N80-10374 *	US-PATENT-CLASS-52-648	c 37	N86-25789 *
US-PATENT-CLASS-435-34	c 51	N81-28698 *	US-PATENT-CLASS-48-63	c 44	N76-18642 *	US-PATENT-CLASS-52-648	c 18	N88-28958 *
US-PATENT-CLASS-435-34	c 35	N82-28604 *	US-PATENT-CLASS-48-75	c 44	N76-18642 *	US-PATENT-CLASS-52-648	c 37	N88-29180 *
US-PATENT-CLASS-435-34	c 51	N83-27569 *	US-PATENT-CLASS-48-89	c 44	N82-16475 *	US-PATENT-CLASS-52-648	c 18	N89-28554 *
US-PATENT-CLASS-435-34	c 51	N83-28849 *	US-PATENT-CLASS-48-95	c 44	N76-18642 *	US-PATENT-CLASS-52-648	c 31	N73-32749 *
US-PATENT-CLASS-435-38	c 51	N80-27067 *	US-PATENT-CLASS-48-95	c 44	N76-29700 *	US-PATENT-CLASS-52-651	c 39	N76-31562 *
US-PATENT-CLASS-435-38	c 51	N83-27569 *	US-PATENT-CLASS-48-99	c 44	N82-16475 *	US-PATENT-CLASS-52-655	c 11	N72-25287 *
US-PATENT-CLASS-435-38	c 51	N83-28849 *	US-PATENT-CLASS-49-DIG.1	c 34	N78-25350 *	US-PATENT-CLASS-52-705	c 37	N76-19437 *
US-PATENT-CLASS-435-39	c 51	N80-27067 *	US-PATENT-CLASS-49-171	c 31	N81-19343 *	US-PATENT-CLASS-52-71	c 18	N75-27040 *
US-PATENT-CLASS-435-39	c 35	N82-28604 *	US-PATENT-CLASS-49-479	c 34	N78-25350 *	US-PATENT-CLASS-52-726	c 39	N76-31562 *
US-PATENT-CLASS-435-39	c 51	N83-27569 *	US-PATENT-CLASS-49-485	c 34	N78-25350 *	US-PATENT-CLASS-52-726	c 31	N81-25258 *
US-PATENT-CLASS-435-39	c 51	N83-28849 *	US-PATENT-CLASS-49-68	c 18	N74-22136 *	US-PATENT-CLASS-52-743	c 37	N81-14317 *
US-PATENT-CLASS-435-3	c 51	N80-27067 *	US-PATENT-CLASS-5-345	c 05	N70-33285 *	US-PATENT-CLASS-52-745	c 39	N76-31562 *
US-PATENT-CLASS-435-3	c 51	N83-27569 *	US-PATENT-CLASS-5-459	c 03	N84-33394 *	US-PATENT-CLASS-52-745	c 31	N81-27323 *
US-PATENT-CLASS-435-3	c 51	N83-28849 *	US-PATENT-CLASS-5-69	c 05	N72-11085 *	US-PATENT-CLASS-52-745	c 37	N85-30335 *
US-PATENT-CLASS-435-5	c 51	N81-28698 *	US-PATENT-CLASS-5-81-R	c 85	N87-21755 *	US-PATENT-CLASS-52-749	c 39	N76-31562 *
US-PATENT-CLASS-435-807	c 51	N83-28849 *	US-PATENT-CLASS-5-82	c 05	N71-23159 *	US-PATENT-CLASS-52-758F	c 37	N76-19437 *
US-PATENT-CLASS-435-842	c 23	N85-35227 *	US-PATENT-CLASS-501-88	c 27	N88-29040 *	US-PATENT-CLASS-52-806	c 24	N84-11214 *
US-PATENT-CLASS-435-8	c 51	N83-27569 *	US-PATENT-CLASS-501-91	c 27	N88-29040 *	US-PATENT-CLASS-52-808	c 24	N84-11214 *
US-PATENT-CLASS-436-155	c 25	N86-19413 *	US-PATENT-CLASS-501-92	c 27	N88-29040 *	US-PATENT-CLASS-52-80	c 18	N72-25540 *
US-PATENT-CLASS-436-2	c 35	N85-29213 *	US-PATENT-CLASS-501-93	c 27	N88-29040 *	US-PATENT-CLASS-52-80	c 18	N72-25541 *
US-PATENT-CLASS-437-128	c 76	N88-14836 *	US-PATENT-CLASS-51-170	c 15	N71-26134 *	US-PATENT-CLASS-52-80	c 31	N73-32749 *
US-PATENT-CLASS-437-131	c 76	N88-14836 *	US-PATENT-CLASS-51-216	c 15	N72-20444 *	US-PATENT-CLASS-52-814	c 18	N84-33450 *
US-PATENT-CLASS-437-3	c 76	N88-14836 *	US-PATENT-CLASS-51-225	c 37	N74-27905 *	US-PATENT-CLASS-52-814	c 31	N87-16918 *
US-PATENT-CLASS-437-7	c 76	N88-14836 *	US-PATENT-CLASS-51-234	c 37	N74-27905 *	US-PATENT-CLASS-52-814	c 31	N89-12786 *
US-PATENT-CLASS-437-8	c 76	N88-14836 *	US-PATENT-CLASS-51-235	c 37	N78-17383 *	US-PATENT-CLASS-52-81	c 37	N82-32732 *
US-PATENT-CLASS-437-969	c 76	N88-14836 *	US-PATENT-CLASS-51-235	c 76	N80-18951 *	US-PATENT-CLASS-52-821	c 31	N89-12786 *
US-PATENT-CLASS-439-271	c 33	N88-14270 *	US-PATENT-CLASS-51-277	c 74	N80-24149 *	US-PATENT-CLASS-521-124	c 25	N80-16116 *
US-PATENT-CLASS-439-578	c 33	N88-14270 *	US-PATENT-CLASS-51-281-R	c 31	N87-25491 *	US-PATENT-CLASS-521-125	c 25	N80-16116 *
US-PATENT-CLASS-44-1-SR	c 25	N85-35253 *	US-PATENT-CLASS-51-283R	c 74	N80-24149 *	US-PATENT-CLASS-521-127	c 25	N80-16116 *
US-PATENT-CLASS-44-1R	c 44	N78-31527 *	US-PATENT-CLASS-51-283	c 46	N74-23069 *	US-PATENT-CLASS-521-141	c 51	N84-28361 *
US-PATENT-CLASS-44-1R	c 25	N81-33246 *	US-PATENT-CLASS-51-320	c 15	N72-20444 *	US-PATENT-CLASS-521-142	c 51	N84-28361 *
US-PATENT-CLASS-44-1SR	c 25	N82-29371 *	US-PATENT-CLASS-51-323	c 15	N72-20444 *	US-PATENT-CLASS-521-146	c 25	N84-28361 *
US-PATENT-CLASS-44-1SR	c 25	N83-31743 *	US-PATENT-CLASS-51-57	c 15	N71-22705 *	US-PATENT-CLASS-521-149	c 51	N84-28361 *
US-PATENT-CLASS-44-2	c 44	N78-31527 *	US-PATENT-CLASS-51-73R	c 37	N85-21650 *	US-PATENT-CLASS-521-157	c 25	N80-16116 *
US-PATENT-CLASS-44-2	c 25	N81-33246 *	US-PATENT-CLASS-51-97R	c 37	N74-27905 *	US-PATENT-CLASS-521-27	c 27	N81-14076 *
US-PATENT-CLASS-44-50	c 27	N81-17261 *	US-PATENT-CLASS-52-DIG.10	c 18	N72-25540 *	US-PATENT-CLASS-521-32	c 27	N81-14076 *
US-PATENT-CLASS-44-51	c 25	N79-11152 *	US-PATENT-CLASS-52-DIG.10	c 18	N72-25541 *	US-PATENT-CLASS-521-55	c 25	N80-23383 *
US-PATENT-CLASS-44-62	c 27	N81-17261 *	US-PATENT-CLASS-52-108	c 15	N72-18477 *	US-PATENT-CLASS-521-62	c 27	N81-14076 *
US-PATENT-CLASS-44-7R	c 28	N81-14103 *	US-PATENT-CLASS-52-108	c 31	N81-27323 *	US-PATENT-CLASS-521-918	c 25	N80-23383 *
US-PATENT-CLASS-44-7R	c 06	N71-23499 *	US-PATENT-CLASS-52-108	c 31	N87-25492 *	US-PATENT-CLASS-523-135	c 27	N85-29044 *
US-PATENT-CLASS-445-35	c 37	N85-33489 *	US-PATENT-CLASS-52-109	c 31	N73-32749 *	US-PATENT-CLASS-523-205	c 27	N83-19900 *
US-PATENT-CLASS-455-102	c 33	N81-15192 *	US-PATENT-CLASS-52-110	c 37	N86-25791 *	US-PATENT-CLASS-523-433	c 24	N86-19380 *
US-PATENT-CLASS-455-115	c 32	N89-14374 *	US-PATENT-CLASS-52-111	c 31	N81-27324 *	US-PATENT-CLASS-523-434	c 27	N86-27451 *
US-PATENT-CLASS-455-117	c 32	N89-14374 *	US-PATENT-CLASS-52-111	c 37	N86-25789 *	US-PATENT-CLASS-523-435	c 24	N84-11213 *
US-PATENT-CLASS-455-137	c 35	N82-15381 *	US-PATENT-CLASS-52-111	c 37	N86-32737 *	US-PATENT-CLASS-523-440	c 27	N83-34043 *
US-PATENT-CLASS-455-139	c 35	N82-15381 *	US-PATENT-CLASS-52-117	c 44	N77-32582 *	US-PATENT-CLASS-523-443	c 27	N83-34043 *
US-PATENT-CLASS-455-202	c 33	N82-29539 *	US-PATENT-CLASS-52-126.5	c 31	N87-16918 *	US-PATENT-CLASS-523-445	c 24	N86-19380 *
US-PATENT-CLASS-455-202	c 32	N84-27952 *	US-PATENT-CLASS-52-127.7	c 37	N85-30335 *	US-PATENT-CLASS-523-445	c 27	N86-27451 *
US-PATENT-CLASS-455-208	c 33	N82-29539 *	US-PATENT-CLASS-52-127	c 15	N71-21531 *	US-PATENT-CLASS-523-454	c 24	N84-34571 *
US-PATENT-CLASS-455-208	c 32	N84-27952 *	US-PATENT-CLASS-52-169	c 15	N72-25454 *	US-PATENT-CLASS-523-454	c 27	N85-34282 *
US-PATENT-CLASS-455-234	c 33	N82-29539 *	US-PATENT-CLASS-52-171	c 11	N73-12265 *	US-PATENT-CLASS-523-456	c 24	N84-11213 *
US-PATENT-CLASS-455-260	c 32	N84-27952 *	US-PATENT-CLASS-52-171	c 74	N85-29750 *	US-PATENT-CLASS-523-458	c 24	N84-34571 *
US-PATENT-CLASS-455-263	c 32	N84-27952 *	US-PATENT-CLASS-52-173R	c 44	N77-31601 *	US-PATENT-CLASS-523-458	c 27	N85-34282 *
US-PATENT-CLASS-455-265	c 32	N84-27952 *	US-PATENT-CLASS-52-173	c 15	N72-25454 *	US-PATENT-CLASS-523-461	c 27	N86-27451 *
US-PATENT-CLASS-455-278	c 32	N81-29308 *	US-PATENT-CLASS-52-1	c 15	N72-28496 *	US-PATENT-CLASS-523-66468	c 24	N86-19380 *
US-PATENT-CLASS-455-306	c 33	N82-29539 *	US-PATENT-CLASS-52-232	c 37	N81-14317 *	US-PATENT-CLASS-524-104	c 27	N83-28240 *
US-PATENT-CLASS-455-51	c 32	N81-14186 *	US-PATENT-CLASS-52-236	c 39	N76-31562 *	US-PATENT-CLASS-524-171	c 27	N84-22747 *
US-PATENT-CLASS-455-608	c 32	N87-21207 *	US-PATENT-CLASS-52-249	c 33	N71-25351 *	US-PATENT-CLASS-524-173	c 27	N83-28240 *
US-PATENT-CLASS-455-60	c 35	N82-15381 *	US-PATENT-CLASS-52-272	c 31	N71-24035 *	US-PATENT-CLASS-524-233	c 27	N83-28240 *
US-PATENT-CLASS-455-610	c 74	N82-19029 *	US-PATENT-CLASS-52-284	c 32	N73-13921 *	US-PATENT-CLASS-524-371	c 27	N84-14324 *
US-PATENT-CLASS-455-612	c 74	N83-29032 *	US-PATENT-CLASS-52-2	c 32	N71-21045 *	US-PATENT-CLASS-524-388	c 27	N85-29044 *
US-PATENT-CLASS-455-615	c 74	N82-19029 *	US-PATENT-CLASS-52-2	c 44	N77-32583 *	US-PATENT-CLASS-524-404	c 27	N87-22845 *
US-PATENT-CLASS-455-617	c 74	N82-19029 *	US-PATENT-CLASS-52-309.15	c 31	N87-16918 *	US-PATENT-CLASS-524-436	c 27	N83-19900 *
US-PATENT-CLASS-455-619	c 32	N81-14186 *	US-PATENT-CLASS-52-309.1	c 31	N81-25258 *	US-PATENT-CLASS-524-437	c 27	N83-19900 *
US-PATENT-CLASS-455-65	c 32	N87-25511 *	US-PATENT-CLASS-52-391	c 31	N87-16918 *	US-PATENT-CLASS-524-494	c 27	N84-14322 *
US-PATENT-CLASS-455-67	c 32	N89-14374 *	US-PATENT-CLASS-52-3	c 31	N71-16080 *	US-PATENT-CLASS-524-496	c 27	N84-14322 *
US-PATENT-CLASS-455-71	c 32	N81-14186 *	US-PATENT-CLASS-52-404	c 33	N71-25351 *	US-PATENT-CLASS-524-500	c 27	N84-14322 *
US-PATENT-CLASS-455-73	c 32	N85-29118 *	US-PATENT-CLASS-52-404	c 16	N84-22601 *	US-PATENT-CLASS-524-503	c 27	N83-19900 *
US-PATENT-CLASS-455-98	c 32	N89-14374 *	US-PATENT-CLASS-52-506	c 16	N84-22601 *	US-PATENT-CLASS-524-530	c 27	N84-14322 *
US-PATENT-CLASS-467-28	c 39	N80-10507 *	US-PATENT-CLASS-52-506	c 37	N85-30335 *	US-PATENT-CLASS-524-548	c 27	N86-20560 *
US-PATENT-CLASS-47-1.2	c 51	N75-25503 *	US-PATENT-CLASS-52-511	c 31	N87-16918 *	US-PATENT-CLASS-524-548	c 27	N87-22845 *
US-PATENT-CLASS-47-1.4	c 31	N73-32750 *	US-PATENT-CLASS-52-51	c 44	N77-31601 *	US-PATENT-CLASS-524-564	c 27	N83-19900 *
US-PATENT-CLASS-47-17	c 31	N73-32750 *	US-PATENT-CLASS-52-573	c 15	N72-28496 *	US-PATENT-CLASS-524-567	c 27	N83-28240 *
US-PATENT-CLASS-47-26	c 37	N83-26078 *	US-PATENT-CLASS-52-573	c 18	N89-28554 *	US-PATENT-CLASS-524-726	c 27	N83-28240 *
US-PATENT-CLASS-47-39	c 51	N75-25503 *	US-PATENT-CLASS-52-594	c 15	N72-25454 *	US-PATENT-CLASS-524-786	c 27	N83-19900 *
US-PATENT-CLASS-47-58	c 51	N75-25503 *	US-PATENT-CLASS-52-594	c 32	N73-13921 *	US-PATENT-CLASS-525-107	c 27	N85-34281 *
US-PATENT-CLASS-47-58	c 51	N83-17045 *	US-PATENT-CLASS-52-632	c 31	N81-27324 *	US-PATENT-CLASS-525-108	c 27	N86-27451 *
US-PATENT-CLASS-47-58	c 45	N84-12654 *	US-PATENT-CLASS-52-632	c 31	N86-19479 *	US-PATENT-CLASS-525-113	c 27	N85-34281 *
US-PATENT-CLASS-474-205	c 37	N80-32717 *	US-PATENT-CLASS-52-632	c 37	N86-32737 *	US-PATENT-CLASS-525-115	c 27	N86-27451 *



US-PATENT-CLASS-525-119	c 27	N85-34281 *	US-PATENT-CLASS-526-50	c 27	N78-32256 *	US-PATENT-CLASS-528-229	c 27	N81-29229 *
US-PATENT-CLASS-525-119	c 27	N86-27451 *	US-PATENT-CLASS-526-7	c 44	N79-25481 *	US-PATENT-CLASS-528-229	c 27	N83-34040 *
US-PATENT-CLASS-525-122	c 27	N86-27451 *	US-PATENT-CLASS-526-8	c 25	N81-19242 *	US-PATENT-CLASS-528-229	c 27	N85-21348 *
US-PATENT-CLASS-525-181	c 27	N83-28240 *	US-PATENT-CLASS-526-914	c 28	N81-15119 *	US-PATENT-CLASS-528-229	c 27	N85-21350 *
US-PATENT-CLASS-525-181	c 27	N85-21349 *	US-PATENT-CLASS-526-9	c 44	N79-25481 *	US-PATENT-CLASS-528-229	c 27	N85-21351 *
US-PATENT-CLASS-525-182	c 27	N85-21349 *	US-PATENT-CLASS-528-102	c 24	N86-19380 *	US-PATENT-CLASS-528-229	c 27	N85-21352 *
US-PATENT-CLASS-525-182	c 27	N87-22845 *	US-PATENT-CLASS-528-103	c 24	N86-19380 *	US-PATENT-CLASS-528-229	c 27	N85-34280 *
US-PATENT-CLASS-525-183	c 27	N83-28240 *	US-PATENT-CLASS-528-106	c 27	N85-34282 *	US-PATENT-CLASS-528-229	c 27	N85-34282 *
US-PATENT-CLASS-525-183	c 27	N85-21349 *	US-PATENT-CLASS-528-108	c 23	N86-32525 *	US-PATENT-CLASS-528-229	c 27	N86-19457 *
US-PATENT-CLASS-525-184	c 27	N83-28240 *	US-PATENT-CLASS-528-108	c 27	N87-25469 *	US-PATENT-CLASS-528-229	c 27	N87-21112 *
US-PATENT-CLASS-525-184	c 27	N85-21349 *	US-PATENT-CLASS-528-110	c 27	N88-29040 *	US-PATENT-CLASS-528-229	c 27	N87-22847 *
US-PATENT-CLASS-525-186	c 27	N85-34281 *	US-PATENT-CLASS-528-110	c 24	N84-11213 *	US-PATENT-CLASS-528-239	c 27	N85-20124 *
US-PATENT-CLASS-525-186	c 27	N86-20560 *	US-PATENT-CLASS-528-113	c 27	N85-34281 *	US-PATENT-CLASS-528-241	c 27	N85-20124 *
US-PATENT-CLASS-525-229	c 27	N85-34281 *	US-PATENT-CLASS-528-117	c 27	N85-34281 *	US-PATENT-CLASS-528-258	c 27	N85-20124 *
US-PATENT-CLASS-525-26	c 27	N85-29043 *	US-PATENT-CLASS-528-118	c 27	N81-17260 *	US-PATENT-CLASS-528-25	c 27	N84-22747 *
US-PATENT-CLASS-525-282	c 27	N84-14322 *	US-PATENT-CLASS-528-124	c 23	N86-32525 *	US-PATENT-CLASS-528-26	c 27	N84-22747 *
US-PATENT-CLASS-525-282	c 27	N87-15304 *	US-PATENT-CLASS-528-125	c 27	N83-34040 *	US-PATENT-CLASS-528-26	c 27	N87-14516 *
US-PATENT-CLASS-525-287	c 27	N84-14322 *	US-PATENT-CLASS-528-125	c 27	N84-22749 *	US-PATENT-CLASS-528-271	c 27	N84-27884 *
US-PATENT-CLASS-525-326	c 27	N80-24438 *	US-PATENT-CLASS-528-125	c 27	N85-21348 *	US-PATENT-CLASS-528-279	c 27	N85-20124 *
US-PATENT-CLASS-525-336	c 27	N80-24438 *	US-PATENT-CLASS-528-125	c 27	N89-14337 *	US-PATENT-CLASS-528-288	c 27	N85-29043 *
US-PATENT-CLASS-525-340	c 27	N80-24438 *	US-PATENT-CLASS-528-126	c 27	N79-28307 *	US-PATENT-CLASS-528-289	c 27	N85-29043 *
US-PATENT-CLASS-525-36	c 27	N87-22848 *	US-PATENT-CLASS-528-126	c 27	N82-11206 *	US-PATENT-CLASS-528-303	c 27	N85-29043 *
US-PATENT-CLASS-525-374	c 27	N80-24438 *	US-PATENT-CLASS-528-126	c 27	N83-34040 *	US-PATENT-CLASS-528-304	c 27	N85-29043 *
US-PATENT-CLASS-525-375	c 27	N80-24438 *	US-PATENT-CLASS-528-126	c 27	N85-21348 *	US-PATENT-CLASS-528-310	c 27	N88-29040 *
US-PATENT-CLASS-525-384	c 28	N81-15119 *	US-PATENT-CLASS-528-127	c 27	N79-28307 *	US-PATENT-CLASS-528-310	c 27	N81-17262 *
US-PATENT-CLASS-525-389	c 27	N84-22750 *	US-PATENT-CLASS-528-128	c 27	N79-28307 *	US-PATENT-CLASS-528-310	c 27	N81-24256 *
US-PATENT-CLASS-525-397	c 27	N88-18725 *	US-PATENT-CLASS-528-128	c 27	N83-34040 *	US-PATENT-CLASS-528-310	c 27	N82-24338 *
US-PATENT-CLASS-525-417	c 27	N84-22745 *	US-PATENT-CLASS-528-128	c 27	N84-22749 *	US-PATENT-CLASS-528-310	c 27	N84-27884 *
US-PATENT-CLASS-525-420	c 27	N85-20123 *	US-PATENT-CLASS-528-128	c 27	N85-21348 *	US-PATENT-CLASS-528-310	c 23	N86-19376 *
US-PATENT-CLASS-525-423	c 24	N86-19380 *	US-PATENT-CLASS-528-128	c 27	N89-14337 *	US-PATENT-CLASS-528-314	c 25	N85-30039 *
US-PATENT-CLASS-525-425	c 33	N88-23941 *	US-PATENT-CLASS-528-12	c 27	N83-34040 *	US-PATENT-CLASS-528-315	c 27	N85-21350 *
US-PATENT-CLASS-525-426	c 27	N80-26446 *	US-PATENT-CLASS-528-166	c 27	N85-21348 *	US-PATENT-CLASS-528-321	c 27	N85-21347 *
US-PATENT-CLASS-525-426	c 27	N84-22746 *	US-PATENT-CLASS-528-167	c 27	N85-21347 *	US-PATENT-CLASS-528-321	c 24	N86-25416 *
US-PATENT-CLASS-525-426	c 27	N87-28657 *	US-PATENT-CLASS-528-168	c 27	N81-27271 *	US-PATENT-CLASS-528-321	c 27	N86-31726 *
US-PATENT-CLASS-525-432	c 27	N86-19456 *	US-PATENT-CLASS-528-168	c 27	N82-18389 *	US-PATENT-CLASS-528-321	c 27	N87-16909 *
US-PATENT-CLASS-525-432	c 27	N87-28657 *	US-PATENT-CLASS-528-168	c 27	N85-21347 *	US-PATENT-CLASS-528-321	c 27	N89-16042 *
US-PATENT-CLASS-525-436	c 27	N86-19456 *	US-PATENT-CLASS-528-168	c 27	N85-34280 *	US-PATENT-CLASS-528-322	c 27	N81-17260 *
US-PATENT-CLASS-525-436	c 27	N87-28657 *	US-PATENT-CLASS-528-168	c 27	N87-16909 *	US-PATENT-CLASS-528-322	c 27	N84-22745 *
US-PATENT-CLASS-525-474	c 27	N83-28240 *	US-PATENT-CLASS-528-168	c 27	N87-25469 *	US-PATENT-CLASS-528-322	c 27	N84-27885 *
US-PATENT-CLASS-525-474	c 27	N85-21349 *	US-PATENT-CLASS-528-170	c 27	N85-21347 *	US-PATENT-CLASS-528-322	c 27	N85-21347 *
US-PATENT-CLASS-525-47	c 27	N85-29043 *	US-PATENT-CLASS-528-170	c 24	N86-25416 *	US-PATENT-CLASS-528-322	c 27	N85-21350 *
US-PATENT-CLASS-525-484	c 24	N84-34571 *	US-PATENT-CLASS-528-170	c 27	N86-31726 *	US-PATENT-CLASS-528-322	c 27	N85-21351 *
US-PATENT-CLASS-525-4	c 25	N80-23383 *	US-PATENT-CLASS-528-171	c 27	N86-27450 *	US-PATENT-CLASS-528-322	c 27	N85-21352 *
US-PATENT-CLASS-525-527	c 24	N86-19380 *	US-PATENT-CLASS-528-172	c 27	N82-11206 *	US-PATENT-CLASS-528-322	c 25	N85-28982 *
US-PATENT-CLASS-525-532	c 23	N85-28973 *	US-PATENT-CLASS-528-172	c 27	N84-22749 *	US-PATENT-CLASS-528-322	c 25	N85-30039 *
US-PATENT-CLASS-525-534	c 27	N84-22747 *	US-PATENT-CLASS-528-173	c 27	N82-11206 *	US-PATENT-CLASS-528-322	c 27	N86-19457 *
US-PATENT-CLASS-525-534	c 23	N85-28973 *	US-PATENT-CLASS-528-174	c 27	N86-27450 *	US-PATENT-CLASS-528-322	c 24	N86-25416 *
US-PATENT-CLASS-525-534	c 27	N86-27450 *	US-PATENT-CLASS-528-176	c 27	N86-27450 *	US-PATENT-CLASS-528-322	c 27	N86-31726 *
US-PATENT-CLASS-525-535	c 27	N84-22747 *	US-PATENT-CLASS-528-176	c 27	N87-22848 *	US-PATENT-CLASS-528-322	c 27	N87-16909 *
US-PATENT-CLASS-525-535	c 27	N86-27450 *	US-PATENT-CLASS-528-179	c 27	N86-19456 *	US-PATENT-CLASS-528-322	c 27	N87-21112 *
US-PATENT-CLASS-525-536	c 27	N84-22747 *	US-PATENT-CLASS-528-180	c 27	N82-11206 *	US-PATENT-CLASS-528-322	c 27	N89-16042 *
US-PATENT-CLASS-525-56	c 23	N81-29160 *	US-PATENT-CLASS-528-182	c 27	N86-19456 *	US-PATENT-CLASS-528-327	c 27	N84-27884 *
US-PATENT-CLASS-525-61	c 27	N81-24257 *	US-PATENT-CLASS-528-183	c 27	N84-22746 *	US-PATENT-CLASS-528-327	c 27	N86-19455 *
US-PATENT-CLASS-525-61	c 23	N81-29160 *	US-PATENT-CLASS-528-183	c 27	N85-20123 *	US-PATENT-CLASS-528-327	c 27	N87-21112 *
US-PATENT-CLASS-525-61	c 25	N83-13188 *	US-PATENT-CLASS-528-183	c 27	N86-29039 *	US-PATENT-CLASS-528-328	c 27	N82-24338 *
US-PATENT-CLASS-525-903	c 27	N87-28657 *	US-PATENT-CLASS-528-184	c 27	N87-22848 *	US-PATENT-CLASS-528-331	c 27	N79-28307 *
US-PATENT-CLASS-525-905	c 27	N88-18725 *	US-PATENT-CLASS-528-185	c 27	N84-22749 *	US-PATENT-CLASS-528-331	c 27	N84-27884 *
US-PATENT-CLASS-526-13	c 27	N78-32256 *	US-PATENT-CLASS-528-185	c 27	N85-21348 *	US-PATENT-CLASS-528-331	c 27	N87-21112 *
US-PATENT-CLASS-526-193	c 27	N78-15276 *	US-PATENT-CLASS-528-185	c 27	N86-19456 *	US-PATENT-CLASS-528-336	c 27	N79-28307 *
US-PATENT-CLASS-526-1	c 27	N76-24405 *	US-PATENT-CLASS-528-186	c 27	N85-21348 *	US-PATENT-CLASS-528-336	c 27	N85-20123 *
US-PATENT-CLASS-526-201	c 25	N81-19242 *	US-PATENT-CLASS-528-187	c 27	N85-21348 *	US-PATENT-CLASS-528-336	c 27	N85-21350 *
US-PATENT-CLASS-526-204	c 25	N85-30039 *	US-PATENT-CLASS-528-192	c 27	N85-20123 *	US-PATENT-CLASS-528-336	c 27	N86-32568 *
US-PATENT-CLASS-526-217	c 27	N85-21350 *	US-PATENT-CLASS-528-192	c 27	N87-22848 *	US-PATENT-CLASS-528-337	c 27	N79-28307 *
US-PATENT-CLASS-526-217	c 25	N85-30039 *	US-PATENT-CLASS-528-193	c 27	N87-22848 *	US-PATENT-CLASS-528-337	c 23	N86-32525 *
US-PATENT-CLASS-526-225	c 27	N78-15276 *	US-PATENT-CLASS-528-207	c 27	N80-16158 *	US-PATENT-CLASS-528-337	c 27	N86-32568 *
US-PATENT-CLASS-526-23	c 27	N78-32256 *	US-PATENT-CLASS-528-207	c 27	N82-11206 *	US-PATENT-CLASS-528-338	c 27	N79-28307 *
US-PATENT-CLASS-526-255	c 27	N76-24405 *	US-PATENT-CLASS-528-208	c 27	N80-16158 *	US-PATENT-CLASS-528-340	c 27	N86-32568 *
US-PATENT-CLASS-526-259	c 27	N83-34040 *	US-PATENT-CLASS-528-208	c 27	N82-11206 *	US-PATENT-CLASS-528-341	c 27	N86-29039 *
US-PATENT-CLASS-526-261	c 27	N80-24438 *	US-PATENT-CLASS-528-210	c 27	N82-11206 *	US-PATENT-CLASS-528-342	c 27	N79-28307 *
US-PATENT-CLASS-526-262	c 27	N81-27272 *	US-PATENT-CLASS-528-211	c 27	N82-11206 *	US-PATENT-CLASS-528-342	c 27	N84-27885 *
US-PATENT-CLASS-526-262	c 27	N84-22745 *	US-PATENT-CLASS-528-220	c 27	N83-34040 *	US-PATENT-CLASS-528-342	c 27	N85-21350 *
US-PATENT-CLASS-526-262	c 27	N84-27885 *	US-PATENT-CLASS-528-220	c 27	N84-22746 *	US-PATENT-CLASS-528-342	c 27	N85-21351 *
US-PATENT-CLASS-526-262	c 27	N85-21347 *	US-PATENT-CLASS-528-220	c 27	N85-20123 *	US-PATENT-CLASS-528-342	c 27	N85-21352 *
US-PATENT-CLASS-526-262	c 27	N85-21350 *	US-PATENT-CLASS-528-220	c 24	N86-25416 *	US-PATENT-CLASS-528-342	c 25	N85-28982 *
US-PATENT-CLASS-526-262	c 27	N85-21351 *	US-PATENT-CLASS-528-220	c 27	N86-31726 *	US-PATENT-CLASS-528-342	c 27	N86-19457 *
US-PATENT-CLASS-526-262	c 27	N85-21352 *	US-PATENT-CLASS-528-220	c 27	N87-21112 *	US-PATENT-CLASS-528-345	c 27	N84-22746 *
US-PATENT-CLASS-526-262	c 25	N85-28982 *	US-PATENT-CLASS-528-220	c 27	N89-16042 *	US-PATENT-CLASS-528-345	c 27	N85-20123 *
US-PATENT-CLASS-526-262	c 25	N85-30039 *	US-PATENT-CLASS-528-221	c 27	N79-28307 *	US-PATENT-CLASS-528-345	c 27	N86-19457 *
US-PATENT-CLASS-526-262	c 27	N86-20560 *	US-PATENT-CLASS-528-222	c 27	N81-29229 *	US-PATENT-CLASS-528-347	c 27	N86-32568 *
US-PATENT-CLASS-526-262	c 24	N86-21590 *	US-PATENT-CLASS-528-222	c 27	N83-34040 *	US-PATENT-CLASS-528-348	c 27	N86-32568 *
US-PATENT-CLASS-526-262	c 27	N87-22845 *	US-PATENT-CLASS-528-222	c 27	N83-34041 *	US-PATENT-CLASS-528-351	c 27	N82-11206 *
US-PATENT-CLASS-526-265	c 27	N86-20560 *	US-PATENT-CLASS-528-222	c 27	N86-29039 *	US-PATENT-CLASS-528-352	c 27	N85-21348 *
US-PATENT-CLASS-526-265	c 24	N86-28131 *	US-PATENT-CLASS-528-223	c 27	N79-28307 *	US-PATENT-CLASS-528-352	c 27	N85-34280 *
US-PATENT-CLASS-526-274	c 27	N85-21347 *	US-PATENT-CLASS-528-225	c 27	N79-28307 *	US-PATENT-CLASS-528-352	c 27	N86-19456 *
US-PATENT-CLASS-526-275	c 27	N78-32256 *	US-PATENT-CLASS-528-225	c 27	N82-11206 *	US-PATENT-CLASS-528-352	c 23	N86-32525 *
US-PATENT-CLASS-526-275	c 27	N80-24438 *	US-PATENT-CLASS-528-226	c 27	N83-34041 *	US-PATENT-CLASS-528-353	c 27	N81-19296 *
US-PATENT-CLASS-526-276	c 27	N78-32256 *	US-PATENT-CLASS-528-226	c 27	N85-20124 *	US-PATENT-CLASS-528-353	c 27	N82-11206 *
US-PATENT-CLASS-526-276	c 27	N80-24438 *	US-PATENT-CLASS-528-226	c 27	N85-21348 *	US-PATENT-CLASS-528-353	c 27	N85-21348 *
US-PATENT-CLASS-526-278	c 27	N78-32256 *	US-PATENT-CLASS-528-227	c 27	N79-28307 *	US-PATENT-CLASS-528-353	c 27	N85-34280 *
US-PATENT-CLASS-526-278	c 27	N80-24438 *	US-PATENT-CLASS-528-228	c 27	N81-27272 *	US-PATENT-CLASS-528-353	c 27	N86-19456 *
US-PATENT-CLASS-526-27	c 27	N78-32256 *	US-PATENT-CLASS-528-228	c 27	N82-11206 *	US-PATENT-CLASS-528-353	c 27	N89-16042 *
US-PATENT-CLASS-526-285	c 27	N83-34040 *	US-PATENT-CLASS-528-228	c 27	N83-34040 *	US-PATENT-CLASS-528-361	c 24	N84-11213 *
US-PATENT-CLASS-526-285	c 27	N86-27450 *	US-PATENT-CLASS-528-228	c 27	N84-22745 *	US-PATENT-CLASS-528-362	c 25	N81-14016 *
US-PATENT-CLASS-526-328	c 27	N85-29043 *	US-PATENT-CLASS-528-228	c 27	N89-16042 *	US-PATENT-CLASS-528-362	c 27	N81-17259 *
US-PATENT-CLASS-526-329.2	c 27	N85-29043 *	US-PATENT-CLASS-528-229	c 27	N79-28307 *	US-PATENT-CLASS-528-362	c 27	N81-17262 *
US-PATENT-CLASS-526-49	c 27	N78-32256 *	US-PATENT-CLASS-528-229	c 27	N79-33316 *	US-PATENT-CLASS-528-362	c 27	N82-24338 *

US-PATENT-CLASS-528-362	c 27	N84-22744 *	US-PATENT-CLASS-55-158	c 18	N71-20742 *	US-PATENT-CLASS-568-445	c 23	N82-16174 *
US-PATENT-CLASS-528-362	c 27	N84-27884 *	US-PATENT-CLASS-55-158	c 44	N77-22607 *	US-PATENT-CLASS-568-497	c 23	N82-16174 *
US-PATENT-CLASS-528-362	c 27	N87-21112 *	US-PATENT-CLASS-55-158	c 25	N82-21269 *	US-PATENT-CLASS-568-4	c 27	N82-18389 *
US-PATENT-CLASS-528-38	c 27	N83-34040 *	US-PATENT-CLASS-55-159	c 34	N74-30608 *	US-PATENT-CLASS-568-4	c 27	N84-22750 *
US-PATENT-CLASS-528-394	c 27	N84-22750 *	US-PATENT-CLASS-55-159	c 37	N79-21345 *	US-PATENT-CLASS-568-5	c 27	N82-18389 *
US-PATENT-CLASS-528-399	c 27	N81-27271 *	US-PATENT-CLASS-55-15	c 71	N83-35781 *	US-PATENT-CLASS-568-5	c 27	N84-22750 *
US-PATENT-CLASS-528-399	c 27	N82-18389 *	US-PATENT-CLASS-55-15	c 71	N85-22104 *	US-PATENT-CLASS-568-852	c 27	N80-32514 *
US-PATENT-CLASS-528-399	c 27	N84-22750 *	US-PATENT-CLASS-55-160	c 15	N71-15968 *	US-PATENT-CLASS-568-881	c 27	N80-32514 *
US-PATENT-CLASS-528-399	c 27	N86-32525 *	US-PATENT-CLASS-55-16	c 06	N72-31140 *	US-PATENT-CLASS-57-906	c 37	N82-18601 *
US-PATENT-CLASS-528-401	c 23	N79-22300 *	US-PATENT-CLASS-55-179	c 14	N71-17588 *	US-PATENT-CLASS-570-123	c 25	N82-24312 *
US-PATENT-CLASS-528-401	c 25	N81-14016 *	US-PATENT-CLASS-55-179	c 54	N77-32722 *	US-PATENT-CLASS-570-129	c 25	N82-24312 *
US-PATENT-CLASS-528-401	c 27	N81-17259 *	US-PATENT-CLASS-55-194	c 35	N83-29652 *	US-PATENT-CLASS-58-24	c 10	N71-26326 *
US-PATENT-CLASS-528-401	c 27	N81-17262 *	US-PATENT-CLASS-55-197	c 23	N77-17161 *	US-PATENT-CLASS-585-24	c 27	N86-21675 *
US-PATENT-CLASS-528-401	c 27	N82-24338 *	US-PATENT-CLASS-55-199	c 34	N74-30608 *	US-PATENT-CLASS-60-39.08	c 37	N79-11403 *
US-PATENT-CLASS-528-401	c 23	N82-28353 *	US-PATENT-CLASS-55-202	c 35	N83-29652 *	US-PATENT-CLASS-60-108	c 33	N71-16104 *
US-PATENT-CLASS-528-401	c 27	N84-22744 *	US-PATENT-CLASS-55-204	c 15	N71-23023 *	US-PATENT-CLASS-60-1	c 15	N72-33477 *
US-PATENT-CLASS-528-402	c 25	N82-24312 *	US-PATENT-CLASS-55-204	c 44	N83-10501 *	US-PATENT-CLASS-60-1	c 15	N73-13467 *
US-PATENT-CLASS-528-406	c 23	N86-32525 *	US-PATENT-CLASS-55-208	c 14	N71-18483 *	US-PATENT-CLASS-60-200A	c 33	N72-25911 *
US-PATENT-CLASS-528-407	c 24	N84-34571 *	US-PATENT-CLASS-55-241	c 35	N79-17192 *	US-PATENT-CLASS-60-200A	c 33	N73-25952 *
US-PATENT-CLASS-528-407	c 27	N85-34281 *	US-PATENT-CLASS-55-242	c 35	N79-17192 *	US-PATENT-CLASS-60-200A	c 27	N78-17206 *
US-PATENT-CLASS-528-407	c 27	N85-34282 *	US-PATENT-CLASS-55-255	c 35	N86-29174 *	US-PATENT-CLASS-60-200R	c 20	N82-18314 *
US-PATENT-CLASS-528-407	c 23	N86-32525 *	US-PATENT-CLASS-55-259	c 35	N86-29174 *	US-PATENT-CLASS-60-200	c 28	N71-14044 *
US-PATENT-CLASS-528-413	c 27	N87-24564 *	US-PATENT-CLASS-55-26-9	c 35	N78-12390 *	US-PATENT-CLASS-60-202	c 28	N70-41922 *
US-PATENT-CLASS-528-422	c 27	N79-22300 *	US-PATENT-CLASS-55-261	c 35	N76-18401 *	US-PATENT-CLASS-60-202	c 28	N71-10574 *
US-PATENT-CLASS-528-422	c 25	N81-14016 *	US-PATENT-CLASS-55-269	c 54	N77-32722 *	US-PATENT-CLASS-60-202	c 25	N71-21694 *
US-PATENT-CLASS-528-422	c 27	N81-17259 *	US-PATENT-CLASS-55-270	c 35	N84-17555 *	US-PATENT-CLASS-60-202	c 28	N71-21822 *
US-PATENT-CLASS-528-422	c 27	N81-17262 *	US-PATENT-CLASS-55-277	c 71	N83-35781 *	US-PATENT-CLASS-60-202	c 28	N71-23081 *
US-PATENT-CLASS-528-422	c 27	N82-24338 *	US-PATENT-CLASS-55-277	c 71	N85-22104 *	US-PATENT-CLASS-60-202	c 28	N71-23293 *
US-PATENT-CLASS-528-422	c 23	N82-28353 *	US-PATENT-CLASS-55-283	c 35	N84-17555 *	US-PATENT-CLASS-60-202	c 28	N71-25213 *
US-PATENT-CLASS-528-422	c 27	N84-22744 *	US-PATENT-CLASS-55-291	c 35	N84-17555 *	US-PATENT-CLASS-60-202	c 28	N71-26173 *
US-PATENT-CLASS-528-423	c 27	N81-17259 *	US-PATENT-CLASS-55-2	c 25	N78-25148 *	US-PATENT-CLASS-60-202	c 28	N71-26842 *
US-PATENT-CLASS-528-423	c 27	N84-22744 *	US-PATENT-CLASS-55-2	c 28	N81-14103 *	US-PATENT-CLASS-60-202	c 28	N71-26781 *
US-PATENT-CLASS-528-481	c 27	N80-24438 *	US-PATENT-CLASS-55-2	c 35	N84-17555 *	US-PATENT-CLASS-60-202	c 28	N72-11709 *
US-PATENT-CLASS-528-4	c 27	N81-27271 *	US-PATENT-CLASS-55-306	c 28	N70-34788 *	US-PATENT-CLASS-60-202	c 28	N72-22770 *
US-PATENT-CLASS-528-4	c 27	N82-18389 *	US-PATENT-CLASS-55-35	c 05	N70-41297 *	US-PATENT-CLASS-60-202	c 28	N72-22771 *
US-PATENT-CLASS-528-4	c 27	N88-29040 *	US-PATENT-CLASS-55-360	c 35	N79-17192 *	US-PATENT-CLASS-60-202	c 28	N73-24783 *
US-PATENT-CLASS-528-6	c 27	N81-27271 *	US-PATENT-CLASS-55-386	c 35	N75-26334 *	US-PATENT-CLASS-60-202	c 25	N73-25760 *
US-PATENT-CLASS-528-6	c 27	N82-18389 *	US-PATENT-CLASS-55-38	c 71	N83-35781 *	US-PATENT-CLASS-60-202	c 28	N73-27699 *
US-PATENT-CLASS-528-6	c 27	N84-22750 *	US-PATENT-CLASS-55-3	c 35	N78-12390 *	US-PATENT-CLASS-60-202	c 20	N77-10148 *
US-PATENT-CLASS-528-72	c 27	N89-16042 *	US-PATENT-CLASS-55-400	c 11	N71-10777 *	US-PATENT-CLASS-60-202	c 20	N77-20162 *
US-PATENT-CLASS-528-73	c 25	N80-16116 *	US-PATENT-CLASS-55-407	c 35	N79-17192 *	US-PATENT-CLASS-60-202	c 20	N85-21256 *
US-PATENT-CLASS-528-73	c 27	N89-16042 *	US-PATENT-CLASS-55-408	c 15	N70-40062 *	US-PATENT-CLASS-60-202	c 20	N89-25279 *
US-PATENT-CLASS-528-7	c 27	N82-18389 *	US-PATENT-CLASS-55-418	c 15	N71-22721 *	US-PATENT-CLASS-60-203.1	c 20	N86-26368 *
US-PATENT-CLASS-528-7	c 27	N84-22750 *	US-PATENT-CLASS-55-43	c 34	N74-30608 *	US-PATENT-CLASS-60-203.1	c 20	N87-16875 *
US-PATENT-CLASS-528-86	c 23	N85-28973 *	US-PATENT-CLASS-55-446	c 15	N72-22489 *	US-PATENT-CLASS-60-203.1	c 09	N88-28939 *
US-PATENT-CLASS-528-92	c 24	N84-34571 *	US-PATENT-CLASS-55-464	c 15	N72-22489 *	US-PATENT-CLASS-60-203	c 20	N80-14188 *
US-PATENT-CLASS-528-92	c 27	N85-34282 *	US-PATENT-CLASS-55-466	c 35	N84-17555 *	US-PATENT-CLASS-60-204	c 07	N78-17055 *
US-PATENT-CLASS-528-94	c 27	N85-34281 *	US-PATENT-CLASS-55-493	c 14	N72-23457 *	US-PATENT-CLASS-60-204	c 07	N78-18067 *
US-PATENT-CLASS-53-102	c 15	N71-21528 *	US-PATENT-CLASS-55-498	c 14	N72-23457 *	US-PATENT-CLASS-60-204	c 44	N81-24519 *
US-PATENT-CLASS-53-112A	c 15	N73-27405 *	US-PATENT-CLASS-55-502	c 14	N72-23457 *	US-PATENT-CLASS-60-211	c 28	N73-13773 *
US-PATENT-CLASS-53-22A	c 15	N73-27405 *	US-PATENT-CLASS-55-510	c 25	N74-12813 *	US-PATENT-CLASS-60-214	c 15	N74-27360 *
US-PATENT-CLASS-53-22	c 15	N71-23256 *	US-PATENT-CLASS-55-518	c 25	N74-12813 *	US-PATENT-CLASS-60-215	c 06	N73-30097 *
US-PATENT-CLASS-53-429	c 09	N82-29330 *	US-PATENT-CLASS-55-521	c 14	N72-23457 *	US-PATENT-CLASS-60-215	c 15	N74-27360 *
US-PATENT-CLASS-53-9	c 37	N77-23482 *	US-PATENT-CLASS-55-521	c 35	N86-29174 *	US-PATENT-CLASS-60-217	c 12	N71-17631 *
US-PATENT-CLASS-536-105	c 27	N77-30236 *	US-PATENT-CLASS-55-523	c 34	N76-27515 *	US-PATENT-CLASS-60-225	c 28	N71-10780 *
US-PATENT-CLASS-536-536-85	c 27	N77-30236 *	US-PATENT-CLASS-55-526	c 34	N76-27515 *	US-PATENT-CLASS-60-226A	c 07	N77-17059 *
US-PATENT-CLASS-536-56	c 27	N77-30236 *	US-PATENT-CLASS-55-528	c 35	N86-29174 *	US-PATENT-CLASS-60-226A	c 07	N79-14096 *
US-PATENT-CLASS-536-58	c 27	N77-30236 *	US-PATENT-CLASS-55-52	c 71	N83-35781 *	US-PATENT-CLASS-60-226A	c 07	N79-14097 *
US-PATENT-CLASS-536-84	c 27	N77-30236 *	US-PATENT-CLASS-55-55	c 06	N72-31140 *	US-PATENT-CLASS-60-226A	c 07	N82-26293 *
US-PATENT-CLASS-538-117	c 27	N81-17260 *	US-PATENT-CLASS-55-66	c 25	N80-23383 *	US-PATENT-CLASS-60-226R	c 07	N78-18066 *
US-PATENT-CLASS-544-193	c 27	N78-15276 *	US-PATENT-CLASS-55-67	c 23	N77-17161 *	US-PATENT-CLASS-60-226R	c 07	N77-14025 *
US-PATENT-CLASS-544-193	c 27	N79-28307 *	US-PATENT-CLASS-55-67	c 25	N80-23383 *	US-PATENT-CLASS-60-226R	c 07	N77-28118 *
US-PATENT-CLASS-544-195	c 27	N78-32256 *	US-PATENT-CLASS-55-68	c 25	N80-23383 *	US-PATENT-CLASS-60-226R	c 07	N78-17055 *
US-PATENT-CLASS-544-215	c 27	N84-22744 *	US-PATENT-CLASS-55-6	c 35	N84-17555 *	US-PATENT-CLASS-60-226R	c 07	N78-17056 *
US-PATENT-CLASS-546-262	c 27	N87-22847 *	US-PATENT-CLASS-55-72	c 25	N80-23383 *	US-PATENT-CLASS-60-226R	c 07	N78-25089 *
US-PATENT-CLASS-546-264	c 27	N87-22847 *	US-PATENT-CLASS-55-73	c 45	N79-12584 *	US-PATENT-CLASS-60-226R	c 07	N79-14096 *
US-PATENT-CLASS-546-339	c 27	N87-16908 *	US-PATENT-CLASS-55-74	c 23	N77-17161 *	US-PATENT-CLASS-60-226R	c 07	N81-19116 *
US-PATENT-CLASS-546-346	c 27	N87-16908 *	US-PATENT-CLASS-55-75	c 15	N71-26185 *	US-PATENT-CLASS-60-228	c 07	N77-17059 *
US-PATENT-CLASS-546-350	c 27	N87-16908 *	US-PATENT-CLASS-55-96	c 35	N84-17555 *	US-PATENT-CLASS-60-230	c 07	N78-27121 *
US-PATENT-CLASS-547-131	c 23	N82-28353 *	US-PATENT-CLASS-556-410	c 25	N85-21280 *	US-PATENT-CLASS-60-236	c 07	N81-19116 *
US-PATENT-CLASS-548-413	c 27	N83-31854 *	US-PATENT-CLASS-556-436	c 27	N86-21675 *	US-PATENT-CLASS-60-238	c 07	N81-19116 *
US-PATENT-CLASS-548-413	c 23	N86-19376 *	US-PATENT-CLASS-558-145	c 23	N87-28605 *	US-PATENT-CLASS-60-239	c 07	N81-19116 *
US-PATENT-CLASS-548-413	c 27	N87-23751 *	US-PATENT-CLASS-558-190	c 23	N87-28605 *	US-PATENT-CLASS-60-23	c 09	N71-26182 *
US-PATENT-CLASS-548-415	c 27	N83-31854 *	US-PATENT-CLASS-558-193	c 23	N87-28605 *	US-PATENT-CLASS-60-23	c 15	N72-12409 *
US-PATENT-CLASS-548-415	c 27	N84-22745 *	US-PATENT-CLASS-558-80	c 23	N88-24692 *	US-PATENT-CLASS-60-23	c 21	N72-31637 *
US-PATENT-CLASS-549-241	c 23	N88-26404 *	US-PATENT-CLASS-56-73	c 74	N86-26190 *	US-PATENT-CLASS-60-23	c 15	N73-13467 *
US-PATENT-CLASS-549-335	c 23	N85-33187 *	US-PATENT-CLASS-560-104	c 27	N87-16907 *	US-PATENT-CLASS-60-240	c 28	N71-24736 *
US-PATENT-CLASS-55-DIG.25	c 35	N84-17555 *	US-PATENT-CLASS-564-113	c 23	N86-19376 *	US-PATENT-CLASS-60-240	c 28	N73-13773 *
US-PATENT-CLASS-55-DIG.35	c 54	N75-27761 *	US-PATENT-CLASS-564-13	c 23	N88-24692 *	US-PATENT-CLASS-60-240	c 07	N80-18039 *
US-PATENT-CLASS-55-DIG.42	c 37	N85-29283 *	US-PATENT-CLASS-564-15	c 27	N86-32568 *	US-PATENT-CLASS-60-243	c 33	N71-21507 *
US-PATENT-CLASS-55-100	c 35	N78-12390 *	US-PATENT-CLASS-564-229	c 27	N81-24256 *	US-PATENT-CLASS-60-243	c 15	N71-27432 *
US-PATENT-CLASS-55-100	c 25	N78-25148 *	US-PATENT-CLASS-564-243	c 27	N82-28353 *	US-PATENT-CLASS-60-243	c 28	N73-13773 *
US-PATENT-CLASS-55-101	c 25	N78-25148 *	US-PATENT-CLASS-564-243	c 23	N86-21582 *	US-PATENT-CLASS-60-243	c 20	N79-21124 *
US-PATENT-CLASS-55-105	c 35	N84-17555 *	US-PATENT-CLASS-564-315	c 23	N89-12667 *	US-PATENT-CLASS-60-251	c 27	N71-21819 *
US-PATENT-CLASS-55-118	c 35	N79-17192 *	US-PATENT-CLASS-564-323	c 23	N89-12667 *	US-PATENT-CLASS-60-254	c 28	N72-20758 *
US-PATENT-CLASS-55-122	c 35	N79-17192 *	US-PATENT-CLASS-564-330	c 27	N87-22847 *	US-PATENT-CLASS-60-254	c 28	N73-24784 *
US-PATENT-CLASS-55-126	c 35	N84-17555 *	US-PATENT-CLASS-564-330	c 23	N89-12667 *	US-PATENT-CLASS-60-256	c 28	N73-24784 *
US-PATENT-CLASS-55-126	c 35	N79-17192 *	US-PATENT-CLASS-564-342	c 23	N89-12667 *	US-PATENT-CLASS-60-257	c 31	N70-41948 *
US-PATENT-CLASS-55-12	c 35	N84-17555 *	US-PATENT-CLASS-564-344	c 23	N89-12667 *	US-PATENT-CLASS-60-258	c 15	N70-22192 *
US-PATENT-CLASS-55-131	c 35	N84-17555 *	US-PATENT-CLASS-564-396	c 27	N87-22847 *	US-PATENT-CLASS-60-258	c 28	N71-22983 *
US-PATENT-CLASS-55-138	c 35	N84-17555 *	US-PATENT-CLASS-564-396	c 23	N89-12667 *	US-PATENT-CLASS-60-258	c 28	N71-28849 *
US-PATENT-CLASS-55-139	c 35	N84-17555 *	US-PATENT-CLASS-564-430	c 27	N87-22847 *	US-PATENT-CLASS-60-258	c 28	N72-17843 *
US-PATENT-CLASS-55-145	c 35	N84-17555 *	US-PATENT-CLASS-564-430	c 23	N89-12667 *	US-PATENT-CLASS-60-258	c 15	N72-25455 *
US-PATENT-CLASS-55-15-8	c 52	N79-14749 *	US-PATENT-CLASS-568-14	c 27	N86-32568 *	US-PATENT-CLASS-60-258	c 20	N74-13502 *
US-PATENT-CLASS-55-155	c 35	N79-17192 *	US-PATENT-CLASS-568-2	c 27	N82-18389 *	US-PATENT-CLASS-60-258	c 20	N87-14420 *

US-PATENT-CLASS-60-259	c 28	N70-41275 *	US-PATENT-CLASS-60-39.07	c 07	N82-32366 *	US-PATENT-CLASS-60-716	c 44	N84-23018 *
US-PATENT-CLASS-60-259	c 20	N74-13502 *	US-PATENT-CLASS-60-39.07	c 07	N83-36029 *	US-PATENT-CLASS-60-721	c 71	N79-20827 *
US-PATENT-CLASS-60-259	c 34	N77-30399 *	US-PATENT-CLASS-60-39.07	c 07	N86-20389 *	US-PATENT-CLASS-60-721	c 71	N83-32515 *
US-PATENT-CLASS-60-259	c 20	N80-14188 *	US-PATENT-CLASS-60-39.14	c 44	N78-32539 *	US-PATENT-CLASS-60-721	c 71	N83-32516 *
US-PATENT-CLASS-60-259	c 05	N81-26114 *	US-PATENT-CLASS-60-39.14	c 07	N79-10057 *	US-PATENT-CLASS-60-721	c 71	N84-23233 *
US-PATENT-CLASS-60-25	c 15	N73-24513 *	US-PATENT-CLASS-60-39.23	c 20	N76-14190 *	US-PATENT-CLASS-60-726	c 07	N81-29129 *
US-PATENT-CLASS-60-25	c 37	N74-21060 *	US-PATENT-CLASS-60-39.23	c 07	N85-35195 *	US-PATENT-CLASS-60-726	c 07	N82-32366 *
US-PATENT-CLASS-60-260	c 28	N70-41992 *	US-PATENT-CLASS-60-39.24	c 07	N81-19115 *	US-PATENT-CLASS-60-730	c 05	N81-26114 *
US-PATENT-CLASS-60-260	c 28	N72-18766 *	US-PATENT-CLASS-60-39.27	c 07	N80-18039 *	US-PATENT-CLASS-60-730	c 37	N84-22958 *
US-PATENT-CLASS-60-261	c 37	N78-17384 *	US-PATENT-CLASS-60-39.28R	c 28	N73-19793 *	US-PATENT-CLASS-60-733	c 07	N80-26298 *
US-PATENT-CLASS-60-262	c 37	N78-17384 *	US-PATENT-CLASS-60-39.28R	c 07	N77-23106 *	US-PATENT-CLASS-60-736	c 37	N84-22958 *
US-PATENT-CLASS-60-262	c 07	N78-18067 *	US-PATENT-CLASS-60-39.28R	c 37	N78-10467 *	US-PATENT-CLASS-60-736	c 07	N86-20389 *
US-PATENT-CLASS-60-262	c 07	N83-33884 *	US-PATENT-CLASS-60-39.28R	c 37	N78-24545 *	US-PATENT-CLASS-60-737	c 07	N81-29129 *
US-PATENT-CLASS-60-263	c 28	N71-24321 *	US-PATENT-CLASS-60-39.28R	c 37	N79-11403 *	US-PATENT-CLASS-60-746	c 07	N80-26298 *
US-PATENT-CLASS-60-263	c 07	N77-28118 *	US-PATENT-CLASS-60-39.29	c 20	N76-14190 *	US-PATENT-CLASS-60-746	c 20	N87-14420 *
US-PATENT-CLASS-60-264	c 07	N80-32392 *	US-PATENT-CLASS-60-39.29	c 35	N76-14431 *	US-PATENT-CLASS-60-748	c 07	N85-35195 *
US-PATENT-CLASS-60-264	c 20	N89-25279 *	US-PATENT-CLASS-60-39.29	c 07	N82-32366 *	US-PATENT-CLASS-60-757	c 07	N84-24577 *
US-PATENT-CLASS-60-265	c 28	N71-20942 *	US-PATENT-CLASS-60-39.29	c 07	N84-33410 *	US-PATENT-CLASS-60-836	c 24	N78-14096 *
US-PATENT-CLASS-60-265	c 33	N72-25911 *	US-PATENT-CLASS-60-39.31	c 07	N78-18066 *	US-PATENT-CLASS-60-97	c 03	N71-12260 *
US-PATENT-CLASS-60-265	c 33	N73-25952 *	US-PATENT-CLASS-60-39.31	c 07	N79-14096 *	US-PATENT-CLASS-60-114	c 52	N83-27577 *
US-PATENT-CLASS-60-265	c 20	N76-14191 *	US-PATENT-CLASS-60-39.33	c 44	N78-32539 *	US-PATENT-CLASS-60-151	c 52	N83-27577 *
US-PATENT-CLASS-60-266	c 33	N71-28852 *	US-PATENT-CLASS-60-39.36	c 28	N71-20330 *	US-PATENT-CLASS-60-280	c 52	N83-21785 *
US-PATENT-CLASS-60-266	c 28	N72-23810 *	US-PATENT-CLASS-60-39.36	c 28	N71-28915 *	US-PATENT-CLASS-60-368	c 54	N84-11758 *
US-PATENT-CLASS-60-267	c 33	N71-29053 *	US-PATENT-CLASS-60-39.46M	c 20	N82-18314 *	US-PATENT-CLASS-60-378	c 54	N84-11758 *
US-PATENT-CLASS-60-267	c 33	N72-25911 *	US-PATENT-CLASS-60-39.465	c 20	N86-26368 *	US-PATENT-CLASS-60-396	c 54	N84-11758 *
US-PATENT-CLASS-60-267	c 33	N73-25952 *	US-PATENT-CLASS-60-39.46	c 27	N71-15635 *	US-PATENT-CLASS-60-4	c 52	N83-21785 *
US-PATENT-CLASS-60-267	c 28	N73-32606 *	US-PATENT-CLASS-60-39.46	c 15	N74-27360 *	US-PATENT-CLASS-61-83	c 18	N74-22136 *
US-PATENT-CLASS-60-267	c 20	N76-14191 *	US-PATENT-CLASS-60-39.47	c 27	N71-16392 *	US-PATENT-CLASS-62-DIG.1	c 34	N84-22903 *
US-PATENT-CLASS-60-267	c 34	N79-13288 *	US-PATENT-CLASS-60-39.48	c 28	N70-38199 *	US-PATENT-CLASS-62-DIG.5	c 05	N81-26114 *
US-PATENT-CLASS-60-267	c 34	N79-13289 *	US-PATENT-CLASS-60-39.48	c 28	N70-39931 *	US-PATENT-CLASS-62-100	c 34	N77-19353 *
US-PATENT-CLASS-60-267	c 34	N80-24573 *	US-PATENT-CLASS-60-39.48	c 27	N71-28929 *	US-PATENT-CLASS-62-100	c 28	N78-24365 *
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US-PATENT-CLASS-65-12	c 31	N86-21718 *	US-PATENT-CLASS-73-116	c 11	N70-33278 *	US-PATENT-CLASS-73-147	c 35	N89-12841 *
US-PATENT-CLASS-65-134	c 71	N83-35781 *	US-PATENT-CLASS-73-116	c 11	N70-34844 *	US-PATENT-CLASS-73-147	c 35	N89-14423 *
US-PATENT-CLASS-65-134	c 27	N87-21111 *	US-PATENT-CLASS-73-116	c 14	N70-40203 *	US-PATENT-CLASS-73-149	c 14	N72-11363 *
US-PATENT-CLASS-65-136	c 27	N87-21111 *	US-PATENT-CLASS-73-116	c 11	N70-41677 *	US-PATENT-CLASS-73-149	c 52	N74-10975 *
US-PATENT-CLASS-65-13	c 27	N87-21111 *	US-PATENT-CLASS-73-116	c 11	N71-10604 *	US-PATENT-CLASS-73-15.4	c 14	N71-17659 *
US-PATENT-CLASS-65-142	c 31	N81-33319 *	US-PATENT-CLASS-73-116	c 31	N71-15643 *	US-PATENT-CLASS-73-15.4	c 35	N74-32879 *
US-PATENT-CLASS-65-142	c 27	N82-28442 *	US-PATENT-CLASS-73-117.1	c 11	N72-27262 *	US-PATENT-CLASS-73-15.6	c 14	N70-35368 *
US-PATENT-CLASS-65-142	c 31	N83-31896 *	US-PATENT-CLASS-73-117.1	c 09	N84-27749 *	US-PATENT-CLASS-73-15.6	c 14	N71-24234 *
US-PATENT-CLASS-65-142	c 31	N83-35176 *	US-PATENT-CLASS-73-117.4	c 14	N71-20429 *	US-PATENT-CLASS-73-15.6	c 14	N71-26136 *
US-PATENT-CLASS-65-142	c 71	N84-28568 *	US-PATENT-CLASS-73-117.4	c 28	N71-27094 *	US-PATENT-CLASS-73-15.6	c 32	N72-25877 *
US-PATENT-CLASS-65-142	c 26	N86-32551 *	US-PATENT-CLASS-73-117.4	c 35	N75-29382 *	US-PATENT-CLASS-73-15.6	c 09	N74-19528 *
US-PATENT-CLASS-65-160	c 71	N84-28568 *	US-PATENT-CLASS-73-117	c 14	N71-22965 *	US-PATENT-CLASS-73-15.6	c 35	N76-24523 *
US-PATENT-CLASS-65-1	c 31	N86-21718 *	US-PATENT-CLASS-73-12	c 14	N71-23225 *	US-PATENT-CLASS-73-15.6	c 35	N77-22450 *
US-PATENT-CLASS-65-21.2	c 26	N86-32551 *	US-PATENT-CLASS-73-12	c 14	N71-26161 *	US-PATENT-CLASS-73-15.6	c 39	N78-10493 *
US-PATENT-CLASS-65-21.3	c 31	N83-35176 *	US-PATENT-CLASS-73-12	c 14	N72-16282 *	US-PATENT-CLASS-73-15R	c 33	N72-25913 *
US-PATENT-CLASS-65-21.3	c 71	N84-28568 *	US-PATENT-CLASS-73-12	c 14	N72-25411 *	US-PATENT-CLASS-73-15R	c 14	N73-28486 *
US-PATENT-CLASS-65-21.4	c 31	N81-33319 *	US-PATENT-CLASS-73-12	c 14	N73-32327 *	US-PATENT-CLASS-73-15R	c 25	N74-18551 *
US-PATENT-CLASS-65-21.4	c 27	N82-28442 *	US-PATENT-CLASS-73-12	c 35	N74-21062 *	US-PATENT-CLASS-73-15R	c 31	N74-27900 *
US-PATENT-CLASS-65-21.4	c 31	N83-35176 *	US-PATENT-CLASS-73-12	c 35	N75-33367 *	US-PATENT-CLASS-73-15R	c 09	N77-27131 *
US-PATENT-CLASS-65-21.4	c 71	N84-28568 *	US-PATENT-CLASS-73-12	c 75	N76-14931 *	US-PATENT-CLASS-73-15R	c 74	N81-17887 *
US-PATENT-CLASS-65-213	c 71	N84-16940 *	US-PATENT-CLASS-73-12	c 35	N77-18417 *	US-PATENT-CLASS-73-150-A	c 39	N86-20841 *
US-PATENT-CLASS-65-214	c 31	N83-31896 *	US-PATENT-CLASS-73-12	c 43	N79-25443 *	US-PATENT-CLASS-73-150R	c 35	N84-28019 *
US-PATENT-CLASS-65-22	c 31	N81-33319 *	US-PATENT-CLASS-73-12	c 43	N80-14423 *	US-PATENT-CLASS-73-155	c 46	N80-10709 *
US-PATENT-CLASS-65-22	c 27	N82-28442 *	US-PATENT-CLASS-73-12	c 43	N80-23711 *	US-PATENT-CLASS-73-155	c 46	N80-24906 *
US-PATENT-CLASS-65-22	c 31	N83-31896 *	US-PATENT-CLASS-73-12	c 37	N84-33807 *	US-PATENT-CLASS-73-159	c 31	N79-11246 *
US-PATENT-CLASS-65-22	c 31	N83-35176 *	US-PATENT-CLASS-73-133R	c 35	N77-14407 *	US-PATENT-CLASS-73-15	c 14	N70-34156 *
US-PATENT-CLASS-65-2	c 71	N78-10837 *	US-PATENT-CLASS-73-133	c 14	N71-23725 *	US-PATENT-CLASS-73-15	c 14	N71-15992 *
US-PATENT-CLASS-65-2	c 31	N86-21718 *	US-PATENT-CLASS-73-133	c 15	N72-22482 *	US-PATENT-CLASS-73-15	c 14	N71-22964 *
US-PATENT-CLASS-65-2	c 27	N87-21111 *	US-PATENT-CLASS-73-134	c 14	N70-40201 *	US-PATENT-CLASS-73-15	c 11	N71-24985 *
US-PATENT-CLASS-65-30R	c 27	N78-32260 *	US-PATENT-CLASS-73-136R	c 15	N72-26371 *	US-PATENT-CLASS-73-15	c 11	N71-28629 *
US-PATENT-CLASS-65-32	c 71	N78-10837 *	US-PATENT-CLASS-73-136	c 14	N70-34818 *	US-PATENT-CLASS-73-161	c 11	N72-25288 *
US-PATENT-CLASS-65-3	c 37	N75-26371 *	US-PATENT-CLASS-73-140	c 11	N72-25288 *	US-PATENT-CLASS-73-167	c 15	N84-16231 *
US-PATENT-CLASS-65-4B	c 71	N78-10837 *	US-PATENT-CLASS-73-141AB	c 14	N72-33377 *	US-PATENT-CLASS-73-170A	c 35	N78-27384 *
US-PATENT-CLASS-65-43	c 37	N75-15992 *	US-PATENT-CLASS-73-141A	c 14	N72-21405 *	US-PATENT-CLASS-73-170A	c 48	N80-18667 *
US-PATENT-CLASS-65-43	c 24	N79-25143 *	US-PATENT-CLASS-73-141A	c 14	N72-22437 *	US-PATENT-CLASS-73-170R	c 07	N73-20175 *
US-PATENT-CLASS-65-59A	c 35	N77-24455 *	US-PATENT-CLASS-73-141A	c 35	N74-26945 *	US-PATENT-CLASS-73-170R	c 14	N73-28487 *
US-PATENT-CLASS-65-60D	c 27	N78-32260 *	US-PATENT-CLASS-73-141A	c 35	N74-27865 *	US-PATENT-CLASS-73-170R	c 14	N73-32327 *
US-PATENT-CLASS-65-61	c 74	N80-24149 *	US-PATENT-CLASS-73-141A	c 35	N75-33369 *	US-PATENT-CLASS-73-170R	c 33	N74-27862 *
US-PATENT-CLASS-65-7	c 18	N71-23088 *	US-PATENT-CLASS-73-141A	c 52	N81-20703 *	US-PATENT-CLASS-73-170R	c 35	N75-33367 *
US-PATENT-CLASS-65-87	c 71	N78-10837 *	US-PATENT-CLASS-73-141	c 14	N70-41957 *	US-PATENT-CLASS-73-170R	c 91	N76-30131 *
US-PATENT-CLASS-6554	c 35	N77-24455 *	US-PATENT-CLASS-73-141	c 15	N71-20441 *	US-PATENT-CLASS-73-170R	c 06	N83-10040 *

US-PATENT-CLASS-73-170R	c 35	N84-28018 *	US-PATENT-CLASS-73-290	c 14	N71-10500 *	US-PATENT-CLASS-73-432SD	c 35	N77-18417 *
US-PATENT-CLASS-73-170	c 14	N71-14996 *	US-PATENT-CLASS-73-290	c 14	N71-21007 *	US-PATENT-CLASS-73-432T	c 74	N84-11921 *
US-PATENT-CLASS-73-170	c 17	N73-32415 *	US-PATENT-CLASS-73-295	c 23	N71-17802 *	US-PATENT-CLASS-73-432	c 11	N70-34786 *
US-PATENT-CLASS-73-178-R	c 06	N84-34443 *	US-PATENT-CLASS-73-295	c 31	N76-14284 *	US-PATENT-CLASS-73-432	c 11	N70-38675 *
US-PATENT-CLASS-73-178-R	c 06	N87-22678 *	US-PATENT-CLASS-73-299	c 14	N71-17701 *	US-PATENT-CLASS-73-432	c 05	N70-42000 *
US-PATENT-CLASS-73-178-R	c 02	N88-23759 *	US-PATENT-CLASS-73-299	c 14	N71-20741 *	US-PATENT-CLASS-73-432	c 31	N71-16221 *
US-PATENT-CLASS-73-178R	c 35	N75-29381 *	US-PATENT-CLASS-73-301	c 12	N71-26387 *	US-PATENT-CLASS-73-432	c 27	N71-16223 *
US-PATENT-CLASS-73-178R	c 04	N77-19056 *	US-PATENT-CLASS-73-304-R	c 35	N88-29150 *	US-PATENT-CLASS-73-432	c 30	N71-17788 *
US-PATENT-CLASS-73-178R	c 37	N78-27424 *	US-PATENT-CLASS-73-304C	c 14	N71-29134 *	US-PATENT-CLASS-73-432	c 14	N71-23227 *
US-PATENT-CLASS-73-178R	c 35	N79-26372 *	US-PATENT-CLASS-73-304	c 14	N72-22442 *	US-PATENT-CLASS-73-432	c 10	N71-26339 *
US-PATENT-CLASS-73-178R	c 06	N81-17057 *	US-PATENT-CLASS-73-30	c 14	N70-41681 *	US-PATENT-CLASS-73-432	c 11	N71-28629 *
US-PATENT-CLASS-73-178R	c 04	N81-21047 *	US-PATENT-CLASS-73-32R	c 76	N75-12810 *	US-PATENT-CLASS-73-432	c 14	N71-30026 *
US-PATENT-CLASS-73-178R	c 18	N81-29152 *	US-PATENT-CLASS-73-32R	c 35	N84-28018 *	US-PATENT-CLASS-73-432	c 35	N74-21062 *
US-PATENT-CLASS-73-178R	c 06	N82-16075 *	US-PATENT-CLASS-73-32	c 14	N70-41330 *	US-PATENT-CLASS-73-45.5	c 12	N71-17573 *
US-PATENT-CLASS-73-178R	c 06	N83-10040 *	US-PATENT-CLASS-73-336.5	c 35	N78-25391 *	US-PATENT-CLASS-73-456	c 35	N78-24515 *
US-PATENT-CLASS-73-178R	c 06	N84-27733 *	US-PATENT-CLASS-73-336.5	c 35	N85-29212 *	US-PATENT-CLASS-73-462	c 35	N87-14670 *
US-PATENT-CLASS-73-178T	c 06	N86-27280 *	US-PATENT-CLASS-73-336.5	c 35	N87-22953 *	US-PATENT-CLASS-73-468	c 37	N84-28082 *
US-PATENT-CLASS-73-178	c 14	N70-36807 *	US-PATENT-CLASS-73-339	c 33	N73-27796 *	US-PATENT-CLASS-73-46	c 35	N75-19612 *
US-PATENT-CLASS-73-178	c 14	N70-40157 *	US-PATENT-CLASS-73-341	c 14	N71-15598 *	US-PATENT-CLASS-73-473	c 35	N87-14670 *
US-PATENT-CLASS-73-179	c 34	N85-21568 *	US-PATENT-CLASS-73-341	c 44	N82-16474 *	US-PATENT-CLASS-73-477	c 35	N87-14670 *
US-PATENT-CLASS-73-17	c 06	N71-24607 *	US-PATENT-CLASS-73-343R	c 52	N77-10780 *	US-PATENT-CLASS-73-49.2	c 32	N71-24285 *
US-PATENT-CLASS-73-180	c 35	N78-14364 *	US-PATENT-CLASS-73-343R	c 35	N80-18357 *	US-PATENT-CLASS-73-49.2	c 35	N75-15931 *
US-PATENT-CLASS-73-180	c 02	N80-28300 *	US-PATENT-CLASS-73-343	c 33	N71-16356 *	US-PATENT-CLASS-73-49.2	c 35	N75-19612 *
US-PATENT-CLASS-73-180	c 35	N89-12841 *	US-PATENT-CLASS-73-343	c 11	N71-21475 *	US-PATENT-CLASS-73-49.3	c 14	N71-26672 *
US-PATENT-CLASS-73-182	c 14	N73-13415 *	US-PATENT-CLASS-73-355R	c 14	N72-24477 *	US-PATENT-CLASS-73-49.8	c 14	N69-27503 *
US-PATENT-CLASS-73-182	c 35	N74-32878 *	US-PATENT-CLASS-73-355R	c 35	N80-18359 *	US-PATENT-CLASS-73-49.8	c 15	N71-29132 *
US-PATENT-CLASS-73-182	c 35	N76-14429 *	US-PATENT-CLASS-73-355	c 14	N71-27323 *	US-PATENT-CLASS-73-490	c 04	N81-21047 *
US-PATENT-CLASS-73-182	c 02	N80-28300 *	US-PATENT-CLASS-73-355	c 14	N72-28437 *	US-PATENT-CLASS-73-492	c 14	N72-25411 *
US-PATENT-CLASS-73-187	c 35	N85-20295 *	US-PATENT-CLASS-73-356	c 35	N75-25122 *	US-PATENT-CLASS-73-493	c 17	N76-29347 *
US-PATENT-CLASS-73-188	c 06	N80-18036 *	US-PATENT-CLASS-73-35	c 33	N72-27959 *	US-PATENT-CLASS-73-497	c 14	N71-30265 *
US-PATENT-CLASS-73-189	c 20	N71-16281 *	US-PATENT-CLASS-73-361	c 35	N81-26431 *	US-PATENT-CLASS-73-497	c 35	N74-15094 *
US-PATENT-CLASS-73-189	c 02	N71-23007 *	US-PATENT-CLASS-73-362AR	c 35	N77-27368 *	US-PATENT-CLASS-73-4	c 14	N71-18481 *
US-PATENT-CLASS-73-189	c 14	N71-23726 *	US-PATENT-CLASS-73-37.5	c 35	N86-32698 *	US-PATENT-CLASS-73-4	c 14	N71-23036 *
US-PATENT-CLASS-73-189	c 14	N73-13415 *	US-PATENT-CLASS-73-379	c 05	N73-27941 *	US-PATENT-CLASS-73-4	c 14	N71-23755 *
US-PATENT-CLASS-73-189	c 14	N73-25460 *	US-PATENT-CLASS-73-379	c 05	N73-30078 *	US-PATENT-CLASS-73-4	c 14	N73-30390 *
US-PATENT-CLASS-73-189	c 35	N76-24524 *	US-PATENT-CLASS-73-379	c 35	N75-15932 *	US-PATENT-CLASS-73-502	c 35	N86-32695 *
US-PATENT-CLASS-73-189	c 34	N76-27517 *	US-PATENT-CLASS-73-379	c 39	N83-20280 *	US-PATENT-CLASS-73-504	c 04	N81-21047 *
US-PATENT-CLASS-73-189	c 34	N77-27345 *	US-PATENT-CLASS-73-382	c 10	N71-13537 *	US-PATENT-CLASS-73-505	c 23	N71-16098 *
US-PATENT-CLASS-73-189	c 34	N79-12359 *	US-PATENT-CLASS-73-382	c 14	N71-17587 *	US-PATENT-CLASS-73-505	c 12	N75-24774 *
US-PATENT-CLASS-73-189	c 06	N80-18036 *	US-PATENT-CLASS-73-384	c 15	N70-79295 *	US-PATENT-CLASS-73-505	c 71	N78-10837 *
US-PATENT-CLASS-73-189	c 47	N84-28292 *	US-PATENT-CLASS-73-388	c 35	N74-32878 *	US-PATENT-CLASS-73-505	c 71	N79-20827 *
US-PATENT-CLASS-73-190H	c 35	N74-22095 *	US-PATENT-CLASS-73-389	c 12	N71-24692 *	US-PATENT-CLASS-73-505	c 71	N81-15767 *
US-PATENT-CLASS-73-190R	c 34	N74-27859 *	US-PATENT-CLASS-73-38	c 18	N71-24934 *	US-PATENT-CLASS-73-505	c 71	N83-32515 *
US-PATENT-CLASS-73-190R	c 35	N81-19426 *	US-PATENT-CLASS-73-398AR	c 52	N74-27566 *	US-PATENT-CLASS-73-505	c 71	N83-32516 *
US-PATENT-CLASS-73-190	c 33	N71-15641 *	US-PATENT-CLASS-73-398AR	c 52	N76-29896 *	US-PATENT-CLASS-73-505	c 71	N83-36846 *
US-PATENT-CLASS-73-190	c 14	N71-22989 *	US-PATENT-CLASS-73-398C	c 14	N72-22438 *	US-PATENT-CLASS-73-505	c 71	N84-23233 *
US-PATENT-CLASS-73-190	c 33	N71-23085 *	US-PATENT-CLASS-73-398C	c 33	N76-21390 *	US-PATENT-CLASS-73-505	c 71	N85-22105 *
US-PATENT-CLASS-73-190	c 33	N71-29051 *	US-PATENT-CLASS-73-398	c 14	N70-34816 *	US-PATENT-CLASS-73-505	c 71	N85-29693 *
US-PATENT-CLASS-73-194A	c 14	N72-17329 *	US-PATENT-CLASS-73-398	c 14	N71-21072 *	US-PATENT-CLASS-73-505	c 35	N86-20752 *
US-PATENT-CLASS-73-194EM	c 14	N73-32326 *	US-PATENT-CLASS-73-398	c 09	N71-24597 *	US-PATENT-CLASS-73-505	c 26	N86-32551 *
US-PATENT-CLASS-73-194EM	c 35	N74-21018 *	US-PATENT-CLASS-73-398	c 14	N73-30394 *	US-PATENT-CLASS-73-505	c 71	N88-24241 *
US-PATENT-CLASS-73-194E	c 14	N73-20478 *	US-PATENT-CLASS-73-399	c 37	N76-18454 *	US-PATENT-CLASS-73-505	c 71	N89-13236 *
US-PATENT-CLASS-73-194E	c 05	N73-32015 *	US-PATENT-CLASS-73-3	c 34	N74-27730 *	US-PATENT-CLASS-73-505	c 35	N89-14422 *
US-PATENT-CLASS-73-194F	c 14	N72-11365 *	US-PATENT-CLASS-73-3	c 34	N86-12547 *	US-PATENT-CLASS-73-510	c 18	N81-29152 *
US-PATENT-CLASS-73-194M	c 05	N73-32015 *	US-PATENT-CLASS-73-4R	c 35	N74-13132 *	US-PATENT-CLASS-73-515	c 14	N72-25410 *
US-PATENT-CLASS-73-194M	c 35	N75-30503 *	US-PATENT-CLASS-73-4R	c 35	N79-14347 *	US-PATENT-CLASS-73-517B	c 35	N74-15094 *
US-PATENT-CLASS-73-194R	c 34	N76-27517 *	US-PATENT-CLASS-73-4R	c 35	N80-18358 *	US-PATENT-CLASS-73-517R	c 17	N76-29347 *
US-PATENT-CLASS-73-194VS	c 34	N79-12359 *	US-PATENT-CLASS-73-4V	c 35	N74-15092 *	US-PATENT-CLASS-73-517	c 11	N70-38196 *
US-PATENT-CLASS-73-194	c 14	N70-41994 *	US-PATENT-CLASS-73-40.5A	c 35	N85-21597 *	US-PATENT-CLASS-73-517	c 14	N70-41682 *
US-PATENT-CLASS-73-194	c 14	N71-23226 *	US-PATENT-CLASS-73-40.5	c 14	N71-10779 *	US-PATENT-CLASS-73-517	c 14	N71-15969 *
US-PATENT-CLASS-73-194	c 12	N71-26546 *	US-PATENT-CLASS-73-40.7	c 15	N71-24910 *	US-PATENT-CLASS-73-521	c 14	N72-25410 *
US-PATENT-CLASS-73-195	c 35	N75-30503 *	US-PATENT-CLASS-73-40.7	c 14	N71-28992 *	US-PATENT-CLASS-73-521	c 35	N86-32695 *
US-PATENT-CLASS-73-198	c 14	N69-24257 *	US-PATENT-CLASS-73-40.7	c 35	N74-32879 *	US-PATENT-CLASS-73-557	c 35	N75-19614 *
US-PATENT-CLASS-73-198	c 14	N72-17327 *	US-PATENT-CLASS-73-40.7	c 35	N85-29213 *	US-PATENT-CLASS-73-557	c 07	N76-27232 *
US-PATENT-CLASS-73-1	c 10	N71-13545 *	US-PATENT-CLASS-73-400	c 14	N71-23093 *	US-PATENT-CLASS-73-56	c 35	N80-18357 *
US-PATENT-CLASS-73-1	c 09	N71-22988 *	US-PATENT-CLASS-73-400	c 14	N71-24232 *	US-PATENT-CLASS-73-579	c 39	N78-15512 *
US-PATENT-CLASS-73-204	c 12	N71-17569 *	US-PATENT-CLASS-73-400	c 35	N79-33450 *	US-PATENT-CLASS-73-579	c 35	N79-10390 *
US-PATENT-CLASS-73-204	c 35	N76-24524 *	US-PATENT-CLASS-73-401	c 14	N70-34820 *	US-PATENT-CLASS-73-579	c 33	N83-16626 *
US-PATENT-CLASS-73-204	c 35	N77-20400 *	US-PATENT-CLASS-73-40	c 35	N75-15931 *	US-PATENT-CLASS-73-579	c 27	N85-20126 *
US-PATENT-CLASS-73-204	c 52	N83-27577 *	US-PATENT-CLASS-73-40	c 35	N80-18358 *	US-PATENT-CLASS-73-57	c 14	N71-17584 *
US-PATENT-CLASS-73-205L	c 02	N80-20224 *	US-PATENT-CLASS-73-419	c 14	N71-22752 *	US-PATENT-CLASS-73-57	c 14	N73-14429 *
US-PATENT-CLASS-73-212	c 14	N70-36824 *	US-PATENT-CLASS-73-420	c 35	N74-13132 *	US-PATENT-CLASS-73-582	c 27	N85-20126 *
US-PATENT-CLASS-73-212	c 14	N73-13415 *	US-PATENT-CLASS-73-421.5R	c 13	N72-25323 *	US-PATENT-CLASS-73-583	c 71	N87-21652 *
US-PATENT-CLASS-73-212	c 35	N76-14429 *	US-PATENT-CLASS-73-421.5R	c 14	N73-30395 *	US-PATENT-CLASS-73-587	c 35	N88-23966 *
US-PATENT-CLASS-73-212	c 06	N80-18036 *	US-PATENT-CLASS-73-421.5R	c 52	N74-20728 *	US-PATENT-CLASS-73-588	c 37	N84-33807 *
US-PATENT-CLASS-73-221	c 35	N75-19611 *	US-PATENT-CLASS-73-421.5R	c 35	N76-18401 *	US-PATENT-CLASS-73-588	c 27	N85-20126 *
US-PATENT-CLASS-73-228	c 34	N77-27345 *	US-PATENT-CLASS-73-421.5R	c 35	N77-32456 *	US-PATENT-CLASS-73-589	c 35	N79-10390 *
US-PATENT-CLASS-73-23.1	c 06	N69-39936 *	US-PATENT-CLASS-73-421.5	c 14	N73-12444 *	US-PATENT-CLASS-73-589	c 35	N84-22933 *
US-PATENT-CLASS-73-23.1	c 06	N72-17094 *	US-PATENT-CLASS-73-421R	c 54	N76-14804 *	US-PATENT-CLASS-73-589	c 71	N87-21652 *
US-PATENT-CLASS-73-23.1	c 06	N72-25146 *	US-PATENT-CLASS-73-422GC	c 13	N72-25323 *	US-PATENT-CLASS-73-594	c 35	N84-22933 *
US-PATENT-CLASS-73-23.1	c 25	N76-18245 *	US-PATENT-CLASS-73-422TC	c 13	N72-25323 *	US-PATENT-CLASS-73-597	c 33	N83-16626 *
US-PATENT-CLASS-73-23.1	c 23	N77-17161 *	US-PATENT-CLASS-73-422	c 14	N71-20435 *	US-PATENT-CLASS-73-597	c 52	N83-27578 *
US-PATENT-CLASS-73-23	c 14	N71-10774 *	US-PATENT-CLASS-73-425.2	c 91	N76-30131 *	US-PATENT-CLASS-73-597	c 32	N87-14559 *
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US-PATENT-3,158,172	c 15	N70-34817 *	US-PATENT-3,208,272	c 14	N70-34161 *	US-PATENT-3,270,565	c 14	N71-30265 *
US-PATENT-3,158,336	c 31	N70-36410 *	US-PATENT-3,208,694	c 02	N70-34160 *	US-PATENT-3,270,756	c 15	N71-15967 *
US-PATENT-3,158,764	c 03	N70-36803 *	US-PATENT-3,208,707	c 31	N70-34159 *	US-PATENT-3,270,802	c 33	N71-24876 *
US-PATENT-3,159,967	c 28	N70-36802 *	US-PATENT-3,209,360	c 09	N70-35219 *	US-PATENT-3,270,835	c 28	N70-41582 *
US-PATENT-3,160,825	c 14	N70-35220 *	US-PATENT-3,209,361	c 09	N70-35425 *	US-PATENT-3,270,908	c 31	N71-15664 *
US-PATENT-3,160,950	c 15	N70-36409 *	US-PATENT-3,210,927	c 28	N70-34175 *	US-PATENT-3,270,985	c 21	N71-15583 *
US-PATENT-3,162,012	c 15	N70-36411 *	US-PATENT-3,211,169	c 15	N70-35087 *	US-PATENT-3,270,986	c 05	N71-12336 *
US-PATENT-3,163,935	c 14	N70-36907 *	US-PATENT-3,211,414	c 15	N70-35407 *	US-PATENT-3,270,988	c 01	N71-13410 *
US-PATENT-3,164,222	c 15	N70-34861 *	US-PATENT-3,212,096	c 09	N70-35382 *	US-PATENT-3,270,989	c 02	N71-11041 *
US-PATENT-3,164,369	c 15	N70-36412 *	US-PATENT-3,212,259	c 28	N71-29153 *	US-PATENT-3,270,990	c 28	N71-15563 *
US-PATENT-3,165,356	c 05	N70-35152 *	US-PATENT-3,212,325	c 14	N70-34705 *	US-PATENT-3,271,140	c 17	N71-15644 *
US-PATENT-3,166,834	c 15	N70-36901 *	US-PATENT-3,212,564	c 33	N71-29052 *	US-PATENT-3,271,181	c 15	N71-16077 *
US-PATENT-3,167,426	c 17	N70-36616 *	US-PATENT-3,215,313	c 31	N79-21225 *	US-PATENT-3,271,532	c 09	N71-16089 *
US-PATENT-3,168,827	c 14	N70-36807 *	US-PATENT-3,215,572	c 12	N70-40124 *	US-PATENT-3,271,558	c 15	N71-15871 *
US-PATENT-3,169,001	c 02	N70-36825 *	US-PATENT-3,216,007	c 08	N70-40125 *	US-PATENT-3,271,594	c 10	N71-28739 *
US-PATENT-3,169,613	c 15	N70-36947 *	US-PATENT-3,217,624	c 14	N70-40273 *	US-PATENT-3,271,620	c 09	N71-12540 *
US-PATENT-3,169,725	c 31	N70-34296 *	US-PATENT-3,218,479	c 09	N70-40272 *	US-PATENT-3,271,637	c 26	N71-18064 *
US-PATENT-3,170,286	c 15	N70-36535 *	US-PATENT-3,218,547	c 09	N70-40123 *	US-PATENT-3,271,649	c 10	N71-16030 *
US-PATENT-3,170,290	c 28	N70-36910 *	US-PATENT-3,218,850	c 14	N70-40400 *	US-PATENT-3,273,094	c 23	N71-29049 *
US-PATENT-3,170,295	c 27	N71-28929 *	US-PATENT-3,219,250	c 15	N70-40204 *	US-PATENT-3,273,355	c 33	N71-17897 *
US-PATENT-3,170,324	c 14	N70-36824 *	US-PATENT-3,219,365	c 15	N71-28937 *	US-PATENT-3,273,381	c 32	N71-17645 *
US-PATENT-3,170,471	c 32	N70-36536 *	US-PATENT-3,219,997	c 08	N73-28045 *	US-PATENT-3,273,388	c 09	N71-16086 *
US-PATENT-3,170,486	c 15	N70-36492 *	US-PATENT-3,220,004	c 30	N70-40309 *	US-PATENT-3,273,392	c 23	N71-17802 *
US-PATENT-3,170,605	c 15	N70-38996 *	US-PATENT-3,221,547	c 14	N70-40201 *	US-PATENT-3,273,399	c 12	N71-24692 *
US-PATENT-3,170,657	c 02	N70-34858 *	US-PATENT-3,221,549	c 14	N70-40157 *	US-PATENT-3,274,304	c 26	N71-17818 *
US-PATENT-3,170,660	c 02	N70-36804 *	US-PATENT-3,223,374	c 15	N70-40156 *	US-PATENT-3,275,794	c 37	N75-27376 *
US-PATENT-3,170,773	c 17	N70-33288 *	US-PATENT-3,224,001	c 07	N70-40063 *	US-PATENT-3,276,251	c 11	N71-15926 *
US-PATENT-3,171,060	c 25	N70-33267 *	US-PATENT-3,224,173	c 15	N70-40062 *	US-PATENT-3,276,376	c 31	N71-17629 *
US-PATENT-3,171,081	c 14	N70-35666 *	US-PATENT-3,224,263	c 15	N70-40180 *	US-PATENT-3,276,602	c 32	N71-17609 *
US-PATENT-3,172,097	c 08	N70-35423 *	US-PATENT-3,224,336	c 30	N70-40353 *	US-PATENT-3,276,679	c 15	N71-16079 *
US-PATENT-3,173,246	c 28	N70-33265 *	US-PATENT-3,224,337	c 09	N79-21084 *	US-PATENT-3,276,722	c 02	N71-16087 *
US-PATENT-3,173,251	c 28	N70-33375 *	US-PATENT-3,228,492	c 15	N70-40354 *	US-PATENT-3,276,726	c 31	N71-16081 *
US-PATENT-3,173,801	c 32	N79-19186 *	US-PATENT-3,228,558	c 14	N70-40233 *	US-PATENT-3,276,865	c 17	N71-16025 *
US-PATENT-3,174,278	c 25	N70-36946 *	US-PATENT-3,229,099	c 14	N70-40238 *	US-PATENT-3,276,866	c 17	N71-16026 *
US-PATENT-3,174,279	c 28	N70-36806 *	US-PATENT-3,229,102	c 14	N70-40239 *	US-PATENT-3,276,946	c 23	N71-15978 *
US-PATENT-3,174,827	c 26	N70-36805 *	US-PATENT-3,229,139	c 28	N70-39925 *	US-PATENT-3,277,314	c 10	N71-16042 *
US-PATENT-3,175,789	c 31	N70-36654 *	US-PATENT-3,229,155	c 25	N70-41628 *	US-PATENT-3,277,366	c 10	N71-16057 *
US-PATENT-3,176,222	c 14	N70-36618 *	US-PATENT-3,229,463	c 28	N70-39931 *	US-PATENT-3,277,373	c 07	N71-16088 *
US-PATENT-3,176,499	c 14	N70-35368 *	US-PATENT-3,229,568	c 14	N70-40003 *	US-PATENT-3,277,375	c 07	N71-11284 *
US-PATENT-3,176,933	c 33	N70-36617 *	US-PATENT-3,229,636	c 03	N70-39930 *	US-PATENT-3,277,458	c 10	N71-16058 *
US-PATENT-3,177,933	c 33	N70-36847 *	US-PATENT-3,229,682	c 09	N70-40234 *	US-PATENT-3,277,486	c 31	N71-10747 *
US-PATENT-3,178,883	c 21	N70-36938 *	US-PATENT-3,229,689	c 05	N70-39922 *	US-PATENT-3,279,193	c 33	N71-28852 *
US-PATENT-3,180,264	c 33	N70-36846 *	US-PATENT-3,229,884	c 15	N70-39924 *	US-PATENT-3,281,558	c 33	N75-27249 *
US-PATENT-3,180,587	c 21	N70-36943 *	US-PATENT-3,229,905	c 04	N78-17031 *	US-PATENT-3,281,963	c 11	N71-10746 *
US-PATENT-3,181,821	c 31	N70-36845 *	US-PATENT-3,229,930	c 30	N70-40016 *	US-PATENT-3,281,964	c 11	N71-10776 *
US-PATENT-3,182,496	c 11	N70-36913 *	US-PATENT-3,230,053	c 26	N70-40015 *	US-PATENT-3,281,965	c 11	N71-10748 *
US-PATENT-3,183,506	c 07	N70-36911 *	US-PATENT-3,233,862	c 37	N79-33469 *	US-PATENT-3,282,035	c 11	N71-10777 *
US-PATENT-3,185,023	c 14	N70-34298 *	US-PATENT-3,236,066	c 15	N71-28959 *	US-PATENT-3,282,091	c 14	N71-10781 *
US-PATENT-3,187,583	c 11	N70-38675 *	US-PATENT-3,237,253	c 15	N71-15966 *	US-PATENT-3,282,532	c 31	N71-17729 *
US-PATENT-3,188,472	c 21	N70-34297 *	US-PATENT-3,238,345	c 11	N71-15925 *	US-PATENT-3,282,541	c 31	N71-24750 *
US-PATENT-3,188,844	c 15	N70-34249 *	US-PATENT-3,238,413	c 25	N71-29184 *	US-PATENT-3,282,739	c 03	N71-11053 *
US-PATENT-3,189,299	c 21	N70-34295 *	US-PATENT-3,238,715	c 28	N71-14043 *	US-PATENT-3,282,740	c 03	N71-11051 *
US-PATENT-3,189,535	c 15	N70-34967 *	US-PATENT-3,238,730	c 03	N71-12260 *	US-PATENT-3,283,088	c 10	N71-15909 *
US-PATENT-3,189,726	c 33	N70-34545 *	US-PATENT-3,238,774	c 14	N71-14996 *	US-PATENT-3,283,175	c 10	N71-15910 *
US-PATENT-3,189,784	c 33	N75-27250 *	US-PATENT-3,238,777	c 14	N71-15598 *	US-PATENT-3,283,241	c 14	N71-16014 *
US-PATENT-3,189,794	c 09	N70-34502 *	US-PATENT-3,239,660	c 23	N71-30292 *	US-PATENT-3,286,274	c 05	N71-12335 *
US-PATENT-3,189,864	c 09	N70-34596 *	US-PATENT-3,242,716	c 14	N71-15992 *	US-PATENT-3,286,531	c 30	N71-17788 *
US-PATENT-3,190,124	c 35	N79-33450 *	US-PATENT-3,243,154	c 23	N71-15673 *	US-PATENT-3,286,629	c 31	N71-17730 *
US-PATENT-3,191,316	c 31	N70-34966 *	US-PATENT-3,243,791	c 07	N71-11298 *	US-PATENT-3,286,630	c 31	N71-10582 *

US-PATENT-3,286,882	c 27	N71-29155 *	US-PATENT-3,317,341	c 18	N71-10772 *	US-PATENT-3,347,046	c 33	N71-21507 *
US-PATENT-3,286,953	c 21	N70-41856 *	US-PATENT-3,317,352	c 03	N71-10728 *	US-PATENT-3,347,309	c 33	N71-29046 *
US-PATENT-3,286,957	c 02	N70-41863 *	US-PATENT-3,317,641	c 15	N71-10672 *	US-PATENT-3,347,465	c 18	N71-21088 *
US-PATENT-3,287,031	c 15	N70-41808 *	US-PATENT-3,317,731	c 21	N71-10771 *	US-PATENT-3,347,466	c 28	N71-21493 *
US-PATENT-3,287,174	c 03	N70-41864 *	US-PATENT-3,317,751	c 09	N71-10673 *	US-PATENT-3,347,531	c 15	N71-21177 *
US-PATENT-3,287,496	c 14	N70-41807 *	US-PATENT-3,317,797	c 10	N71-28783 *	US-PATENT-3,347,665	c 17	N71-20743 *
US-PATENT-3,287,582	c 28	N70-41576 *	US-PATENT-3,317,832	c 09	N71-10659 *	US-PATENT-3,348,048	c 14	N71-21088 *
US-PATENT-3,287,640	c 09	N70-41655 *	US-PATENT-3,318,093	c 15	N71-10658 *	US-PATENT-3,348,053	c 10	N71-20782 *
US-PATENT-3,287,660	c 16	N70-41578 *	US-PATENT-3,318,096	c 28	N71-28849 *	US-PATENT-3,348,152	c 10	N71-20841 *
US-PATENT-3,287,725	c 07	N70-41680 *	US-PATENT-3,318,343	c 15	N71-10809 *	US-PATENT-3,348,218	c 10	N71-29135 *
US-PATENT-3,289,205	c 07	N70-41678 *	US-PATENT-3,318,622	c 15	N71-10799 *	US-PATENT-3,349,814	c 33	N71-20834 *
US-PATENT-3,295,360	c 14	N70-41681 *	US-PATENT-3,319,175	c 09	N71-10798 *	US-PATENT-3,350,033	c 14	N71-21082 *
US-PATENT-3,295,366	c 11	N70-41677 *	US-PATENT-3,319,979	c 15	N71-10782 *	US-PATENT-3,350,034	c 31	N71-21064 *
US-PATENT-3,295,377	c 14	N70-41682 *	US-PATENT-3,320,669	c 15	N70-42017 *	US-PATENT-3,350,643	c 07	N71-20791 *
US-PATENT-3,295,386	c 05	N70-41581 *	US-PATENT-3,321,034	c 15	N70-42034 *	US-PATENT-3,350,671	c 09	N71-20842 *
US-PATENT-3,295,512	c 03	N70-41580 *	US-PATENT-3,321,154	c 31	N70-42075 *	US-PATENT-3,350,926	c 14	N71-21091 *
US-PATENT-3,295,545	c 15	N70-41646 *	US-PATENT-3,321,157	c 02	N70-42016 *	US-PATENT-3,352,157	c 14	N71-21072 *
US-PATENT-3,295,556	c 32	N70-41579 *	US-PATENT-3,321,159	c 31	N70-42015 *	US-PATENT-3,352,192	c 15	N71-21489 *
US-PATENT-3,295,594	c 54	N82-29002 *	US-PATENT-3,321,570	c 15	N70-41960 *	US-PATENT-3,352,774	c 37	N80-14395 *
US-PATENT-3,295,684	c 28	N70-41447 *	US-PATENT-3,321,628	c 10	N70-41991 *	US-PATENT-3,353,359	c 28	N71-20942 *
US-PATENT-3,295,699	c 32	N70-41367 *	US-PATENT-3,321,645	c 10	N70-42032 *	US-PATENT-3,354,098	c 06	N71-20717 *
US-PATENT-3,295,782	c 14	N70-41647 *	US-PATENT-3,321,922	c 28	N70-41992 *	US-PATENT-3,354,320	c 23	N71-21821 *
US-PATENT-3,295,790	c 31	N70-41588 *	US-PATENT-3,323,356	c 15	N70-41993 *	US-PATENT-3,354,462	c 14	N71-21006 *
US-PATENT-3,295,798	c 02	N70-41589 *	US-PATENT-3,323,362	c 14	N70-41994 *	US-PATENT-3,355,861	c 18	N71-20742 *
US-PATENT-3,295,808	c 15	N70-41310 *	US-PATENT-3,323,370	c 05	N70-42000 *	US-PATENT-3,355,948	c 14	N71-21007 *
US-PATENT-3,296,060	c 18	N70-41583 *	US-PATENT-3,323,386	c 03	N70-42073 *	US-PATENT-3,356,320	c 05	N71-20718 *
US-PATENT-3,296,526	c 14	N70-41332 *	US-PATENT-3,323,408	c 14	N70-41955 *	US-PATENT-3,356,549	c 15	N71-21404 *
US-PATENT-3,296,531	c 07	N70-41331 *	US-PATENT-3,323,484	c 14	N70-42074 *	US-PATENT-3,356,885	c 25	N71-20747 *
US-PATENT-3,298,175	c 33	N71-29053 *	US-PATENT-3,323,967	c 15	N70-42033 *	US-PATENT-3,356,917	c 33	N79-21265 *
US-PATENT-3,298,182	c 28	N70-41311 *	US-PATENT-3,324,370	c 09	N71-10677 *	US-PATENT-3,357,024	c 12	N71-20815 *
US-PATENT-3,298,221	c 14	N70-41330 *	US-PATENT-3,324,388	c 14	N71-10797 *	US-PATENT-3,357,093	c 15	N71-21078 *
US-PATENT-3,298,285	c 32	N70-41370 *	US-PATENT-3,324,423	c 07	N71-10676 *	US-PATENT-3,357,237	c 33	N71-21586 *
US-PATENT-3,298,362	c 05	N70-41329 *	US-PATENT-3,324,659	c 28	N71-10574 *	US-PATENT-3,357,862	c 03	N71-20904 *
US-PATENT-3,298,582	c 14	N71-28935 *	US-PATENT-3,325,229	c 15	N71-10617 *	US-PATENT-3,358,264	c 09	N71-20851 *
US-PATENT-3,299,364	c 16	N71-15550 *	US-PATENT-3,325,723	c 10	N71-10578 *	US-PATENT-3,359,046	c 15	N71-20739 *
US-PATENT-3,299,431	c 07	N71-28979 *	US-PATENT-3,325,749	c 09	N71-28810 *	US-PATENT-3,359,132	c 09	N71-20705 *
US-PATENT-3,299,913	c 15	N71-15918 *	US-PATENT-3,326,043	c 14	N71-10500 *	US-PATENT-3,359,409	c 07	N71-21476 *
US-PATENT-3,300,162	c 31	N70-41373 *	US-PATENT-3,326,407	c 15	N71-10577 *	US-PATENT-3,359,435	c 15	N71-21311 *
US-PATENT-3,300,731	c 07	N70-41372 *	US-PATENT-3,327,298	c 08	N71-21042 *	US-PATENT-3,359,555	c 09	N71-20864 *
US-PATENT-3,300,847	c 15	N70-41371 *	US-PATENT-3,327,991	c 15	N71-21234 *	US-PATENT-3,359,568	c 54	N78-17680 *
US-PATENT-3,300,949	c 05	N70-41297 *	US-PATENT-3,328,624	c 28	N71-28850 *	US-PATENT-3,359,819	c 15	N71-21744 *
US-PATENT-3,300,981	c 28	N70-41275 *	US-PATENT-3,329,375	c 21	N71-21708 *	US-PATENT-3,359,855	c 23	N71-21882 *
US-PATENT-3,301,046	c 14	N70-41366 *	US-PATENT-3,329,918	c 09	N71-21583 *	US-PATENT-3,360,798	c 09	N71-20658 *
US-PATENT-3,301,315	c 09	N70-41717 *	US-PATENT-3,330,052	c 11	N71-21474 *	US-PATENT-3,360,864	c 14	N71-24693 *
US-PATENT-3,301,507	c 31	N70-41631 *	US-PATENT-3,330,082	c 15	N71-21531 *	US-PATENT-3,360,972	c 15	N71-24833 *
US-PATENT-3,301,511	c 02	N70-41630 *	US-PATENT-3,330,510	c 31	N71-28851 *	US-PATENT-3,360,980	c 14	N71-20741 *
US-PATENT-3,301,578	c 15	N70-41629 *	US-PATENT-3,330,549	c 15	N71-21530 *	US-PATENT-3,360,988	c 09	N71-20816 *
US-PATENT-3,302,023	c 14	N70-41676 *	US-PATENT-3,331,071	c 07	N71-28900 *	US-PATENT-3,361,045	c 15	N71-21060 *
US-PATENT-3,302,040	c 09	N70-41675 *	US-PATENT-3,331,246	c 11	N71-21475 *	US-PATENT-3,361,067	c 26	N71-21824 *
US-PATENT-3,302,569	c 15	N70-41679 *	US-PATENT-3,331,255	c 15	N71-21529 *	US-PATENT-3,361,400	c 15	N71-20813 *
US-PATENT-3,302,633	c 05	N70-41819 *	US-PATENT-3,331,404	c 12	N71-21089 *	US-PATENT-3,361,666	c 15	N71-21403 *
US-PATENT-3,302,662	c 15	N70-41811 *	US-PATENT-3,331,951	c 21	N71-21688 *	US-PATENT-3,361,985	c 10	N71-20852 *
US-PATENT-3,302,960	c 15	N70-41829 *	US-PATENT-3,333,152	c 25	N71-21693 *	US-PATENT-3,364,311	c 07	N71-20814 *
US-PATENT-3,303,304	c 14	N70-41812 *	US-PATENT-3,333,788	c 31	N71-21881 *	US-PATENT-3,364,366	c 09	N71-28926 *
US-PATENT-3,304,028	c 31	N70-41855 *	US-PATENT-3,334,225	c 14	N73-32325 *	US-PATENT-3,364,578	c 14	N71-21079 *
US-PATENT-3,304,718	c 28	N70-41922 *	US-PATENT-3,336,725	c 15	N71-21528 *	US-PATENT-3,364,631	c 32	N71-21045 *
US-PATENT-3,304,724	c 31	N70-41948 *	US-PATENT-3,336,748	c 25	N71-21694 *	US-PATENT-3,364,777	c 15	N71-20740 *
US-PATENT-3,304,729	c 31	N70-41871 *	US-PATENT-3,336,754	c 28	N71-22983 *	US-PATENT-3,364,813	c 09	N71-22999 *
US-PATENT-3,304,768	c 32	N70-42003 *	US-PATENT-3,337,004	c 14	N71-23092 *	US-PATENT-3,365,657	c 10	N71-22961 *
US-PATENT-3,304,773	c 14	N70-41957 *	US-PATENT-3,337,279	c 05	N71-23080 *	US-PATENT-3,365,665	c 14	N71-23037 *
US-PATENT-3,304,799	c 03	N70-41954 *	US-PATENT-3,337,315	c 18	N71-23088 *	US-PATENT-3,365,897	c 33	N71-28892 *
US-PATENT-3,304,865	c 28	N70-41967 *	US-PATENT-3,337,337	c 18	N71-22894 *	US-PATENT-3,365,930	c 14	N71-22964 *
US-PATENT-3,305,415	c 27	N70-41897 *	US-PATENT-3,337,790	c 12	N71-20896 *	US-PATENT-3,365,941	c 14	N71-22965 *
US-PATENT-3,305,636	c 08	N70-41961 *	US-PATENT-3,337,812	c 09	N71-23097 *	US-PATENT-3,366,886	c 10	N71-22962 *
US-PATENT-3,305,801	c 10	N70-41964 *	US-PATENT-3,339,404	c 14	N71-22765 *	US-PATENT-3,366,894	c 10	N71-23084 *
US-PATENT-3,305,810	c 09	N70-41929 *	US-PATENT-3,339,863	c 14	N71-23040 *	US-PATENT-3,367,114	c 28	N71-23081 *
US-PATENT-3,305,861	c 21	N70-41930 *	US-PATENT-3,340,099	c 03	N71-23006 *	US-PATENT-3,367,121	c 15	N71-23025 *
US-PATENT-3,305,870	c 07	N71-15907 *	US-PATENT-3,340,395	c 14	N71-23041 *	US-PATENT-3,367,182	c 33	N71-23085 *
US-PATENT-3,306,134	c 37	N78-17385 *	US-PATENT-3,340,397	c 11	N71-23042 *	US-PATENT-3,367,224	c 15	N71-22798 *
US-PATENT-3,308,848	c 12	N71-16031 *	US-PATENT-3,340,430	c 09	N71-22796 *	US-PATENT-3,367,271	c 15	N71-24042 *
US-PATENT-3,309,012	c 33	N71-17610 *	US-PATENT-3,340,532	c 10	N71-21473 *	US-PATENT-3,367,308	c 11	N71-22875 *
US-PATENT-3,309,961	c 15	N71-16078 *	US-PATENT-3,340,599	c 09	N71-23027 *	US-PATENT-3,367,445	c 15	N71-23048 *
US-PATENT-3,310,054	c 08	N71-15908 *	US-PATENT-3,340,713	c 15	N71-22723 *	US-PATENT-3,368,486	c 15	N71-22874 *
US-PATENT-3,310,138	c 12	N71-16894 *	US-PATENT-3,340,732	c 02	N71-23007 *	US-PATENT-3,369,222	c 08	N71-22707 *
US-PATENT-3,310,256	c 31	N71-17679 *	US-PATENT-3,341,151	c 31	N71-23009 *	US-PATENT-3,369,223	c 08	N71-22710 *
US-PATENT-3,310,258	c 31	N71-17691 *	US-PATENT-3,341,169	c 15	N71-23024 *	US-PATENT-3,369,564	c 15	N71-23051 *
US-PATENT-3,310,261	c 02	N71-11038 *	US-PATENT-3,341,708	c 16	N71-22895 *	US-PATENT-3,370,039	c 06	N71-28807 *
US-PATENT-3,310,262	c 02	N71-12243 *	US-PATENT-3,341,778	c 07	N71-23098 *	US-PATENT-3,372,588	c 33	N71-29051 *
US-PATENT-3,310,443	c 24	N71-10560 *	US-PATENT-3,341,977	c 15	N71-22705 *	US-PATENT-3,373,016	c 26	N75-27127 *
US-PATENT-3,310,699	c 14	N73-32324 *	US-PATENT-3,342,055	c 15	N71-22797 *	US-PATENT-3,373,069	c 15	N71-23052 *
US-PATENT-3,310,765	c 33	N79-21264 *	US-PATENT-3,342,066	c 11	N71-23030 *	US-PATENT-3,373,404	c 08	N71-22749 *
US-PATENT-3,310,978	c 14	N71-10616 *	US-PATENT-3,342,653	c 15	N71-22713 *	US-PATENT-3,373,430	c 09	N71-22888 *
US-PATENT-3,310,980	c 11	N71-10604 *	US-PATENT-3,343,180	c 05	N71-23159 *	US-PATENT-3,373,431	c 07	N71-22750 *
US-PATENT-3,311,315	c 07	N71-10609 *	US-PATENT-3,343,189	c 05	N71-22748 *	US-PATENT-3,373,640	c 15	N71-22722 *
US-PATENT-3,311,502	c 03	N71-10608 *	US-PATENT-3,344,340	c 09	N71-21449 *	US-PATENT-3,373,914	c 15	N71-23050 *
US-PATENT-3,311,510	c 26	N71-10607 *	US-PATENT-3,344,425	c 10	N71-21483 *	US-PATENT-3,374,339	c 08	N71-22897 *
US-PATENT-3,311,571	c 27	N79-21190 *	US-PATENT-3,345,820	c 28	N71-21822 *	US-PATENT-3,374,366	c 09	N71-23015 *
US-PATENT-3,311,748	c 21	N71-10678 *	US-PATENT-3,345,822	c 27	N71-21819 *	US-PATENT-3,374,830	c 33	N71-22890 *
US-PATENT-3,311,772	c 09	N71-10618 *	US-PATENT-3,345,840	c 15	N71-21536 *	US-PATENT-3,375,451	c 10	N71-22986 *
US-PATENT-3,311,832	c 07	N71-10775 *	US-PATENT-3,345,866	c 11	N71-21481 *	US-PATENT-3,375,479	c 15	N71-23049 *
US-PATENT-3,312,101	c 14	N71-10774 *	US-PATENT-3,346,419	c 03	N71-20895 *	US-PATENT-3,375,712	c 35	N75-29382 *
US-PATENT-3,313,204	c 28	N73-24783 *	US-PATENT-3,346,442	c 18	N71-21651 *	US-PATENT-3,375,885	c 15	N73-32362 *
US-PATENT-3,316,716	c 28	N71-10780 *	US-PATENT-3,346,515	c 06	N71-20905 *	US-PATENT-3,376,730	c 14	N71-22995 *
US-PATENT-3,316,752	c 14	N71-10779 *	US-PATENT-3,346,724	c 15	N71-21179 *	US-PATENT-3,377,208	c 14	N71-23039 *
US-PATENT-3,316,991	c 14	N71-10773 *	US-PATENT-3,346,806	c 14	N71-21090 *	US-PATENT-3,377,845	c 14	N71-22992 *
US-PATENT-3,317,180	c 15	N71-10778 *	US-PATENT-3,346,929	c 15	N71-21076 *	US-PATENT-3,378,315	c 15	N71-22997 *

US-PATENT-3,378,657	c 33	N79-33392 *	US-PATENT-3,412,598	c 14	N71-23225 *	US-PATENT-3,427,525	c 03	N69-21330 *	#
US-PATENT-3,378,851	c 05	N71-23096 *	US-PATENT-3,412,729	c 04	N71-23185 *	US-PATENT-3,428,761	c 09	N69-24329 *	#
US-PATENT-3,378,892	c 15	N71-22994 *	US-PATENT-3,412,961	c 32	N71-23971 *	US-PATENT-3,428,812	c 14	N69-27485 *	#
US-PATENT-3,379,052	c 14	N73-32321 *	US-PATENT-3,413,115	c 17	N71-23365 *	US-PATENT-3,428,847	c 15	N69-24266 *	#
US-PATENT-3,379,064	c 14	N71-23093 *	US-PATENT-3,413,393	c 17	N71-29137 *	US-PATENT-3,428,910	c 09	N69-24330 *	#
US-PATENT-3,379,360	c 23	N71-22881 *	US-PATENT-3,413,510	c 09	N71-23190 *	US-PATENT-3,428,919	c 07	N69-24334 *	#
US-PATENT-3,379,885	c 09	N71-22985 *	US-PATENT-3,413,536	c 03	N71-24605 *	US-PATENT-3,428,923	c 07	N69-27462 *	#
US-PATENT-3,379,974	c 14	N71-22990 *	US-PATENT-3,414,012	c 09	N71-23191 *	US-PATENT-3,429,058	c 12	N69-39988 *	#
US-PATENT-3,380,042	c 07	N71-23001 *	US-PATENT-3,414,358	c 14	N71-23175 *	US-PATENT-3,429,177	c 06	N69-39733 *	#
US-PATENT-3,380,049	c 10	N71-23099 *	US-PATENT-3,415,032	c 15	N71-23256 *	US-PATENT-3,429,477	c 15	N69-27502 *	#
US-PATENT-3,381,339	c 06	N71-22975 *	US-PATENT-3,415,069	c 15	N71-24044 *	US-PATENT-3,429,756	c 76	N79-21910 *	#
US-PATENT-3,381,517	c 09	N71-22988 *	US-PATENT-3,415,116	c 14	N71-23790 *	US-PATENT-3,430,063	c 09	N69-27500 *	#
US-PATENT-3,381,527	c 15	N71-22878 *	US-PATENT-3,415,126	c 21	N71-23289 *	US-PATENT-3,430,115	c 09	N69-24318 *	#
US-PATENT-3,381,569	c 21	N71-22880 *	US-PATENT-3,415,156	c 15	N71-24043 *	US-PATENT-3,430,131	c 24	N71-20518 *	#
US-PATENT-3,381,778	c 15	N71-22877 *	US-PATENT-3,415,643	c 17	N71-23248 *	US-PATENT-3,430,182	c 14	N69-27431 *	#
US-PATENT-3,382,082	c 18	N71-22998 *	US-PATENT-3,416,106	c 09	N71-24808 *	US-PATENT-3,430,227	c 08	N71-19687 *	#
US-PATENT-3,382,105	c 03	N71-29044 *	US-PATENT-3,416,274	c 31	N71-24035 *	US-PATENT-3,430,237	c 07	N69-39974 *	#
US-PATENT-3,382,107	c 03	N71-22974 *	US-PATENT-3,416,939	c 18	N71-24183 *	US-PATENT-3,430,260	c 15	N69-27505 *	#
US-PATENT-3,382,714	c 14	N71-22989 *	US-PATENT-3,416,975	c 17	N71-23828 *	US-PATENT-3,430,902	c 14	N69-27486 *	#
US-PATENT-3,383,461	c 07	N71-23026 *	US-PATENT-3,416,988	c 15	N71-24164 *	US-PATENT-3,430,909	c 11	N69-27466 *	#
US-PATENT-3,383,524	c 10	N71-23029 *	US-PATENT-3,417,247	c 14	N71-23797 *	US-PATENT-3,430,937	c 15	N69-27483 *	#
US-PATENT-3,383,903	c 14	N71-23036 *	US-PATENT-3,417,266	c 09	N71-23270 *	US-PATENT-3,430,942	c 15	N69-27504 *	#
US-PATENT-3,383,922	c 14	N71-22752 *	US-PATENT-3,417,298	c 10	N71-23271 *	US-PATENT-3,431,149	c 14	N69-27459 *	#
US-PATENT-3,384,016	c 31	N71-23008 *	US-PATENT-3,417,316	c 14	N71-23174 *	US-PATENT-3,431,397	c 15	N69-27871 *	#
US-PATENT-3,384,075	c 05	N71-22896 *	US-PATENT-3,417,321	c 09	N71-23316 *	US-PATENT-3,431,460	c 09	N71-23189 *	#
US-PATENT-3,384,111	c 15	N71-22706 *	US-PATENT-3,417,332	c 07	N71-23405 *	US-PATENT-3,431,559	c 09	N69-24333 *	#
US-PATENT-3,384,324	c 33	N71-22792 *	US-PATENT-3,417,399	c 30	N71-23723 *	US-PATENT-3,432,730	c 09	N69-27422 *	#
US-PATENT-3,384,820	c 09	N71-23021 *	US-PATENT-3,417,400	c 07	N71-28809 *	US-PATENT-3,433,015	c 28	N71-20330 *	#
US-PATENT-3,384,895	c 07	N71-22984 *	US-PATENT-3,419,329	c 14	N71-23268 *	US-PATENT-3,433,079	c 14	N69-27503 *	#
US-PATENT-3,385,036	c 15	N71-22721 *	US-PATENT-3,419,363	c 18	N71-23710 *	US-PATENT-3,433,662	c 14	N71-20461 *	#
US-PATENT-3,386,337	c 15	N71-22799 *	US-PATENT-3,419,384	c 17	N73-28573 *	US-PATENT-3,433,818	c 06	N71-23230 *	#
US-PATENT-3,386,685	c 31	N71-22968 *	US-PATENT-3,419,433	c 03	N71-23187 *	US-PATENT-3,433,909	c 10	N71-23663 *	#
US-PATENT-3,386,686	c 31	N71-22969 *	US-PATENT-3,419,531	c 27	N79-21191 *	US-PATENT-3,433,953	c 14	N69-27484 *	#
US-PATENT-3,387,149	c 14	N71-22993 *	US-PATENT-3,419,537	c 06	N71-23500 *	US-PATENT-3,433,960	c 16	N69-27491 *	#
US-PATENT-3,387,218	c 37	N78-17386 *	US-PATENT-3,419,827	c 09	N71-23548 *	US-PATENT-3,433,961	c 14	N69-27432 *	#
US-PATENT-3,388,258	c 14	N71-22996 *	US-PATENT-3,419,964	c 14	N69-21363 *	US-PATENT-3,434,033	c 10	N69-39984 *	#
US-PATENT-3,388,387	c 10	N71-23033 *	US-PATENT-3,419,992	c 14	N71-23401 *	US-PATENT-3,434,037	c 09	N71-26414 *	#
US-PATENT-3,388,590	c 14	N71-23087 *	US-PATENT-3,420,069	c 15	N69-21465 *	US-PATENT-3,434,050	c 09	N71-20569 *	#
US-PATENT-3,389,017	c 15	N71-23022 *	US-PATENT-3,420,223	c 05	N69-21925 *	US-PATENT-3,434,064	c 09	N69-39986 *	#
US-PATENT-3,389,260	c 14	N71-23269 *	US-PATENT-3,420,225	c 05	N69-21473 *	US-PATENT-3,434,855	c 18	N71-24184 *	#
US-PATENT-3,389,346	c 10	N71-28859 *	US-PATENT-3,420,253	c 12	N69-21466 *	US-PATENT-3,434,885	c 03	N71-20492 *	#
US-PATENT-3,389,877	c 15	N71-28936 *	US-PATENT-3,420,338	c 15	N71-26243 *	US-PATENT-3,435,246	c 14	N69-24331 *	#
US-PATENT-3,390,017	c 03	N71-23336 *	US-PATENT-3,420,471	c 05	N69-21380 *	US-PATENT-3,437,394	c 14	N69-27461 *	#
US-PATENT-3,390,020	c 26	N71-23654 *	US-PATENT-3,420,704	c 15	N69-21460 *	US-PATENT-3,437,527	c 03	N69-24267 *	#
US-PATENT-3,390,023	c 26	N75-29236 *	US-PATENT-3,420,945	c 09	N69-21542 *	US-PATENT-3,437,560	c 04	N69-27487 *	#
US-PATENT-3,390,282	c 09	N71-23311 *	US-PATENT-3,420,978	c 15	N69-21471 *	US-PATENT-3,437,818	c 03	N71-23354 *	#
US-PATENT-3,390,378	c 08	N71-23295 *	US-PATENT-3,421,004	c 14	N71-19568 *	US-PATENT-3,437,832	c 09	N69-27463 *	#
US-PATENT-3,390,528	c 20	N79-21124 *	US-PATENT-3,421,053	c 15	N69-21472 *	US-PATENT-3,437,874	c 08	N71-20571 *	#
US-PATENT-3,391,080	c 15	N71-24046 *	US-PATENT-3,421,056	c 14	N69-23191 *	US-PATENT-3,437,903	c 03	N69-25146 *	#
US-PATENT-3,392,403	c 23	N71-23976 *	US-PATENT-3,421,105	c 09	N69-21543 *	US-PATENT-3,437,919	c 14	N69-27423 *	#
US-PATENT-3,392,586	c 14	N71-24232 *	US-PATENT-3,421,134	c 09	N69-21470 *	US-PATENT-3,437,935	c 09	N69-24324 *	#
US-PATENT-3,392,864	c 18	N71-23658 *	US-PATENT-3,421,331	c 15	N69-23190 *	US-PATENT-3,437,959	c 07	N69-24323 *	#
US-PATENT-3,392,865	c 15	N71-23816 *	US-PATENT-3,421,363	c 11	N69-21540 *	US-PATENT-3,438,044	c 07	N69-27460 *	#
US-PATENT-3,392,936	c 01	N71-23497 *	US-PATENT-3,421,506	c 05	N69-23192 *	US-PATENT-3,438,263	c 14	N71-20435 *	#
US-PATENT-3,393,059	c 06	N71-23499 *	US-PATENT-3,421,541	c 15	N69-21924 *	US-PATENT-3,438,886	c 31	N69-27499 *	#
US-PATENT-3,393,330	c 22	N71-23599 *	US-PATENT-3,421,549	c 03	N69-21469 *	US-PATENT-3,440,419	c 14	N71-28491 *	#
US-PATENT-3,393,332	c 09	N71-23443 *	US-PATENT-3,421,591	c 14	N69-21923 *	US-PATENT-3,442,674	c 25	N82-29370 *	#
US-PATENT-3,393,347	c 10	N71-23543 *	US-PATENT-3,421,700	c 15	N69-23185 *	US-PATENT-3,443,128	c 03	N69-39890 *	#
US-PATENT-3,393,380	c 10	N71-23544 *	US-PATENT-3,421,768	c 15	N69-21362 *	US-PATENT-3,443,208	c 14	N71-20428 *	#
US-PATENT-3,393,384	c 09	N71-23573 *	US-PATENT-3,421,864	c 17	N71-23046 *	US-PATENT-3,443,384	c 28	N71-24321 *	#
US-PATENT-3,394,286	c 14	N73-30391 *	US-PATENT-3,421,948	c 03	N69-21337 *	US-PATENT-3,443,390	c 11	N71-24964 *	#
US-PATENT-3,394,359	c 08	N71-28925 *	US-PATENT-3,422,213	c 03	N69-21539 *	US-PATENT-3,443,412	c 15	N71-23811 *	#
US-PATENT-3,394,975	c 23	N71-30027 *	US-PATENT-3,422,278	c 09	N69-21468 *	US-PATENT-3,443,416	c 06	N69-39936 *	#
US-PATENT-3,395,053	c 18	N71-23047 *	US-PATENT-3,422,291	c 25	N69-21929 *	US-PATENT-3,443,472	c 15	N71-23254 *	#
US-PATENT-3,395,565	c 14	N73-30390 *	US-PATENT-3,422,324	c 14	N69-21541 *	US-PATENT-3,443,583	c 14	N71-18625 *	#
US-PATENT-3,396,057	c 26	N71-23043 *	US-PATENT-3,422,352	c 14	N71-19431 *	US-PATENT-3,443,584	c 32	N71-16106 *	#
US-PATENT-3,396,184	c 06	N71-28808 *	US-PATENT-3,422,354	c 09	N69-21926 *	US-PATENT-3,443,732	c 15	N71-15607 *	#
US-PATENT-3,396,303	c 09	N71-22987 *	US-PATENT-3,422,390	c 09	N69-21927 *	US-PATENT-3,443,773	c 31	N71-23912 *	#
US-PATENT-3,396,584	c 14	N71-30026 *	US-PATENT-3,422,403	c 08	N69-21928 *	US-PATENT-3,443,779	c 01	N69-39981 *	#
US-PATENT-3,396,719	c 52	N79-21750 *	US-PATENT-3,422,440	c 09	N69-21467 *	US-PATENT-3,444,051	c 05	N71-11207 *	#
US-PATENT-3,396,920	c 31	N71-29050 *	US-PATENT-3,423,179	c 15	N69-21922 *	US-PATENT-3,444,127	c 06	N71-11237 *	#
US-PATENT-3,397,094	c 26	N71-29156 *	US-PATENT-3,423,290	c 06	N71-17705 *	US-PATENT-3,444,375	c 14	N71-15599 *	#
US-PATENT-3,397,117	c 15	N71-23086 *	US-PATENT-3,423,579	c 09	N71-19480 *	US-PATENT-3,444,380	c 07	N69-39980 *	#
US-PATENT-3,397,318	c 14	N71-22991 *	US-PATENT-3,423,608	c 09	N69-21313 *	US-PATENT-3,446,075	c 14	N73-30394 *	#
US-PATENT-3,397,512	c 15	N71-23023 *	US-PATENT-3,423,627	c 33	N78-17293 *	US-PATENT-3,446,387	c 15	N69-39935 *	#
US-PATENT-3,397,537	c 20	N79-21125 *	US-PATENT-3,424,966	c 10	N71-20448 *	US-PATENT-3,446,558	c 16	N71-24074 *	#
US-PATENT-3,397,932	c 15	N71-22982 *	US-PATENT-3,425,131	c 15	N71-19489 *	US-PATENT-3,446,642	c 18	N69-39895 *	#
US-PATENT-3,399,299	c 10	N71-23662 *	US-PATENT-3,425,268	c 14	N69-39975 *	US-PATENT-3,446,676	c 03	N71-11050 *	#
US-PATENT-3,399,574	c 32	N71-24285 *	US-PATENT-3,425,272	c 14	N71-20439 *	US-PATENT-3,446,960	c 14	N69-39982 *	#
US-PATENT-3,402,265	c 09	N73-28084 *	US-PATENT-3,425,276	c 14	N69-24257 *	US-PATENT-3,446,992	c 09	N69-39987 *	#
US-PATENT-3,404,289	c 09	N71-23545 *	US-PATENT-3,425,486	c 05	N71-24147 *	US-PATENT-3,446,997	c 03	N69-39988 *	#
US-PATENT-3,404,348	c 32	N74-22096 *	US-PATENT-3,425,487	c 05	N71-19439 *	US-PATENT-3,446,998	c 09	N69-39929 *	#
US-PATENT-3,405,406	c 05	N71-23161 *	US-PATENT-3,425,885	c 15	N69-24322 *	US-PATENT-3,447,003	c 09	N71-20446 *	#
US-PATENT-3,405,887	c 31	N71-24315 *	US-PATENT-3,426,219	c 09	N69-24317 *	US-PATENT-3,447,015	c 06	N69-39889 *	#
US-PATENT-3,406,336	c 10	N71-24863 *	US-PATENT-3,426,230	c 15	N69-24319 *	US-PATENT-3,447,071	c 25	N69-39884 *	#
US-PATENT-3,406,742	c 33	N71-24276 *	US-PATENT-3,426,263	c 03	N71-19438 *	US-PATENT-3,447,155	c 21	N71-11766 *	#
US-PATENT-3,407,304	c 14	N71-23240 *	US-PATENT-3,426,272	c 14	N69-39785 *	US-PATENT-3,447,155	c 09	N71-18598 *	#
US-PATENT-3,408,816	c 28	N71-24736 *	US-PATENT-3,426,746	c 05	N71-26293 *	US-PATENT-3,447,233	c 15	N69-39786 *	#
US-PATENT-3,408,870	c 14	N71-23227 *	US-PATENT-3,426,791	c 15	N71-19569 *	US-PATENT-3,447,774	c 15	N71-19485 *	#
US-PATENT-3,409,247	c 33	N71-28903 *	US-PATENT-3,427,047	c 15	N69-27490 *	US-PATENT-3,447,850	c 09	N71-18600 *	#
US-PATENT-3,409,252	c 15	N71-23255 *	US-PATENT-3,427,089	c 23	N69-24332 *	US-PATENT-3,448,273	c 07	N69-39736 *	#
US-PATENT-3,409,554	c 26	N71-23292 *	US-PATENT-3,427,093	c 09	N71-19479 *	US-PATENT-3,448,290	c 10	N71-23315 *	#
US-PATENT-3,409,730	c 33	N71-24145 *	US-PATENT-3,427,097	c 11	N69-24321 *	US-PATENT-3,448,341	c 09	N71-12526 *	#
US-PATENT-3,411,356	c 14	N71-23226 *	US-PATENT-3,427,205	c 15	N69-24320 *	US-PATENT-3,448,3			

US-PATENT-3,450,946	c 09	N69-39897 *	#	US-PATENT-3,472,069	c 15	N71-20441 *	US-PATENT-3,495,260	c 21	N71-13958 *
US-PATENT-3,452,103	c 06	N73-30101 *		US-PATENT-3,472,080	c 10	N71-26339 *	US-PATENT-3,495,262	c 07	N71-12396 *
US-PATENT-3,452,423	c 26	N71-16037 *		US-PATENT-3,472,086	c 15	N71-23809 *	US-PATENT-3,498,840	c 44	N82-24642 *
US-PATENT-3,452,872	c 14	N69-39896 *	#	US-PATENT-3,472,140	c 14	N71-26474 *	US-PATENT-3,498,841	c 44	N82-24641 *
US-PATENT-3,453,172	c 15	N69-39735 *	#	US-PATENT-3,472,202	c 17	N71-24911 *	US-PATENT-3,500,020	c 01	N71-13411 *
US-PATENT-3,453,462	c 03	N69-39983 *	#	US-PATENT-3,472,372	c 15	N71-20440 *	US-PATENT-3,500,525	c 15	N71-17688 *
US-PATENT-3,453,546	c 05	N71-12342 *		US-PATENT-3,472,470	c 02	N71-20570 *	US-PATENT-3,500,677	c 14	N71-17584 *
US-PATENT-3,453,878	c 09	N79-21083 *		US-PATENT-3,472,577	c 23	N71-24857 *	US-PATENT-3,500,686	c 12	N71-17569 *
US-PATENT-3,454,410	c 18	N69-39979 *	#	US-PATENT-3,472,625	c 06	N71-23527 *	US-PATENT-3,500,688	c 14	N71-17587 *
US-PATENT-3,454,766	c 35	N75-27329 *		US-PATENT-3,472,629	c 14	N71-20442 *	US-PATENT-3,500,747	c 09	N71-18599 *
US-PATENT-3,455,121	c 14	N71-20427 *		US-PATENT-3,472,698	c 03	N71-23449 *	US-PATENT-3,500,827	c 05	N71-11203 *
US-PATENT-3,455,171	c 23	N71-16098 *		US-PATENT-3,472,709	c 18	N71-26153 *	US-PATENT-3,501,112	c 15	N71-17693 *
US-PATENT-3,455,171	c 23	N71-16098 *		US-PATENT-3,472,742	c 17	N71-24830 *	US-PATENT-3,501,632	c 27	N71-16348 *
US-PATENT-3,456,112	c 14	N69-39937 *	#	US-PATENT-3,472,998	c 16	N71-20400 *	US-PATENT-3,501,641	c 20	N71-16340 *
US-PATENT-3,456,193	c 08	N71-19763 *		US-PATENT-3,473,050	c 09	N71-20447 *	US-PATENT-3,501,648	c 10	N71-24799 *
US-PATENT-3,456,201	c 09	N69-39885 *	#	US-PATENT-3,473,116	c 25	N71-20563 *	US-PATENT-3,501,649	c 10	N71-18723 *
US-PATENT-3,458,104	c 15	N71-20393 *		US-PATENT-3,473,165	c 05	N71-26333 *	US-PATENT-3,501,664	c 14	N71-17585 *
US-PATENT-3,458,313	c 14	N71-17574 *		US-PATENT-3,473,216	c 15	N71-20443 *	US-PATENT-3,501,683	c 15	N71-17694 *
US-PATENT-3,458,651	c 09	N71-19449 *		US-PATENT-3,473,265	c 05	N71-26387 *	US-PATENT-3,501,684	c 09	N71-26092 *
US-PATENT-3,458,702	c 14	N71-18699 *		US-PATENT-3,473,379	c 12	N71-20273 *	US-PATENT-3,501,701	c 08	N71-18692 *
US-PATENT-3,458,726	c 10	N69-39888 *	#	US-PATENT-3,473,758	c 03	N71-26102 *	US-PATENT-3,501,704	c 07	N71-11282 *
US-PATENT-3,458,833	c 10	N71-19418 *		US-PATENT-3,474,192	c 07	N71-19486 *	US-PATENT-3,501,712	c 09	N71-19516 *
US-PATENT-3,458,851	c 09	N69-39734 *	#	US-PATENT-3,474,220	c 15	N71-26266 *	US-PATENT-3,501,743	c 09	N71-18843 *
US-PATENT-3,459,391	c 03	N71-11058 *		US-PATENT-3,474,328	c 14	N71-20445 *	US-PATENT-3,501,750	c 08	N71-19288 *
US-PATENT-3,460,378	c 14	N71-24233 *		US-PATENT-3,474,357	c 09	N71-26103 *	US-PATENT-3,501,752	c 08	N71-18595 *
US-PATENT-3,460,379	c 15	N71-24834 *		US-PATENT-3,474,413	c 10	N71-19544 *	US-PATENT-3,501,764	c 10	N71-18722 *
US-PATENT-3,460,381	c 14	N71-23725 *		US-PATENT-3,474,441	c 08	N71-19544 *	US-PATENT-3,502,051	c 15	N71-17647 *
US-PATENT-3,460,397	c 15	N71-24045 *		US-PATENT-3,475,384	c 06	N73-30103 *	US-PATENT-3,502,074	c 05	N71-11190 *
US-PATENT-3,460,759	c 28	N71-23968 *		US-PATENT-3,475,442	c 26	N75-27125 *	US-PATENT-3,502,141	c 33	N71-16277 *
US-PATENT-3,460,781	c 14	N71-23698 *		US-PATENT-3,475,675	c 33	N78-17295 *	US-PATENT-3,503,251	c 32	N71-16428 *
US-PATENT-3,460,995	c 03	N71-20407 *		US-PATENT-3,478,514	c 37	N77-22479 *	US-PATENT-3,504,258	c 10	N71-18724 *
US-PATENT-3,461,290	c 14	N71-26475 *		US-PATENT-3,480,789	c 10	N71-26626 *	US-PATENT-3,504,983	c 23	N71-16341 *
US-PATENT-3,461,393	c 10	N71-26415 *		US-PATENT-3,481,638	c 15	N71-26312 *	US-PATENT-3,506,496	c 44	N82-24645 *
US-PATENT-3,461,437	c 10	N71-26434 *		US-PATENT-3,481,802	c 31	N79-21226 *	US-PATENT-3,507,034	c 15	N71-17650 *
US-PATENT-3,461,700	c 15	N71-26346 *		US-PATENT-3,481,887	c 18	N71-26155 *	US-PATENT-3,507,114	c 27	N71-16392 *
US-PATENT-3,461,721	c 12	N71-20436 *		US-PATENT-3,482,179	c 10	N71-26331 *	US-PATENT-3,507,146	c 05	N71-11202 *
US-PATENT-3,461,855	c 05	N71-20268 *		US-PATENT-3,483,535	c 10	N71-26418 *	US-PATENT-3,507,150	c 20	N71-16281 *
US-PATENT-3,463,001	c 14	N71-20429 *		US-PATENT-3,484,712	c 10	N71-26374 *	US-PATENT-3,507,425	c 15	N71-17628 *
US-PATENT-3,463,563	c 15	N71-23812 *		US-PATENT-3,485,290	c 20	N79-21123 *	US-PATENT-3,507,436	c 08	N71-19420 *
US-PATENT-3,463,563	c 15	N71-23812 *		US-PATENT-3,486,123	c 16	N71-24831 *	US-PATENT-3,507,704	c 03	N71-11052 *
US-PATENT-3,463,673	c 03	N71-20491 *		US-PATENT-3,487,216	c 14	N71-24809 *	US-PATENT-3,507,706	c 03	N71-18698 *
US-PATENT-3,463,679	c 17	N71-24142 *		US-PATENT-3,487,281	c 15	N71-24695 *	US-PATENT-3,508,036	c 08	N71-18693 *
US-PATENT-3,463,761	c 06	N73-30099 *		US-PATENT-3,487,288	c 10	N71-25139 *	US-PATENT-3,508,039	c 08	N71-19437 *
US-PATENT-3,463,762	c 06	N73-30100 *		US-PATENT-3,487,680	c 15	N71-17696 *	US-PATENT-3,508,053	c 09	N71-18830 *
US-PATENT-3,463,939	c 10	N71-19471 *		US-PATENT-3,487,765	c 54	N78-17679 *	US-PATENT-3,508,070	c 03	N71-11057 *
US-PATENT-3,464,012	c 14	N71-26244 *		US-PATENT-3,488,103	c 14	N71-15604 *	US-PATENT-3,508,152	c 07	N71-11266 *
US-PATENT-3,464,016	c 10	N71-19472 *		US-PATENT-3,488,123	c 14	N71-17627 *	US-PATENT-3,508,156	c 07	N71-11267 *
US-PATENT-3,464,018	c 09	N71-23525 *		US-PATENT-3,488,124	c 15	N71-17803 *	US-PATENT-3,508,347	c 05	N71-24606 *
US-PATENT-3,464,049	c 32	N71-15974 *		US-PATENT-3,488,414	c 15	N71-17803 *	US-PATENT-3,508,402	c 33	N71-16104 *
US-PATENT-3,464,051	c 15	N71-17685 *		US-PATENT-3,488,461	c 09	N71-12518 *	US-PATENT-3,508,541	c 05	N71-11193 *
US-PATENT-3,465,482	c 31	N71-16080 *		US-PATENT-3,488,504	c 21	N71-15642 *	US-PATENT-3,508,578	c 32	N71-16103 *
US-PATENT-3,465,567	c 15	N71-18579 *		US-PATENT-3,488,771	c 54	N78-17678 *	US-PATENT-3,508,723	c 31	N71-16222 *
US-PATENT-3,465,569	c 14	N71-17659 *		US-PATENT-3,490,074	c 54	N78-17677 *	US-PATENT-3,508,724	c 02	N71-11037 *
US-PATENT-3,465,584	c 14	N71-23726 *		US-PATENT-3,490,130	c 05	N71-12345 *	US-PATENT-3,508,739	c 15	N71-17648 *
US-PATENT-3,465,584	c 14	N71-23726 *		US-PATENT-3,490,205	c 14	N71-17588 *	US-PATENT-3,508,779	c 15	N71-24897 *
US-PATENT-3,465,638	c 11	N71-18578 *		US-PATENT-3,490,235	c 28	N71-14044 *	US-PATENT-3,508,940	c 18	N71-16124 *
US-PATENT-3,465,986	c 31	N71-20396 *		US-PATENT-3,490,235	c 15	N70-22192 *	US-PATENT-3,508,955	c 18	N71-16105 *
US-PATENT-3,466,052	c 15	N71-19570 *		US-PATENT-3,490,208	c 15	N71-15597 *	US-PATENT-3,508,999	c 15	N71-17687 *
US-PATENT-3,466,085	c 05	N71-12343 *		US-PATENT-3,490,440	c 05	N71-12346 *	US-PATENT-3,509,034	c 14	N71-17575 *
US-PATENT-3,466,198	c 03	N71-19545 *		US-PATENT-3,490,718	c 33	N71-14035 *	US-PATENT-3,509,386	c 03	N71-11055 *
US-PATENT-3,466,243	c 15	N71-23810 *		US-PATENT-3,490,719	c 21	N71-14159 *	US-PATENT-3,509,419	c 24	N71-16213 *
US-PATENT-3,466,418	c 15	N71-18613 *		US-PATENT-3,490,721	c 02	N71-11039 *	US-PATENT-3,509,469	c 23	N71-16099 *
US-PATENT-3,466,424	c 15	N71-20395 *		US-PATENT-3,490,939	c 33	N71-14032 *	US-PATENT-3,509,475	c 09	N71-24596 *
US-PATENT-3,466,459	c 09	N71-26000 *		US-PATENT-3,490,965	c 09	N71-12513 *	US-PATENT-3,509,491	c 09	N71-18721 *
US-PATENT-3,466,484	c 14	N71-18482 *		US-PATENT-3,491,202	c 07	N71-12392 *	US-PATENT-3,509,551	c 08	N71-18694 *
US-PATENT-3,466,560	c 09	N71-19466 *		US-PATENT-3,491,255	c 09	N71-12514 *	US-PATENT-3,509,558	c 08	N71-19435 *
US-PATENT-3,466,570	c 10	N71-25950 *		US-PATENT-3,491,335	c 14	N71-15620 *	US-PATENT-3,509,578	c 09	N71-18720 *
US-PATENT-3,467,837	c 05	N71-23317 *		US-PATENT-3,491,857	c 14	N71-17626 *	US-PATENT-3,509,578	c 07	N71-19493 *
US-PATENT-3,468,303	c 09	N71-26002 *		US-PATENT-3,492,176	c 27	N71-14090 *	US-PATENT-3,511,680	c 31	N79-21227 *
US-PATENT-3,468,548	c 15	N71-26294 *		US-PATENT-3,492,672	c 05	N71-12344 *	US-PATENT-3,512,009	c 08	N71-18751 *
US-PATENT-3,468,609	c 16	N71-24170 *		US-PATENT-3,492,739	c 15	N71-15571 *	US-PATENT-3,514,785	c 54	N78-18761 *
US-PATENT-3,468,727	c 14	N71-25892 *		US-PATENT-3,492,858	c 35	N78-17358 *	US-PATENT-3,516,091	c 05	N71-24623 *
US-PATENT-3,468,765	c 17	N71-25903 *		US-PATENT-3,492,862	c 14	N71-15600 *	US-PATENT-3,516,179	c 11	N71-19494 *
US-PATENT-3,469,068	c 15	N71-23815 *		US-PATENT-3,492,947	c 28	N71-14058 *	US-PATENT-3,516,185	c 12	N71-18603 *
US-PATENT-3,469,069	c 15	N71-23798 *		US-PATENT-3,493,003	c 15	N71-15609 *	US-PATENT-3,516,284	c 12	N71-17573 *
US-PATENT-3,469,087	c 16	N71-25914 *		US-PATENT-3,493,004	c 12	N71-17579 *	US-PATENT-3,516,404	c 05	N71-17599 *
US-PATENT-3,469,143	c 33	N75-29318 *		US-PATENT-3,493,012	c 15	N71-15608 *	US-PATENT-3,516,711	c 05	N71-12341 *
US-PATENT-3,469,289	c 15	N71-25975 *		US-PATENT-3,493,027	c 31	N71-18611 *	US-PATENT-3,516,879	c 23	N71-16212 *
US-PATENT-3,469,375	c 14	N71-18483 *		US-PATENT-3,493,153	c 05	N71-12351 *	US-PATENT-3,516,964	c 06	N71-11240 *
US-PATENT-3,469,436	c 15	N71-23817 *		US-PATENT-3,493,155	c 26	N71-14354 *	US-PATENT-3,516,970	c 06	N71-11239 *
US-PATENT-3,469,437	c 14	N71-24234 *		US-PATENT-3,493,194	c 21	N71-14132 *	US-PATENT-3,516,971	c 06	N71-24740 *
US-PATENT-3,469,734	c 11	N71-17600 *		US-PATENT-3,493,197	c 02	N71-11043 *	US-PATENT-3,517,109	c 07	N71-19436 *
US-PATENT-3,470,043	c 15	N71-24047 *		US-PATENT-3,493,291	c 14	N71-15622 *	US-PATENT-3,517,162	c 33	N71-16278 *
US-PATENT-3,470,304	c 14	N71-23267 *		US-PATENT-3,493,294	c 14	N71-15605 *	US-PATENT-3,517,171	c 08	N71-24633 *
US-PATENT-3,470,313	c 07	N71-26579 *		US-PATENT-3,493,401	c 18	N71-14014 *	US-PATENT-3,517,221	c 10	N71-19547 *
US-PATENT-3,470,318	c 07	N71-24612 *		US-PATENT-3,493,415	c 15	N71-15610 *	US-PATENT-3,517,268	c 10	N71-19469 *
US-PATENT-3,470,342	c 09	N71-19610 *		US-PATENT-3,493,437	c 03	N71-11056 *	US-PATENT-3,517,302	c 25	N71-16073 *
US-PATENT-3,470,443	c 03	N71-23239 *		US-PATENT-3,493,522	c 06	N71-11243 *	US-PATENT-3,517,318	c 08	N71-19432 *
US-PATENT-3,470,446	c 09	N71-23188 *		US-PATENT-3,493,524	c 06	N71-11242 *	US-PATENT-3,517,328	c 16	N71-18614 *
US-PATENT-3,470,466	c 14	N71-23699 *		US-PATENT-3,493,665	c 14	N71-15621 *	US-PATENT-3,518,232	c 06	N71-11235 *
US-PATENT-3,470,475	c 10	N71-19467 *		US-PATENT-3,493,677	c 07	N71-11300 *	US-PATENT-3,519,483	c 44	N82-24644 *
US-PATENT-3,470,489	c 09	N71-23598 *		US-PATENT-3,493,711	c 15	N71-14932 *	US-PATENT-3,519,484	c 44	N82-24643 *
US-PATENT-3,470,495	c 10	N71-23669 *		US-PATENT-3,493,746	c 15	N71-15606 *	US-PATENT-3,520,190	c 10	N71-13537 *
US-PATENT-3,470,496	c 09	N71-19470 *		US-PATENT-3,493,797	c 15	N71-17652 *	US-PATENT-3,520,238	c 14	N71-18465 *
US-PATENT-3,471,856	c 30	N71-16090 *							



US-PATENT-3,520,503	c 31	N71-16085 *	US-PATENT-3,535,562	c 33	N71-27862 *	US-PATENT-3,554,466	c 31	N71-26537 *
US-PATENT-3,520,617	c 23	N71-16101 *	US-PATENT-3,535,570	c 15	N71-24696 *	US-PATENT-3,554,647	c 23	N71-26206 *
US-PATENT-3,520,660	c 23	N71-16355 *	US-PATENT-3,535,586	c 25	N71-15562 *	US-PATENT-3,554,806	c 03	N71-26084 *
US-PATENT-3,521,054	c 06	N71-13461 *	US-PATENT-3,535,602	c 09	N71-13522 *	US-PATENT-3,555,192	c 07	N71-26181 *
US-PATENT-3,521,143	c 08	N71-18752 *	US-PATENT-3,535,642	c 08	N71-12503 *	US-PATENT-3,555,361	c 10	N71-26531 *
US-PATENT-3,521,290	c 31	N71-16102 *	US-PATENT-3,535,644	c 09	N71-12519 *	US-PATENT-3,555,455	c 23	N71-26722 *
US-PATENT-3,523,228	c 10	N71-24861 *	US-PATENT-3,535,657	c 07	N71-12390 *	US-PATENT-3,555,483	c 35	N77-21393 *
US-PATENT-3,526,030	c 15	N71-17686 *	US-PATENT-3,535,658	c 08	N71-12500 *	US-PATENT-3,555,867	c 15	N71-26148 *
US-PATENT-3,526,134	c 33	N71-16356 *	US-PATENT-3,535,683	c 31	N71-15566 *	US-PATENT-3,555,898	c 12	N71-26546 *
US-PATENT-3,526,139	c 31	N71-16221 *	US-PATENT-3,535,696	c 08	N71-12506 *	US-PATENT-3,556,048	c 09	N71-26701 *
US-PATENT-3,526,140	c 27	N71-16223 *	US-PATENT-3,535,702	c 09	N71-12515 *	US-PATENT-3,556,634	c 07	N71-26291 *
US-PATENT-3,526,359	c 33	N71-16357 *	US-PATENT-3,536,103	c 15	N71-19213 *	US-PATENT-3,557,027	c 06	N71-25929 *
US-PATENT-3,526,365	c 28	N71-16224 *	US-PATENT-3,537,096	c 08	N71-12507 *	US-PATENT-3,557,534	c 15	N71-26185 *
US-PATENT-3,526,372	c 31	N71-16346 *	US-PATENT-3,537,103	c 08	N71-24650 *	US-PATENT-3,559,031	c 10	N71-26085 *
US-PATENT-3,526,382	c 15	N71-17649 *	US-PATENT-3,537,107	c 05	N71-24730 *	US-PATENT-3,559,096	c 10	N71-25882 *
US-PATENT-3,526,460	c 23	N71-16365 *	US-PATENT-3,537,305	c 26	N71-25490 *	US-PATENT-3,559,460	c 14	N71-26672 *
US-PATENT-3,526,473	c 18	N71-15545 *	US-PATENT-3,537,515	c 09	N71-24807 *	US-PATENT-3,559,937	c 14	N71-26627 *
US-PATENT-3,526,580	c 18	N71-16210 *	US-PATENT-3,537,668	c 05	N71-24728 *	US-PATENT-3,560,081	c 19	N71-26674 *
US-PATENT-3,526,611	c 06	N71-11236 *	US-PATENT-3,537,672	c 15	N71-24694 *	US-PATENT-3,560,161	c 06	N71-26754 *
US-PATENT-3,526,845	c 09	N71-13531 *	US-PATENT-3,538,053	c 27	N78-17214 *	US-PATENT-3,561,828	c 15	N71-26189 *
US-PATENT-3,526,897	c 09	N71-13521 *	US-PATENT-3,539,905	c 09	N71-24800 *	US-PATENT-3,562,575	c 09	N71-26182 *
US-PATENT-3,527,724	c 27	N78-33228 *	US-PATENT-3,540,045	c 09	N71-24595 *	US-PATENT-3,562,631	c 14	N71-26137 *
US-PATENT-3,529,480	c 15	N71-17692 *	US-PATENT-3,540,048	c 31	N71-24813 *	US-PATENT-3,562,857	c 15	N71-26721 *
US-PATENT-3,529,928	c 17	N71-16393 *	US-PATENT-3,540,050	c 09	N71-24804 *	US-PATENT-3,562,881	c 09	N71-26678 *
US-PATENT-3,530,336	c 09	N71-13518 *	US-PATENT-3,540,054	c 07	N71-24625 *	US-PATENT-3,562,919	c 15	N71-26145 *
US-PATENT-3,531,964	c 15	N71-18616 *	US-PATENT-3,540,056	c 07	N71-24614 *	US-PATENT-3,563,135	c 15	N71-27147 *
US-PATENT-3,531,978	c 14	N71-18481 *	US-PATENT-3,540,250	c 15	N71-24865 *	US-PATENT-3,563,198	c 18	N71-26285 *
US-PATENT-3,531,982	c 15	N71-18132 *	US-PATENT-3,540,449	c 15	N71-24835 *	US-PATENT-3,563,232	c 05	N71-27234 *
US-PATENT-3,531,989	c 33	N71-15641 *	US-PATENT-3,540,615	c 33	N71-25351 *	US-PATENT-3,563,307	c 15	N71-26611 *
US-PATENT-3,532,118	c 12	N71-18615 *	US-PATENT-3,540,676	c 15	N71-24600 *	US-PATENT-3,563,668	c 14	N71-26788 *
US-PATENT-3,532,128	c 15	N71-18580 *	US-PATENT-3,540,790	c 16	N71-26154 *	US-PATENT-3,563,727	c 15	N71-27184 *
US-PATENT-3,532,427	c 21	N71-19212 *	US-PATENT-3,540,802	c 23	N71-24868 *	US-PATENT-3,563,918	c 06	N71-27363 *
US-PATENT-3,532,428	c 30	N71-15990 *	US-PATENT-3,540,942	c 15	N71-24875 *	US-PATENT-3,564,234	c 09	N71-26787 *
US-PATENT-3,532,538	c 18	N71-16046 *	US-PATENT-3,540,989	c 24	N71-25555 *	US-PATENT-3,564,401	c 14	N71-26135 *
US-PATENT-3,532,551	c 03	N71-11049 *	US-PATENT-3,541,250	c 07	N71-24742 *	US-PATENT-3,564,420	c 14	N71-26774 *
US-PATENT-3,532,568	c 17	N71-16044 *	US-PATENT-3,541,312	c 08	N71-24891 *	US-PATENT-3,564,564	c 15	N71-26162 *
US-PATENT-3,532,673	c 06	N71-11238 *	US-PATENT-3,541,314	c 07	N71-24741 *	US-PATENT-3,564,866	c 23	N71-26654 *
US-PATENT-3,532,807	c 07	N71-19433 *	US-PATENT-3,541,346	c 09	N71-24803 *	US-PATENT-3,564,906	c 32	N71-26681 *
US-PATENT-3,532,819	c 10	N71-19468 *	US-PATENT-3,541,361	c 09	N71-24904 *	US-PATENT-3,565,530	c 15	N71-26673 *
US-PATENT-3,532,866	c 08	N71-18602 *	US-PATENT-3,541,422	c 03	N71-24719 *	US-PATENT-3,565,584	c 15	N71-27372 *
US-PATENT-3,532,880	c 24	N71-16095 *	US-PATENT-3,541,428	c 09	N71-24893 *	US-PATENT-3,565,607	c 17	N71-26773 *
US-PATENT-3,532,894	c 23	N71-16100 *	US-PATENT-3,541,439	c 09	N71-24843 *	US-PATENT-3,565,719	c 03	N71-26726 *
US-PATENT-3,532,948	c 10	N71-18772 *	US-PATENT-3,541,459	c 07	N71-24840 *	US-PATENT-3,566,027	c 07	N71-27341 *
US-PATENT-3,532,960	c 03	N71-12255 *	US-PATENT-3,541,479	c 10	N71-24844 *	US-PATENT-3,566,045	c 08	N71-27210 *
US-PATENT-3,532,973	c 15	N71-17822 *	US-PATENT-3,541,486	c 09	N71-24841 *	US-PATENT-3,566,122	c 14	N71-27323 *
US-PATENT-3,532,975	c 10	N71-19421 *	US-PATENT-3,541,479	c 16	N71-28554 *	US-PATENT-3,566,143	c 14	N71-27407 *
US-PATENT-3,532,979	c 10	N71-12554 *	US-PATENT-3,541,679	c 03	N71-24681 *	US-PATENT-3,566,158	c 10	N71-27126 *
US-PATENT-3,532,985	c 07	N71-19773 *	US-PATENT-3,541,825	c 15	N71-24836 *	US-PATENT-3,566,268	c 10	N71-26577 *
US-PATENT-3,533,001	c 07	N71-24583 *	US-PATENT-3,541,875	c 15	N71-24984 *	US-PATENT-3,566,396	c 10	N71-26544 *
US-PATENT-3,533,006	c 10	N72-28241 *	US-PATENT-3,543,050	c 10	N71-24862 *	US-PATENT-3,566,459	c 14	N71-27334 *
US-PATENT-3,533,074	c 08	N71-12502 *	US-PATENT-3,543,159	c 09	N71-24717 *	US-PATENT-3,566,676	c 14	N71-26199 *
US-PATENT-3,533,093	c 10	N71-19417 *	US-PATENT-3,543,839	c 34	N78-17337 *	US-PATENT-3,566,993	c 15	N71-27169 *
US-PATENT-3,533,098	c 08	N71-18594 *	US-PATENT-3,545,208	c 28	N71-25213 *	US-PATENT-3,567,155	c 21	N71-27324 *
US-PATENT-3,534,365	c 07	N71-19854 *	US-PATENT-3,545,226	c 23	N71-24725 *	US-PATENT-3,567,339	c 15	N71-27084 *
US-PATENT-3,534,367	c 02	N71-19287 *	US-PATENT-3,545,252	c 11	N71-24985 *	US-PATENT-3,567,651	c 18	N71-27170 *
US-PATENT-3,534,375	c 07	N71-11285 *	US-PATENT-3,545,262	c 38	N76-28563 *	US-PATENT-3,567,677	c 18	N71-25881 *
US-PATENT-3,534,376	c 07	N71-26101 *	US-PATENT-3,545,275	c 09	N71-24597 *	US-PATENT-3,567,861	c 10	N71-25865 *
US-PATENT-3,534,406	c 05	N71-11195 *	US-PATENT-3,545,725	c 15	N71-24599 *	US-PATENT-3,567,913	c 10	N71-27137 *
US-PATENT-3,534,407	c 05	N71-11194 *	US-PATENT-3,545,792	c 15	N71-24903 *	US-PATENT-3,567,927	c 14	N71-28863 *
US-PATENT-3,534,479	c 14	N71-17657 *	US-PATENT-3,546,386	c 07	N71-24621 *	US-PATENT-3,568,010	c 09	N71-27232 *
US-PATENT-3,534,480	c 14	N71-17658 *	US-PATENT-3,546,471	c 14	N71-24864 *	US-PATENT-3,568,028	c 10	N71-27136 *
US-PATENT-3,534,485	c 11	N71-18773 *	US-PATENT-3,546,552	c 15	N71-24895 *	US-PATENT-3,568,103	c 10	N71-25900 *
US-PATENT-3,534,555	c 12	N71-17631 *	US-PATENT-3,546,553	c 09	N71-24805 *	US-PATENT-3,568,197	c 07	N71-27056 *
US-PATENT-3,534,584	c 10	N71-13545 *	US-PATENT-3,546,684	c 07	N71-24624 *	US-PATENT-3,568,447	c 15	N71-27432 *
US-PATENT-3,534,585	c 14	N71-17701 *	US-PATENT-3,546,694	c 10	N71-24798 *	US-PATENT-3,568,572	c 15	N71-27754 *
US-PATENT-3,534,585	c 14	N71-17656 *	US-PATENT-3,546,705	c 09	N71-24842 *	US-PATENT-3,568,702	c 10	N71-25899 *
US-PATENT-3,534,592	c 14	N71-17586 *	US-PATENT-3,546,917	c 15	N71-24679 *	US-PATENT-3,568,748	c 15	N71-27091 *
US-PATENT-3,534,596	c 14	N71-15643 *	US-PATENT-3,546,920	c 06	N71-24607 *	US-PATENT-3,568,795	c 15	N71-27067 *
US-PATENT-3,534,597	c 31	N71-15643 *	US-PATENT-3,546,931	c 32	N71-25360 *	US-PATENT-3,568,805	c 15	N71-27146 *
US-PATENT-3,534,650	c 15	N71-17653 *	US-PATENT-3,547,105	c 09	N71-24618 *	US-PATENT-3,568,874	c 15	N71-27068 *
US-PATENT-3,534,686	c 31	N71-15687 *	US-PATENT-3,547,376	c 31	N71-25434 *	US-PATENT-3,568,885	c 14	N71-27005 *
US-PATENT-3,534,727	c 05	N71-11189 *	US-PATENT-3,547,540	c 16	N71-24828 *	US-PATENT-3,569,710	c 14	N71-25901 *
US-PATENT-3,534,765	c 12	N71-17661 *	US-PATENT-3,547,801	c 03	N71-24718 *	US-PATENT-3,569,744	c 09	N71-27016 *
US-PATENT-3,534,826	c 31	N71-15689 *	US-PATENT-3,548,107	c 07	N71-24622 *	US-PATENT-3,569,804	c 09	N71-25999 *
US-PATENT-3,534,836	c 15	N71-17805 *	US-PATENT-3,548,633	c 18	N71-24934 *	US-PATENT-3,569,827	c 18	N71-27397 *
US-PATENT-3,534,909	c 15	N71-17654 *	US-PATENT-3,548,636	c 15	N71-24910 *	US-PATENT-3,569,828	c 14	N71-27186 *
US-PATENT-3,534,924	c 31	N71-15674 *	US-PATENT-3,548,812	c 05	N71-24729 *	US-PATENT-3,569,866	c 10	N71-27271 *
US-PATENT-3,534,925	c 31	N71-15676 *	US-PATENT-3,548,930	c 33	N71-25353 *	US-PATENT-3,569,875	c 07	N71-27191 *
US-PATENT-3,534,926	c 15	N71-19214 *	US-PATENT-3,549,435	c 14	N72-28438 *	US-PATENT-3,569,956	c 10	N71-25917 *
US-PATENT-3,534,930	c 02	N71-13422 *	US-PATENT-3,549,564	c 06	N71-24739 *	US-PATENT-3,569,976	c 07	N71-27233 *
US-PATENT-3,535,012	c 16	N71-15567 *	US-PATENT-3,549,799	c 09	N71-25866 *	US-PATENT-3,570,143	c 10	N71-27365 *
US-PATENT-3,535,013	c 16	N71-15551 *	US-PATENT-3,549,882	c 15	N71-24896 *	US-PATENT-3,570,364	c 28	N71-26779 *
US-PATENT-3,535,014	c 16	N71-15565 *	US-PATENT-3,549,955	c 09	N71-24892 *	US-PATENT-3,570,513	c 12	N71-27332 *
US-PATENT-3,535,024	c 14	N71-17662 *	US-PATENT-3,550,023	c 09	N71-24806 *	US-PATENT-3,570,785	c 28	N71-27585 *
US-PATENT-3,535,041	c 14	N71-17655 *	US-PATENT-3,550,034	c 16	N71-24832 *	US-PATENT-3,570,789	c 02	N71-27088 *
US-PATENT-3,535,110	c 17	N71-15468 *	US-PATENT-3,550,129	c 21	N71-24948 *	US-PATENT-3,571,555	c 15	N71-27135 *
US-PATENT-3,535,130	c 18	N71-15469 *	US-PATENT-3,550,585	c 05	N71-24738 *	US-PATENT-3,571,656	c 09	N71-27001 *
US-PATENT-3,535,165	c 33	N71-15568 *	US-PATENT-3,551,266	c 33	N71-24858 *	US-PATENT-3,571,662	c 10	N71-27386 *
US-PATENT-3,535,179	c 15	N71-17651 *	US-PATENT-3,551,816	c 07	N71-24613 *	US-PATENT-3,571,693	c 09	N71-27364 *
US-PATENT-3,535,352	c 18	N71-15688 *	US-PATENT-3,551,831	c 33	N75-27251 *	US-PATENT-3,571,699	c 09	N71-27053 *
US-PATENT-3,535,446	c 09	N71-12539 *	US-PATENT-3,552,124	c 28	N71-26642 *	US-PATENT-3,571,700	c 14	N71-27325 *
US-PATENT-3,535,451	c 07	N71-11281 *	US-PATENT-3,552,125	c 28	N71-26173 *	US-PATENT-3,571,707	c 10	N71-27338 *
US-PATENT-3,535,497	c 08	N71-24890 *	US-PATENT-3,553,002	c 18	N71-26100 *	US-PATENT-3,571,801	c 10	N71-27272 *
US-PATENT-3,535,543	c 09	N71-13486 *	US-PATENT-3,553,586	c 07	N71-26292 *	US-PATENT-3,571,801	c 08	N71-27255 *
US-PATENT-3,535,547	c 09	N71-12520 *	US-PATENT-3,553,704	c 10	N71-26142 *	US-PATENT-3,572,089	c 14	N71-27185 *
US-PATENT-3,535,554	c 09	N71-12516 *	US-PATENT-3,553,904	c 15	N71-26134 *	US-PATENT-3,572,104	c 28	N71-27094 *
US-PATENT-3,535,560	c 08	N71-12494 *						



US-PATENT-3,572,112	c 15	N71-27006 *	US-PATENT-3,593,132	c 09	N72-11225 *	US-PATENT-3,614,899	c 09	N72-22195 *
US-PATENT-3,572,610	c 28	N71-27095 *	US-PATENT-3,593,138	c 07	N72-11149 *	US-PATENT-3,615,021	c 15	N72-22483 *
US-PATENT-3,572,935	c 14	N71-27215 *	US-PATENT-3,593,175	c 10	N72-11256 *	US-PATENT-3,615,241	c 15	N72-21465 *
US-PATENT-3,573,078	c 27	N82-29451 *	US-PATENT-3,593,180	c 07	N72-11150 *	US-PATENT-3,615,465	c 06	N72-21094 *
US-PATENT-3,573,470	c 74	N78-33913 *	US-PATENT-3,593,194	c 16	N72-12440 *	US-PATENT-3,615,853	c 03	N72-22042 *
US-PATENT-3,573,504	c 33	N78-17294 *	US-PATENT-3,594,790	c 07	N72-12080 *	US-PATENT-3,616,338	c 15	N72-21466 *
US-PATENT-3,573,583	c 09	N71-28886 *	US-PATENT-3,594,803	c 09	N72-12136 *	US-PATENT-3,616,528	c 03	N72-22041 *
US-PATENT-3,573,797	c 08	N71-27057 *	US-PATENT-3,596,465	c 28	N72-11708 *	US-PATENT-3,617,804	c 25	N72-24753 *
US-PATENT-3,573,977	c 15	N71-28582 *	US-PATENT-3,596,510	c 14	N72-11363 *	US-PATENT-3,619,896	c 15	N72-22487 *
US-PATENT-3,573,986	c 03	N71-28579 *	US-PATENT-3,596,554	c 15	N72-11385 *	US-PATENT-3,619,924	c 11	N72-22247 *
US-PATENT-3,573,996	c 18	N71-29040 *	US-PATENT-3,596,863	c 15	N72-11386 *	US-PATENT-3,620,018	c 28	N72-22771 *
US-PATENT-3,574,057	c 22	N71-28759 *	US-PATENT-3,597,281	c 03	N72-11062 *	US-PATENT-3,620,069	c 14	N72-22440 *
US-PATENT-3,574,084	c 14	N71-28933 *	US-PATENT-3,598,921	c 08	N72-11171 *	US-PATENT-3,620,076	c 11	N72-22246 *
US-PATENT-3,574,277	c 15	N71-28467 *	US-PATENT-3,599,216	c 07	N72-11148 *	US-PATENT-3,620,083	c 14	N72-22438 *
US-PATENT-3,574,286	c 11	N71-27036 *	US-PATENT-3,599,335	c 08	N72-11172 *	US-PATENT-3,620,095	c 15	N72-21463 *
US-PATENT-3,574,438	c 07	N71-29065 *	US-PATENT-3,599,443	c 05	N72-11084 *	US-PATENT-3,620,585	c 15	N72-22490 *
US-PATENT-3,574,448	c 23	N71-29123 *	US-PATENT-3,599,489	c 14	N72-11365 *	US-PATENT-3,620,595	c 14	N72-22445 *
US-PATENT-3,574,462	c 14	N71-29041 *	US-PATENT-3,600,046	c 15	N72-11388 *	US-PATENT-3,620,606	c 23	N72-22673 *
US-PATENT-3,574,467	c 23	N71-29125 *	US-PATENT-3,600,599	c 33	N78-17296 *	US-PATENT-3,620,718	c 17	N72-22535 *
US-PATENT-3,574,470	c 14	N71-28993 *	US-PATENT-3,602,920	c 11	N72-17183 *	US-PATENT-3,620,784	c 18	N72-23581 *
US-PATENT-3,574,770	c 06	N71-27254 *	US-PATENT-3,602,923	c 05	N72-22093 *	US-PATENT-3,620,791	c 18	N72-22566 *
US-PATENT-3,575,336	c 15	N71-27214 *	US-PATENT-3,602,979	c 15	N72-22492 *	US-PATENT-3,620,846	c 31	N72-22874 *
US-PATENT-3,575,585	c 14	N71-27058 *	US-PATENT-3,602,984	c 26	N72-17820 *	US-PATENT-3,621,130	c 08	N72-22164 *
US-PATENT-3,575,597	c 14	N71-27090 *	US-PATENT-3,603,092	c 28	N72-17843 *	US-PATENT-3,621,193	c 15	N72-23497 *
US-PATENT-3,575,602	c 16	N71-27183 *	US-PATENT-3,603,093	c 28	N72-18766 *	US-PATENT-3,621,194	c 15	N72-22491 *
US-PATENT-3,575,638	c 09	N71-26133 *	US-PATENT-3,603,260	c 33	N72-17947 *	US-PATENT-3,621,228	c 08	N72-22165 *
US-PATENT-3,575,641	c 10	N71-26334 *	US-PATENT-3,603,285	c 25	N75-29192 *	US-PATENT-3,621,277	c 10	N72-22236 *
US-PATENT-3,576,107	c 28	N71-26781 *	US-PATENT-3,603,382	c 33	N72-17948 *	US-PATENT-3,621,285	c 09	N72-22200 *
US-PATENT-3,576,127	c 14	N71-26161 *	US-PATENT-3,603,433	c 15	N72-17450 *	US-PATENT-3,621,287	c 09	N72-22201 *
US-PATENT-3,576,135	c 15	N71-26635 *	US-PATENT-3,603,532	c 30	N72-17873 *	US-PATENT-3,621,290	c 09	N72-22202 *
US-PATENT-3,576,301	c 02	N71-26110 *	US-PATENT-3,603,683	c 14	N72-17326 *	US-PATENT-3,621,294	c 09	N72-23171 *
US-PATENT-3,576,656	c 18	N71-26772 *	US-PATENT-3,603,686	c 16	N72-13437 *	US-PATENT-3,621,330	c 33	N77-21316 *
US-PATENT-3,576,669	c 15	N71-29032 *	US-PATENT-3,603,690	c 14	N72-17323 *	US-PATENT-3,621,362	c 09	N72-22203 *
US-PATENT-3,576,723	c 09	N71-28691 *	US-PATENT-3,603,722	c 07	N72-17109 *	US-PATENT-3,621,372	c 09	N72-25249 *
US-PATENT-3,576,786	c 06	N71-28620 *	US-PATENT-3,603,772	c 08	N72-22166 *	US-PATENT-3,621,406	c 09	N72-33204 *
US-PATENT-3,577,014	c 10	N71-28860 *	US-PATENT-3,603,798	c 09	N72-17152 *	US-PATENT-3,621,407	c 09	N72-21245 *
US-PATENT-3,577,092	c 07	N71-28430 *	US-PATENT-3,603,864	c 09	N72-17154 *	US-PATENT-3,621,565	c 09	N72-22199 *
US-PATENT-3,577,356	c 06	N73-30102 *	US-PATENT-3,603,892	c 09	N72-17155 *	US-PATENT-3,623,030	c 08	N72-21198 *
US-PATENT-3,578,755	c 14	N71-29134 *	US-PATENT-3,603,946	c 09	N72-17153 *	US-PATENT-3,623,084	c 10	N72-22235 *
US-PATENT-3,578,756	c 11	N71-28629 *	US-PATENT-3,603,974	c 14	N72-18411 *	US-PATENT-3,623,107	c 07	N72-21117 *
US-PATENT-3,578,758	c 14	N71-28992 *	US-PATENT-3,603,976	c 08	N72-18184 *	US-PATENT-3,623,114	c 07	N72-22127 *
US-PATENT-3,578,838	c 16	N71-29131 *	US-PATENT-3,605,032	c 10	N72-17172 *	US-PATENT-3,623,359	c 35	N77-27367 *
US-PATENT-3,578,867	c 14	N71-28994 *	US-PATENT-3,605,424	c 15	N72-17453 *	US-PATENT-3,623,360	c 14	N72-21405 *
US-PATENT-3,578,957	c 08	N71-29033 *	US-PATENT-3,605,482	c 14	N72-16282 *	US-PATENT-3,623,361	c 14	N72-21407 *
US-PATENT-3,578,988	c 09	N71-29139 *	US-PATENT-3,605,495	c 14	N72-17327 *	US-PATENT-3,623,394	c 15	N72-22488 *
US-PATENT-3,578,992	c 09	N71-28421 *	US-PATENT-3,605,519	c 14	N72-17324 *	US-PATENT-3,623,828	c 15	N72-22489 *
US-PATENT-3,579,041	c 09	N71-29008 *	US-PATENT-3,606,212	c 31	N72-18859 *	US-PATENT-3,623,861	c 17	N72-22530 *
US-PATENT-3,579,103	c 14	N71-28991 *	US-PATENT-3,606,470	c 46	N74-23068 *	US-PATENT-3,624,496	c 15	N72-21464 *
US-PATENT-3,579,122	c 08	N71-29034 *	US-PATENT-3,606,522	c 23	N72-23695 *	US-PATENT-3,624,598	c 21	N72-22619 *
US-PATENT-3,579,146	c 08	N71-29138 *	US-PATENT-3,606,979	c 15	N72-17454 *	US-PATENT-3,624,650	c 07	N72-21118 *
US-PATENT-3,579,147	c 07	N71-28429 *	US-PATENT-3,607,015	c 06	N72-17093 *	US-PATENT-3,624,659	c 09	N72-21246 *
US-PATENT-3,579,168	c 09	N71-29035 *	US-PATENT-3,607,076	c 06	N72-17094 *	US-PATENT-3,624,839	c 05	N72-20098 *
US-PATENT-3,579,242	c 07	N71-28980 *	US-PATENT-3,607,080	c 06	N72-17095 *	US-PATENT-3,625,018	c 15	N72-22484 *
US-PATENT-3,579,390	c 18	N71-28729 *	US-PATENT-3,607,398	c 18	N72-17532 *	US-PATENT-3,625,084	c 15	N72-22485 *
US-PATENT-3,579,412	c 17	N71-28747 *	US-PATENT-3,607,401	c 03	N72-15986 *	US-PATENT-3,625,766	c 03	N72-20032 *
US-PATENT-3,581,492	c 28	N71-28915 *	US-PATENT-3,607,495	c 15	N72-16330 *	US-PATENT-3,626,114	c 35	N79-16246 *
US-PATENT-3,582,828	c 33	N77-21314 *	US-PATENT-3,608,046	c 15	N72-16329 *	US-PATENT-3,626,189	c 14	N72-20381 *
US-PATENT-3,582,960	c 09	N71-28618 *	US-PATENT-3,608,365	c 15	N72-17452 *	US-PATENT-3,626,218	c 14	N72-20382 *
US-PATENT-3,583,058	c 15	N71-29018 *	US-PATENT-3,608,409	c 14	N72-16283 *	US-PATENT-3,626,298	c 07	N72-20140 *
US-PATENT-3,583,239	c 15	N71-29132 *	US-PATENT-3,608,844	c 15	N72-18477 *	US-PATENT-3,626,308	c 10	N72-20223 *
US-PATENT-3,583,322	c 05	N71-28619 *	US-PATENT-3,609,230	c 09	N72-17156 *	US-PATENT-3,626,828	c 14	N72-20380 *
US-PATENT-3,583,419	c 12	N71-28741 *	US-PATENT-3,609,271	c 09	N72-22204 *	US-PATENT-3,628,113	c 37	N77-27400 *
US-PATENT-3,583,744	c 15	N71-29133 *	US-PATENT-3,609,327	c 08	N72-22204 *	US-PATENT-3,629,068	c 22	N72-20597 *
US-PATENT-3,583,777	c 15	N71-28465 *	US-PATENT-3,609,353	c 14	N72-17328 *	US-PATENT-3,629,161	c 18	N72-22567 *
US-PATENT-3,583,815	c 15	N71-28740 *	US-PATENT-3,609,364	c 10	N72-17173 *	US-PATENT-3,630,276	c 33	N72-20915 *
US-PATENT-3,584,311	c 09	N71-28468 *	US-PATENT-3,609,387	c 09	N72-17157 *	US-PATENT-3,630,304	c 11	N72-20244 *
US-PATENT-3,584,660	c 15	N72-12408 *	US-PATENT-3,609,535	c 14	N72-17325 *	US-PATENT-3,630,627	c 03	N72-20033 *
US-PATENT-3,585,514	c 10	N71-33129 *	US-PATENT-3,609,567	c 10	N72-17171 *	US-PATENT-3,631,339	c 08	N72-20177 *
US-PATENT-3,585,882	c 15	N71-33518 *	US-PATENT-3,609,740	c 05	N72-16015 *	US-PATENT-3,631,351	c 10	N72-20224 *
US-PATENT-3,586,261	c 31	N71-33160 *	US-PATENT-3,610,365	c 15	N72-17451 *	US-PATENT-3,631,382	c 09	N72-20200 *
US-PATENT-3,587,306	c 11	N71-33612 *	US-PATENT-3,611,274	c 15	N72-17455 *	US-PATENT-3,631,737	c 15	N72-28495 *
US-PATENT-3,587,424	c 16	N71-33410 *	US-PATENT-3,611,330	c 23	N72-17747 *	US-PATENT-3,632,081	c 15	N72-20442 *
US-PATENT-3,588,220	c 23	N71-33229 *	US-PATENT-3,611,798	c 14	N72-22437 *	US-PATENT-3,632,140	c 15	N72-20445 *
US-PATENT-3,588,331	c 07	N72-12081 *	US-PATENT-3,611,801	c 14	N72-17329 *	US-PATENT-3,632,242	c 15	N72-20446 *
US-PATENT-3,588,359	c 07	N71-33108 *	US-PATENT-3,612,030	c 46	N74-23069 *	US-PATENT-3,632,923	c 09	N72-20199 *
US-PATENT-3,588,483	c 08	N71-33110 *	US-PATENT-3,612,391	c 11	N72-22245 *	US-PATENT-3,632,996	c 08	N72-20176 *
US-PATENT-3,588,648	c 07	N71-33613 *	US-PATENT-3,612,442	c 28	N72-22769 *	US-PATENT-3,633,048	c 10	N72-20221 *
US-PATENT-3,588,671	c 09	N71-33109 *	US-PATENT-3,612,645	c 14	N72-22441 *	US-PATENT-3,633,110	c 07	N72-20141 *
US-PATENT-3,588,705	c 07	N71-33696 *	US-PATENT-3,612,743	c 09	N72-22198 *	US-PATENT-3,634,383	c 27	N73-22710 *
US-PATENT-3,588,751	c 07	N71-33606 *	US-PATENT-3,612,895	c 09	N72-22197 *	US-PATENT-3,635,216	c 05	N72-20096 *
US-PATENT-3,588,874	c 09	N71-33519 *	US-PATENT-3,613,110	c 08	N72-21199 *	US-PATENT-3,635,537	c 33	N80-14330 *
US-PATENT-3,588,883	c 10	N71-33407 *	US-PATENT-3,613,111	c 08	N72-21200 *	US-PATENT-3,635,765	c 03	N72-20034 *
US-PATENT-3,591,420	c 03	N71-33409 *	US-PATENT-3,613,370	c 28	N72-22770 *	US-PATENT-3,636,539	c 03	N72-20031 *
US-PATENT-3,591,426	c 17	N71-33408 *	US-PATENT-3,613,454	c 35	N77-27368 *	US-PATENT-3,636,564	c 05	N72-22092 *
US-PATENT-3,591,885	c 15	N72-11390 *	US-PATENT-3,613,457	c 15	N72-22482 *	US-PATENT-3,636,623	c 15	N72-20444 *
US-PATENT-3,591,960	c 15	N72-12409 *	US-PATENT-3,613,794	c 12	N72-21310 *	US-PATENT-3,636,711	c 28	N72-20758 *
US-PATENT-3,591,967	c 28	N72-11709 *	US-PATENT-3,614,228	c 14	N72-21409 *	US-PATENT-3,636,966	c 05	N72-20097 *
US-PATENT-3,592,422	c 15	N72-11391 *	US-PATENT-3,614,327	c 08	N72-22162 *	US-PATENT-3,637,051	c 15	N72-20443 *
US-PATENT-3,592,478	c 09	N72-11224 *	US-PATENT-3,614,343	c 07	N72-21119 *	US-PATENT-3,637,170	c 21	N72-21624 *
US-PATENT-3,592,505	c 05	N72-11085 *	US-PATENT-3,614,431	c 14	N72-21408 *	US-PATENT-3,637,312	c 14	N72-20379 *
US-PATENT-3,592,545	c 14	N72-11364 *	US-PATENT-3,614,475	c 10	N72-16172 *	US-PATENT-3,637,842	c 06	N72-20121 *
US-PATENT-3,592,559	c 02	N72-11018 *	US-PATENT-3,614,557	c 26	N72-21701 *	US-PATENT-3,638,002	c 08	N72-21197 *
US-PATENT-3,592,628	c 15	N72-11387 *	US-PATENT-3,614,587	c 09	N72-22196 *	US-PATENT-3,638,066	c 10	N72-20225 *
US-PATENT-3,592,768	c 15	N72-11389 *	US-PATENT-3,614,648	c 09	N72-21247 *	US-PATENT-3,638,103	c 09	N72-21243 *
US-PATENT-3,593,001	c 15	N72-11392 *	US-PATENT-3,614,772	c 08	N72-22163 *	US-PATENT-3,638,114	c 10	N72-20222 *
US-PATENT-3,593,024	c 24	N72-11595 *	US-PATENT-3,614,898	c 15	N72-21462 *	US-PATENT-3,638,224	c 09	N72-21244 *

US-PATENT-3,639,250	c 14	N72-22443 *	US-PATENT-3,666,741	c 06	N72-25150 *	US-PATENT-3,702,463	c 08	N73-13187 *
US-PATENT-3,639,510	c 06	N72-22107 *	US-PATENT-3,666,942	c 06	N72-25146 *	US-PATENT-3,702,520	c 32	N73-13921 *
US-PATENT-3,639,809	c 15	N72-22486 *	US-PATENT-3,667,010	c 26	N72-25679 *	US-PATENT-3,702,532	c 15	N73-13467 *
US-PATENT-3,639,835	c 14	N72-22442 *	US-PATENT-3,667,039	c 26	N72-25680 *	US-PATENT-3,702,536	c 28	N73-13773 *
US-PATENT-3,640,256	c 28	N72-22772 *	US-PATENT-3,667,044	c 07	N72-25171 *	US-PATENT-3,702,575	c 15	N73-13466 *
US-PATENT-3,641,470	c 35	N78-17359 *	US-PATENT-3,668,956	c 15	N72-27485 *	US-PATENT-3,702,688	c 31	N73-14854 *
US-PATENT-3,647,276	c 14	N72-22444 *	US-PATENT-3,669,110	c 05	N72-27103 *	US-PATENT-3,702,735	c 23	N73-13661 *
US-PATENT-3,647,529	c 27	N74-23125 *	US-PATENT-3,669,393	c 15	N72-27484 *	US-PATENT-3,702,762	c 06	N73-13129 *
US-PATENT-3,647,924	c 11	N72-23215 *	US-PATENT-3,670,097	c 23	N72-27728 *	US-PATENT-3,702,775	c 06	N73-13128 *
US-PATENT-3,648,043	c 09	N72-23173 *	US-PATENT-3,670,168	c 14	N72-27409 *	US-PATENT-3,702,791	c 15	N73-13465 *
US-PATENT-3,648,083	c 12	N72-25292 *	US-PATENT-3,670,202	c 14	N72-27411 *	US-PATENT-3,702,841	c 18	N73-13562 *
US-PATENT-3,648,152	c 03	N72-23048 *	US-PATENT-3,670,241	c 14	N72-27408 *	US-PATENT-3,702,898	c 10	N73-13235 *
US-PATENT-3,648,209	c 09	N72-27226 *	US-PATENT-3,670,290	c 09	N72-28225 *	US-PATENT-3,702,933	c 23	N73-13662 *
US-PATENT-3,648,250	c 09	N72-25248 *	US-PATENT-3,670,559	c 33	N72-27959 *	US-PATENT-3,702,951	c 09	N73-13208 *
US-PATENT-3,648,256	c 08	N72-25207 *	US-PATENT-3,670,563	c 14	N72-27412 *	US-PATENT-3,702,972	c 16	N73-13489 *
US-PATENT-3,648,275	c 08	N72-25206 *	US-PATENT-3,670,564	c 11	N72-27262 *	US-PATENT-3,702,979	c 14	N73-13420 *
US-PATENT-3,648,461	c 28	N72-23810 *	US-PATENT-3,670,890	c 05	N72-27102 *	US-PATENT-3,704,284	c 74	N81-19898 *
US-PATENT-3,648,516	c 35	N74-22095 *	US-PATENT-3,671,105	c 26	N72-27784 *	US-PATENT-3,704,659	c 14	N73-14427 *
US-PATENT-3,649,242	c 15	N72-25448 *	US-PATENT-3,671,329	c 14	N72-27410 *	US-PATENT-3,705,255	c 15	N73-14469 *
US-PATENT-3,649,353	c 26	N72-28762 *	US-PATENT-3,671,497	c 06	N72-27144 *	US-PATENT-3,705,288	c 15	N73-14468 *
US-PATENT-3,649,356	c 15	N72-25447 *	US-PATENT-3,671,798	c 10	N72-27246 *	US-PATENT-3,705,316	c 09	N73-14214 *
US-PATENT-3,649,462	c 11	N72-25284 *	US-PATENT-3,672,999	c 03	N72-27053 *	US-PATENT-3,705,406	c 07	N73-14130 *
US-PATENT-3,649,907	c 09	N72-23172 *	US-PATENT-3,673,424	c 09	N72-27227 *	US-PATENT-3,706,221	c 14	N73-14429 *
US-PATENT-3,649,921	c 05	N72-23085 *	US-PATENT-3,673,440	c 09	N72-27228 *	US-PATENT-3,706,230	c 31	N73-14855 *
US-PATENT-3,649,935	c 07	N72-25170 *	US-PATENT-3,675,332	c 14	N72-28436 *	US-PATENT-3,706,281	c 31	N73-14853 *
US-PATENT-3,650,095	c 14	N72-23457 *	US-PATENT-3,675,376	c 15	N72-28496 *	US-PATENT-3,706,583	c 18	N73-14584 *
US-PATENT-3,650,474	c 28	N72-23809 *	US-PATENT-3,675,712	c 03	N72-28025 *	US-PATENT-3,706,970	c 21	N73-14692 *
US-PATENT-3,651,008	c 27	N81-24258 *	US-PATENT-3,675,910	c 17	N72-28535 *	US-PATENT-3,708,359	c 27	N73-16764 *
US-PATENT-3,653,052	c 09	N72-25247 *	US-PATENT-3,675,935	c 15	N72-28488 *	US-PATENT-3,708,419	c 33	N73-16918 *
US-PATENT-3,653,882	c 18	N72-25539 *	US-PATENT-3,676,084	c 17	N72-28536 *	US-PATENT-3,708,671	c 14	N73-16483 *
US-PATENT-3,653,970	c 03	N72-24037 *	US-PATENT-3,676,674	c 14	N72-29464 *	US-PATENT-3,708,674	c 14	N73-16484 *
US-PATENT-3,654,036	c 03	N72-25019 *	US-PATENT-3,676,754	c 26	N72-28761 *	US-PATENT-3,709,663	c 06	N73-16106 *
US-PATENT-3,655,814	c 27	N81-15104 *	US-PATENT-3,676,772	c 10	N72-28240 *	US-PATENT-3,710,122	c 16	N73-16536 *
US-PATENT-3,656,313	c 23	N72-25619 *	US-PATENT-3,676,787	c 16	N72-28521 *	US-PATENT-3,710,257	c 07	N73-16121 *
US-PATENT-3,656,317	c 33	N72-25911 *	US-PATENT-3,676,809	c 09	N72-29172 *	US-PATENT-3,710,261	c 10	N73-16205 *
US-PATENT-3,656,352	c 14	N72-25411 *	US-PATENT-3,678,191	c 10	N72-31273 *	US-PATENT-3,710,329	c 10	N73-16206 *
US-PATENT-3,656,781	c 15	N72-25450 *	US-PATENT-3,678,654	c 06	N72-31140 *	US-PATENT-3,711,042	c 02	N73-19004 *
US-PATENT-3,657,190	c 23	N82-29358 *	US-PATENT-3,678,685	c 21	N72-31637 *	US-PATENT-3,711,701	c 74	N77-21941 *
US-PATENT-3,657,549	c 14	N72-25409 *	US-PATENT-3,678,771	c 37	N74-23070 *	US-PATENT-3,712,120	c 14	N73-19421 *
US-PATENT-3,657,644	c 14	N72-24477 *	US-PATENT-3,679,360	c 04	N72-33072 *	US-PATENT-3,712,121	c 14	N73-19420 *
US-PATENT-3,657,928	c 14	N72-25410 *	US-PATENT-3,679,899	c 06	N72-31141 *	US-PATENT-3,712,132	c 14	N73-20478 *
US-PATENT-3,658,295	c 15	N72-25451 *	US-PATENT-3,680,142	c 09	N72-31235 *	US-PATENT-3,712,195	c 14	N73-19419 *
US-PATENT-3,658,569	c 15	N72-25452 *	US-PATENT-3,680,144	c 07	N72-32169 *	US-PATENT-3,712,591	c 15	N73-19458 *
US-PATENT-3,658,608	c 27	N72-25699 *	US-PATENT-3,680,830	c 15	N72-31483 *	US-PATENT-3,713,163	c 09	N73-19234 *
US-PATENT-3,658,974	c 15	N72-24522 *	US-PATENT-3,681,581	c 08	N72-31226 *	US-PATENT-3,713,290	c 28	N73-19793 *
US-PATENT-3,659,043	c 14	N72-25412 *	US-PATENT-3,686,542	c 14	N72-31446 *	US-PATENT-3,713,480	c 05	N73-20137 *
US-PATENT-3,659,053	c 08	N72-25208 *	US-PATENT-3,690,291	c 15	N72-32487 *	US-PATENT-3,713,987	c 15	N73-20514 *
US-PATENT-3,659,148	c 09	N72-25250 *	US-PATENT-3,692,533	c 05	N72-33096 *	US-PATENT-3,714,332	c 15	N73-19457 *
US-PATENT-3,659,184	c 09	N72-25251 *	US-PATENT-3,693,002	c 25	N72-32688 *	US-PATENT-3,714,405	c 10	N73-20253 *
US-PATENT-3,659,225	c 16	N72-25485 *	US-PATENT-3,693,105	c 10	N72-33230 *	US-PATENT-3,714,432	c 14	N73-20475 *
US-PATENT-3,659,292	c 08	N72-25209 *	US-PATENT-3,693,346	c 15	N72-33477 *	US-PATENT-3,714,526	c 09	N73-19235 *
US-PATENT-3,660,240	c 06	N72-25149 *	US-PATENT-3,693,418	c 14	N72-33377 *	US-PATENT-3,714,588	c 09	N73-20231 *
US-PATENT-3,660,434	c 06	N72-25148 *	US-PATENT-3,694,041	c 15	N72-33476 *	US-PATENT-3,714,624	c 14	N73-20474 *
US-PATENT-3,660,704	c 15	N72-25456 *	US-PATENT-3,694,094	c 14	N72-32452 *	US-PATENT-3,714,645	c 08	N73-20217 *
US-PATENT-3,660,851	c 05	N72-25119 *	US-PATENT-3,694,313	c 24	N72-33681 *	US-PATENT-3,714,821	c 14	N73-20476 *
US-PATENT-3,662,337	c 08	N72-25210 *	US-PATENT-3,694,581	c 08	N72-33172 *	US-PATENT-3,714,833	c 11	N73-20267 *
US-PATENT-3,662,441	c 05	N72-25121 *	US-PATENT-3,694,655	c 25	N72-33696 *	US-PATENT-3,715,092	c 03	N73-20039 *
US-PATENT-3,662,547	c 15	N72-25455 *	US-PATENT-3,694,700	c 09	N72-33205 *	US-PATENT-3,715,152	c 23	N73-20741 *
US-PATENT-3,662,604	c 13	N72-25323 *	US-PATENT-3,694,753	c 07	N72-33146 *	US-PATENT-3,715,590	c 14	N73-20477 *
US-PATENT-3,662,661	c 31	N72-25842 *	US-PATENT-3,694,771	c 09	N73-15235 *	US-PATENT-3,715,600	c 03	N73-20040 *
US-PATENT-3,662,744	c 05	N72-25122 *	US-PATENT-3,695,101	c 11	N73-12264 *	US-PATENT-3,715,660	c 07	N73-20175 *
US-PATENT-3,662,973	c 21	N72-25595 *	US-PATENT-3,696,418	c 09	N73-12211 *	US-PATENT-3,715,663	c 07	N73-20174 *
US-PATENT-3,663,346	c 18	N72-25541 *	US-PATENT-3,696,833	c 11	N73-12265 *	US-PATENT-3,715,693	c 09	N73-20232 *
US-PATENT-3,663,347	c 18	N72-25540 *	US-PATENT-3,697,021	c 15	N73-12486 *	US-PATENT-3,715,723	c 07	N73-20176 *
US-PATENT-3,663,464	c 06	N72-25147 *	US-PATENT-3,697,305	c 15	N73-12489 *	US-PATENT-3,715,915	c 32	N73-20740 *
US-PATENT-3,663,521	c 06	N72-25152 *	US-PATENT-3,697,705	c 35	N77-21392 *	US-PATENT-3,718,863	c 10	N73-20254 *
US-PATENT-3,663,753	c 14	N72-25414 *	US-PATENT-3,697,733	c 08	N73-12176 *	US-PATENT-3,719,891	c 07	N73-25160 *
US-PATENT-3,663,828	c 09	N72-25262 *	US-PATENT-3,697,950	c 08	N73-12177 *	US-PATENT-3,720,075	c 33	N73-25952 *
US-PATENT-3,663,839	c 09	N72-25260 *	US-PATENT-3,697,968	c 21	N73-13644 *	US-PATENT-3,720,208	c 05	N73-25125 *
US-PATENT-3,663,843	c 09	N72-25255 *	US-PATENT-3,698,385	c 05	N73-13114 *	US-PATENT-3,723,745	c 14	N73-25462 *
US-PATENT-3,663,885	c 09	N72-25257 *	US-PATENT-3,698,412	c 14	N73-13418 *	US-PATENT-3,728,861	c 28	N73-24783 *
US-PATENT-3,663,886	c 09	N72-25258 *	US-PATENT-3,698,659	c 11	N73-13257 *	US-PATENT-3,729,068	c 15	N73-25512 *
US-PATENT-3,663,929	c 09	N72-25256 *	US-PATENT-3,698,667	c 02	N73-13008 *	US-PATENT-3,729,129	c 08	N73-25206 *
US-PATENT-3,663,938	c 03	N72-25020 *	US-PATENT-3,698,848	c 15	N73-13464 *	US-PATENT-3,729,260	c 14	N73-25463 *
US-PATENT-3,663,940	c 09	N72-25252 *	US-PATENT-3,699,511	c 21	N73-13643 *	US-PATENT-3,729,343	c 14	N73-24472 *
US-PATENT-3,663,941	c 09	N72-25253 *	US-PATENT-3,699,645	c 14	N73-13417 *	US-PATENT-3,729,676	c 14	N73-24473 *
US-PATENT-3,663,944	c 09	N72-25254 *	US-PATENT-3,699,799	c 15	N73-13463 *	US-PATENT-3,729,736	c 07	N73-25161 *
US-PATENT-3,664,185	c 15	N72-26371 *	US-PATENT-3,699,807	c 14	N73-13416 *	US-PATENT-3,729,743	c 07	N73-24176 *
US-PATENT-3,664,874	c 09	N72-25259 *	US-PATENT-3,699,811	c 14	N73-13415 *	US-PATENT-3,729,935	c 28	N73-24784 *
US-PATENT-3,665,064	c 05	N72-25120 *	US-PATENT-3,700,005	c 15	N73-13462 *	US-PATENT-3,730,287	c 11	N73-26238 *
US-PATENT-3,665,307	c 15	N72-25457 *	US-PATENT-3,700,192	c 31	N73-13898 *	US-PATENT-3,730,891	c 18	N73-26572 *
US-PATENT-3,665,313	c 07	N72-25173 *	US-PATENT-3,700,193	c 30	N73-12884 *	US-PATENT-3,731,528	c 12	N73-25262 *
US-PATENT-3,665,417	c 07	N72-25172 *	US-PATENT-3,700,291	c 15	N73-12488 *	US-PATENT-3,731,531	c 14	N73-25460 *
US-PATENT-3,665,467	c 14	N72-28437 *	US-PATENT-3,700,334	c 14	N73-12446 *	US-PATENT-3,732,040	c 15	N73-24513 *
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US-PATENT-3,818,775	c 37	N74-27901 *	US-PATENT-3,860,858	c 33	N75-15874 *	US-PATENT-3,899,517	c 23	N75-30256 *
US-PATENT-3,818,814	c 31	N74-27902 *	US-PATENT-3,860,921	c 32	N75-15854 *	US-PATENT-3,899,680	c 73	N75-30876 *
US-PATENT-3,819,299	c 37	N74-27904 *	US-PATENT-3,860,946	c 33	N79-11314 *	US-PATENT-3,899,696	c 36	N75-30524 *
US-PATENT-3,819,419	c 34	N74-27861 *	US-PATENT-3,863,881	c 37	N75-18573 *	US-PATENT-3,899,745	c 33	N75-30429 *
US-PATENT-3,819,440	c 32	N74-27612 *	US-PATENT-3,864,060	c 35	N75-19611 *	US-PATENT-3,900,705	c 33	N75-30431 *
US-PATENT-3,819,550	c 27	N74-27037 *	US-PATENT-3,864,239	c 37	N75-19684 *	US-PATENT-3,900,741	c 35	N75-30504 *
US-PATENT-3,820,095	c 33	N74-27862 *	US-PATENT-3,864,542	c 37	N75-19683 *	US-PATENT-3,900,847	c 03	N75-30132 *
US-PATENT-3,820,286	c 37	N74-27905 *	US-PATENT-3,864,597	c 20	N75-18310 *	US-PATENT-3,902,143	c 33	N75-30430 *
US-PATENT-3,820,388	c 35	N74-27865 *	US-PATENT-3,864,953	c 35	N75-19615 *	US-PATENT-3,903,699	c 44	N75-32581 *
US-PATENT-3,820,529	c 52	N74-27864 *	US-PATENT-3,864,960	c 35	N75-19612 *	US-PATENT-3,905,356	c 33	N75-31329 *
US-PATENT-3,820,630	c 07	N74-27490 *	US-PATENT-3,865,442	c 37	N75-18574 *	US-PATENT-3,905,660	c 37	N75-31446 *
US-PATENT-3,820,741	c 37	N74-27903 *	US-PATENT-3,865,975	c 36	N75-19652 *	US-PATENT-3,906,231	c 33	N75-31332 *
US-PATENT-3,820,918	c 07	N74-28226 *	US-PATENT-3,866,022	c 33	N75-19519 *	US-PATENT-3,906,296	c 33	N75-31331 *
US-PATENT-3,821,102	c 34	N74-27744 *	US-PATENT-3,866,114	c 33	N75-18477 *	US-PATENT-3,906,374	c 33	N75-31330 *
US-PATENT-3,821,462	c 33	N74-27683 *	US-PATENT-3,866,128	c 33	N75-19515 *	US-PATENT-3,906,393	c 36	N75-31427 *
US-PATENT-3,821,546	c 33	N74-27682 *	US-PATENT-3,866,210	c 33	N75-19517 *	US-PATENT-3,906,397	c 36	N75-31426 *
US-PATENT-3,821,556	c 74	N74-27866 *	US-PATENT-3,866,233	c 33	N75-19516 *	US-PATENT-3,906,398	c 36	N75-32441 *
US-PATENT-3,824,707	c 09	N74-30597 *	US-PATENT-3,866,863	c 18	N75-19329 *	US-PATENT-3,906,769	c 24	N75-33181 *
US-PATENT-3,825,760	c 19	N74-29410 *	US-PATENT-3,867,677	c 33	N75-19524 *	US-PATENT-3,906,768	c 35	N75-33369 *
US-PATENT-3,826,448	c 08	N74-30421 *	US-PATENT-3,868,591	c 36	N75-19655 *	US-PATENT-3,906,913	c 37	N76-18457 *
US-PATENT-3,826,726	c 25	N74-30502 *	US-PATENT-3,868,830	c 77	N75-20139 *	US-PATENT-3,906,954	c 52	N75-33640 *
US-PATENT-3,826,729	c 20	N74-31269 *	US-PATENT-3,868,856	c 35	N75-19614 *	US-PATENT-3,907,312	c 37	N75-33395 *
US-PATENT-3,826,964	c 33	N74-29556 *	US-PATENT-3,869,151	c 37	N75-19686 *	US-PATENT-3,907,646	c 35	N75-33368 *
US-PATENT-3,827,288	c 71	N74-31148 *	US-PATENT-3,869,160	c 37	N75-19685 *	US-PATENT-3,907,686	c 34	N75-33342 *
US-PATENT-3,827,807	c 89	N74-30886 *	US-PATENT-3,869,210	c 36	N75-19653 *	US-PATENT-3,908,118	c 38	N78-17395 *
US-PATENT-3,828,137	c 32	N74-30524 *	US-PATENT-3,869,212	c 35	N75-19613 *	US-PATENT-3,909,602	c 38	N78-17396 *
US-PATENT-3,828,138	c 32	N74-30523 *	US-PATENT-3,869,597	c 77	N75-20140 *	US-PATENT-3,910,035	c 20	N76-14190 *
US-PATENT-3,828,524	c 34	N74-30608 *	US-PATENT-3,869,615	c 35	N75-19616 *	US-PATENT-3,910,039	c 20	N76-14191 *
US-PATENT-3,829,237	c 07	N74-31270 *	US-PATENT-3,869,624	c 33	N75-18479 *	US-PATENT-3,910,257	c 52	N76-14757 *
US-PATENT-3,829,839	c 60	N76-18800 *	US-PATENT-3,869,659	c 33	N75-19522 *	US-PATENT-3,910,307	c 37	N76-14463 *
US-PATENT-3,830,060	c 44	N74-33379 *	US-PATENT-3,869,667	c 33	N75-19521 *	US-PATENT-3,910,533	c 18	N76-14186 *
US-PATENT-3,830,094	c 35	N74-32879 *	US-PATENT-3,869,676	c 33	N75-19520 *	US-PATENT-3,910,814	c 24	N76-14204 *
US-PATENT-3,830,335	c 07	N74-32418 *	US-PATENT-3,869,680	c 36	N75-19654 *	US-PATENT-3,911,260	c 35	N76-14431 *
US-PATENT-3,830,431	c 07	N74-33218 *	US-PATENT-3,869,779	c 26	N75-19408 *	US-PATENT-3,911,330	c 33	N76-14373 *
US-PATENT-3,830,552	c 37	N74-32921 *	US-PATENT-3,872,395	c 33	N75-19518 *	US-PATENT-3,912,540	c 44	N76-14600 *
US-PATENT-3,830,609	c 31	N74-32920 *	US-PATENT-3,874,240	c 35	N75-25122 *	US-PATENT-3,912,541	c 44	N76-14601 *
US-PATENT-3,830,673	c 28	N74-33209 *	US-PATENT-3,874,635	c 37	N75-25185 *	US-PATENT-3,912,999	c 44	N76-18643 *
US-PATENT-3,831,098	c 33	N74-32711 *	US-PATENT-3,874,677	c 37	N75-21631 *	US-PATENT-3,914,950	c 31	N76-14284 *
US-PATENT-3,831,117	c 33	N74-32712 *	US-PATENT-3,875,332	c 32	N75-21486 *	US-PATENT-3,914,969	c 37	N76-14461 *
US-PATENT-3,831,142	c 32	N74-32598 *	US-PATENT-3,875,394	c 33	N75-26243 *	US-PATENT-3,914,991	c 35	N76-14430 *
US-PATENT-3,832,290	c 20	N74-32919 *	US-PATENT-3,875,404	c 35	N75-23910 *	US-PATENT-3,914,997	c 35	N76-14429 *
US-PATENT-3,832,735	c 54	N74-32546 *	US-PATENT-3,875,435	c 20	N75-24837 *	US-PATENT-3,915,012	c 54	N76-14804 *
US-PATENT-3,832,764	c 37	N74-32918 *	US-PATENT-3,875,500	c 35	N75-21582 *	US-PATENT-3,915,148	c 44	N76-14602 *
US-PATENT-3,832,781	c 35	N74-32877 *	US-PATENT-3,875,584	c 32	N75-21485 *	US-PATENT-3,915,416	c 15	N76-14158 *
US-PATENT-3,832,903	c 35	N74-32878 *	US-PATENT-3,877,833	c 37	N75-25186 *	US-PATENT-3,915,482	c 37	N76-14460 *
US-PATENT-3,833,322	c 31	N74-32917 *	US-PATENT-3,878,464	c 32	N75-24981 *	US-PATENT-3,915,572	c 36	N76-14447 *
US-PATENT-3,833,336	c 25	N74-33378 *	US-PATENT-3,881,132	c 33	N77-21315 *	US-PATENT-3,916,060	c 27	N76-15310 *
US-PATENT-3,833,857	c 33	N74-32660 *	US-PATENT-3,882,417	c 36	N78-17366 *	US-PATENT-3,916,084	c 33	N76-14371 *
US-PATENT-3,835,318	c 35	N74-34857 *	US-PATENT-3,882,530	c 76	N75-25730 *	US-PATENT-3,916,187	c 35	N76-15431 *
US-PATENT-3,837,285	c 85	N74-34672 *	US-PATENT-3,882,634	c 51	N75-25503 *	US-PATENT-3,916,316	c 32	N76-14321 *
US-PATENT-3,837,908	c 76	N79-16678 *	US-PATENT-3,882,719	c 14	N75-24794 *	US-PATENT-3,916,380	c 60	N76-14818 *
US-PATENT-3,840,829	c 33	N74-34638 *	US-PATENT-3,882,732	c 12	N75-24774 *	US-PATENT-3,916,761	c 75	N76-14931 *
US-PATENT-3,841,973	c 35	N75-12272 *	US-PATENT-3,882,846	c 05	N75-24716 *	US-PATENT-3,919,014	c 24	N76-14203 *
US-PATENT-3,842,485	c 37	N75-12326 *	US-PATENT-3,883,095	c 07	N75-24736 *	US-PATENT-3,919,710	c 33	N76-14372 *
US-PATENT-3,842,509	c 35	N75-12273 *	US-PATENT-3,883,215	c 35	N75-25124 *	US-PATENT-3,920,339	c 27	N76-14264 *
US-PATENT-3,842,656	c 76	N75-12810 *	US-PATENT-3,883,436	c 74	N75-25706 *	US-PATENT-3,920,413	c 44	N76-14595 *
US-PATENT-3,845,466	c 74	N81-19896 *	US-PATENT-3,883,689	c 35	N75-25123 *	US-PATENT-3,920,416	c 44	N76-18642 *
US-PATENT-3,846,243	c 25	N75-12086 *	US-PATENT-3,883,785	c 09	N75-24758 *	US-PATENT-3,922,930	c 37	N76-15457 *
US-PATENT-3,847,115	c 31	N75-12161 *	US-PATENT-3,883,812	c 33	N75-25041 *	US-PATENT-3,923,166	c 37	N76-15460 *
US-PATENT-3,847,141	c 35	N75-12271 *	US-PATENT-3,883,817	c 33	N75-25040 *	US-PATENT-3,924,068	c 32	N76-16249 *
US-PATENT-3,847,208	c 34	N75-12222 *	US-PATENT-3,883,872	c 32	N75-24982 *	US-PATENT-3,924,137	c 72	N76-15860 *
US-PATENT-3,847,652	c 25	N75-12087 *	US-PATENT-3,884,432	c 05	N75-25914 *	US-PATENT-3,924,164	c 33	N76-15373 *
US-PATENT-3,847,689	c 74	N75-12732 *	US-PATENT-3,884,765	c 35	N75-27330 *	US-PATENT-3,924,176	c 35	N76-16390 *
US-PATENT-3,848,190	c 35	N75-12270 *	US-PATENT-3,887,233	c 05	N75-25915 *	US-PATENT-3,924,183	c 33	N76-16331 *
US-PATENT-3,849,554	c 52	N75-15270 *	US-PATENT-3,887,345	c 35	N75-26334 *	US-PATENT-3,924,200	c 35	N76-15436 *
US-PATENT-3,849,668	c 54	N75-12616 *	US-PATENT-3,887,365	c 37	N75-26371 *	US-PATENT-3,924,237	c 32	N76-15330 *
US-PATENT-3,849,720	c 33	N77-26387 *	US-PATENT-3,888,362	c 54	N75-27758 *	US-PATENT-3,924,239	c 35	N76-15435 *
US-PATENT-3,849,865	c 37	N75-13261 *	US-PATENT-3,888,410	c 34	N75-26282 *	US-PATENT-3,924,267	c 35	N76-16391 *
US-PATENT-3,849,875	c 35	N75-13213 *	US-PATENT-3,888,561	c 35	N75-27323 *	US-PATENT-3,924,444	c 35	N76-15432 *
US-PATENT-3,849,877	c 24	N75-13032 *	US-PATENT-3,888,705	c 25	N75-26043 *	US-PATENT-3,925,104	c 35	N76-15434 *
US-PATENT-3,850,169	c 54	N75-13531 *	US-PATENT-3,889,064	c 32	N75-26195 *	US-PATENT-3,925,312	c 23	N76-15268 *
US-PATENT-3,850,169	c 05	N75-12930 *	US-PATENT-3,889,122	c 37	N75-26372 *	US-PATENT-3,926,482	c 37	N76-15461 *
US-PATENT-3,850,388	c 31	N75-13111 *	US-PATENT-3,889,155	c 33	N75-26244 *	US-PATENT-3,926,567	c 27	N76-15311 *
US-PATENT-3,850,567	c 05	N75-13502 *	US-PATENT-3,889,182	c 33	N75-26245 *	US-PATENT-3,927,227	c 12	N76-15189 *
US-PATENT-3,850,754	c 51	N75-13539 *	US-PATENT-3,889,185	c 33	N75-26246 *	US-PATENT-3,927,324	c 35	N76-15433 *
US-PATENT-3,851,162	c 60	N75-13139 *	US-PATENT-3,889,264	c 32	N75-26194 *	US-PATENT-3,927,408	c 32	N76-15329 *
US-PATENT-3,851,238	c 33	N75-13007 *	US-PATENT-3,891,311	c 54	N75-27759 *	US-PATENT-3,928,708	c 27	N76-16230 *
US-PATENT-3,851,250	c 15	N75-12969 *	US-PATENT-3,891,452	c 27	N75-27160 *	US-PATENT-3,929,119	c 75	N76-17951 *
US-PATENT-3,853,003	c 09	N75-12968 *	US-PATENT-3,891,533	c 33	N75-27252 *	US-PATENT-3,929,305	c 34	N76-17317 *
US-PATENT-3,853,075	c 09	N75-13625 *	US-PATENT-3,891,848	c 45	N75-27585 *	US-PATENT-3,929,306	c 18	N76-17185 *
US-PATENT-3,854,097	c 75	N75-13265 *	US-PATENT-3,891,851	c 35	N75-27331 *	US-PATENT-3,929,364	c 35	N76-16392 *
US-PATENT-3,854,113	c 37	N75-13266 *	US-PATENT-3,893,449	c 54	N75-27760 *	US-PATENT-3,930,628	c 02	N76-16014 *
US-PATENT-3,855,873	c 37	N75-13266 *	US-PATENT-3,893,458	c 54	N75-27761 *	US-PATENT-3,930,735	c 66	N76-19888 *
US-PATENT-3,856,042	c 37	N75-15050 *						

US-PATENT-3,931,132	c 27	N76-16228 *	US-PATENT-3,971,847	c 44	N76-29704 *	US-PATENT-4,010,455	c 37	N78-31426 *
US-PATENT-3,931,447	c 27	N76-16229 *	US-PATENT-3,971,915	c 35	N76-29552 *	US-PATENT-4,011,719	c 20	N77-20162 *
US-PATENT-3,931,456	c 33	N76-16332 *	US-PATENT-3,971,930	c 74	N76-30053 *	US-PATENT-4,011,756	c 35	N77-20400 *
US-PATENT-3,931,462	c 45	N76-17656 *	US-PATENT-3,971,940	c 35	N76-29551 *	US-PATENT-4,011,854	c 35	N77-20401 *
US-PATENT-3,931,516	c 35	N76-16393 *	US-PATENT-3,972,008	c 36	N76-29575 *	US-PATENT-4,012,018	c 35	N77-20399 *
US-PATENT-3,931,532	c 44	N76-16612 *	US-PATENT-3,972,038	c 17	N76-29347 *	US-PATENT-4,012,123	c 74	N77-20882 *
US-PATENT-3,932,262	c 25	N79-10163 *	US-PATENT-3,972,651	c 44	N76-29701 *	US-PATENT-4,012,237	c 26	N77-20201 *
US-PATENT-3,936,927	c 37	N76-19437 *	US-PATENT-3,972,727	c 44	N76-29699 *	US-PATENT-4,012,696	c 32	N77-20289 *
US-PATENT-3,937,055	c 37	N76-18454 *	US-PATENT-3,976,997	c 62	N76-31946 *	US-PATENT-4,014,745	c 51	N77-22794 *
US-PATENT-3,937,212	c 33	N76-19338 *	US-PATENT-3,977,147	c 39	N76-31562 *	US-PATENT-4,014,798	c 25	N81-17187 *
US-PATENT-3,937,215	c 52	N76-19785 *	US-PATENT-3,977,197	c 44	N76-31667 *	US-PATENT-4,017,959	c 37	N77-23482 *
US-PATENT-3,937,387	c 37	N76-18455 *	US-PATENT-3,977,231	c 35	N76-31489 *	US-PATENT-4,018,080	c 35	N77-22450 *
US-PATENT-3,937,533	c 37	N76-18459 *	US-PATENT-3,977,771	c 74	N76-31998 *	US-PATENT-4,018,085	c 35	N77-22449 *
US-PATENT-3,937,555	c 35	N76-18402 *	US-PATENT-3,977,787	c 35	N76-31490 *	US-PATENT-4,018,092	c 37	N77-22482 *
US-PATENT-3,937,661	c 37	N76-18456 *	US-PATENT-3,977,831	c 45	N76-31714 *	US-PATENT-4,018,409	c 37	N77-23483 *
US-PATENT-3,937,945	c 74	N76-18913 *	US-PATENT-3,978,187	c 37	N76-31524 *	US-PATENT-4,018,423	c 54	N77-21844 *
US-PATENT-3,938,035	c 33	N76-19339 *	US-PATENT-3,978,287	c 32	N76-31372 *	US-PATENT-4,018,532	c 74	N77-22951 *
US-PATENT-3,938,037	c 26	N76-18257 *	US-PATENT-3,978,360	c 33	N76-31409 *	US-PATENT-4,018,533	c 74	N77-22950 *
US-PATENT-3,938,162	c 32	N76-18295 *	US-PATENT-3,978,364	c 31	N76-31365 *	US-PATENT-4,018,649	c 51	N77-25769 *
US-PATENT-3,938,182	c 33	N76-18353 *	US-PATENT-3,978,410	c 03	N76-32140 *	US-PATENT-4,018,971	c 44	N77-22606 *
US-PATENT-3,938,188	c 33	N76-18345 *	US-PATENT-3,978,417	c 36	N76-31512 *	US-PATENT-4,019,179	c 32	N77-21267 *
US-PATENT-3,938,367	c 35	N76-18401 *	US-PATENT-3,978,490	c 33	N76-32457 *	US-PATENT-4,019,868	c 44	N77-22607 *
US-PATENT-3,938,373	c 35	N76-18400 *	US-PATENT-3,982,910	c 44	N77-10636 *	US-PATENT-4,020,632	c 07	N77-23106 *
US-PATENT-3,938,742	c 07	N76-18117 *	US-PATENT-3,983,695	c 20	N77-10148 *	US-PATENT-4,023,266	c 33	N77-26385 *
US-PATENT-3,938,892	c 74	N76-19935 *	US-PATENT-3,983,714	c 31	N77-10229 *	US-PATENT-4,025,327	c 35	N77-24455 *
US-PATENT-3,938,956	c 35	N76-18403 *	US-PATENT-3,983,749	c 09	N77-10071 *	US-PATENT-4,025,783	c 74	N77-26942 *
US-PATENT-3,939,048	c 37	N76-18458 *	US-PATENT-3,983,753	c 52	N77-10780 *	US-PATENT-4,025,866	c 33	N77-24375 *
US-PATENT-3,939,439	c 36	N76-18428 *	US-PATENT-3,983,780	c 28	N77-10213 *	US-PATENT-4,025,875	c 36	N77-25499 *
US-PATENT-3,940,097	c 34	N76-18364 *	US-PATENT-3,983,933	c 34	N77-10463 *	US-PATENT-4,025,876	c 71	N77-26919 *
US-PATENT-3,940,621	c 34	N76-18374 *	US-PATENT-3,984,070	c 02	N77-10001 *	US-PATENT-4,025,891	c 35	N77-24454 *
US-PATENT-3,941,355	c 37	N76-19436 *	US-PATENT-3,984,072	c 15	N77-10113 *	US-PATENT-4,025,950	c 32	N77-24328 *
US-PATENT-3,942,398	c 37	N76-20480 *	US-PATENT-3,984,256	c 44	N77-10635 *	US-PATENT-4,025,964	c 52	N77-25772 *
US-PATENT-3,943,368	c 74	N76-20958 *	US-PATENT-3,984,634	c 32	N77-10392 *	US-PATENT-4,026,527	c 34	N77-24423 *
US-PATENT-3,943,442	c 76	N76-20994 *	US-PATENT-3,984,671	c 43	N77-10584 *	US-PATENT-4,026,655	c 36	N77-25501 *
US-PATENT-3,943,763	c 04	N76-20114 *	US-PATENT-3,984,681	c 35	N77-10492 *	US-PATENT-4,027,212	c 33	N77-26386 *
US-PATENT-3,944,485	c 25	N81-19244 *	US-PATENT-3,984,685	c 47	N77-10753 *	US-PATENT-4,027,265	c 32	N77-24331 *
US-PATENT-3,945,801	c 45	N76-21742 *	US-PATENT-3,984,686	c 35	N77-10493 *	US-PATENT-4,027,273	c 36	N77-25502 *
US-PATENT-3,945,879	c 37	N76-21554 *	US-PATENT-3,984,730	c 33	N77-10429 *	US-PATENT-4,027,494	c 35	N78-12390 *
US-PATENT-3,947,281	c 27	N82-29455 *	US-PATENT-3,984,799	c 33	N77-10428 *	US-PATENT-4,027,524	c 09	N77-27131 *
US-PATENT-3,947,933	c 20	N76-21276 *	US-PATENT-3,985,454	c 74	N77-10899 *	US-PATENT-4,028,939	c 34	N77-27345 *
US-PATENT-3,948,102	c 33	N76-21390 *	US-PATENT-3,987,630	c 37	N77-12402 *	US-PATENT-4,029,470	c 51	N77-27677 *
US-PATENT-3,948,470	c 20	N76-21275 *	US-PATENT-3,988,561	c 37	N77-11397 *	US-PATENT-4,029,500	c 24	N77-27187 *
US-PATENT-3,949,206	c 32	N76-21366 *	US-PATENT-3,988,677	c 32	N77-12240 *	US-PATENT-4,029,838	c 24	N77-27188 *
US-PATENT-3,949,400	c 17	N76-21250 *	US-PATENT-3,988,716	c 60	N77-12721 *	US-PATENT-4,030,047	c 35	N77-27366 *
US-PATENT-3,949,404	c 32	N76-21365 *	US-PATENT-3,988,729	c 32	N77-12239 *	US-PATENT-4,030,348	c 39	N78-10493 *
US-PATENT-3,950,729	c 60	N76-21914 *	US-PATENT-3,988,933	c 35	N77-19385 *	US-PATENT-4,031,389	c 36	N77-26477 *
US-PATENT-3,951,129	c 44	N76-22657 *	US-PATENT-3,989,136	c 37	N77-19457 *	US-PATENT-4,032,089	c 24	N77-28225 *
US-PATENT-3,952,083	c 27	N76-22376 *	US-PATENT-3,989,206	c 09	N77-19076 *	US-PATENT-4,032,089	c 27	N81-14077 *
US-PATENT-3,952,590	c 09	N76-23273 *	US-PATENT-3,989,541	c 44	N77-19571 *	US-PATENT-4,033,119	c 07	N77-28118 *
US-PATENT-3,952,971	c 02	N76-22154 *	US-PATENT-3,989,602	c 24	N77-19171 *	US-PATENT-4,033,133	c 28	N80-10374 *
US-PATENT-3,952,976	c 37	N76-22540 *	US-PATENT-3,990,049	c 60	N77-19760 *	US-PATENT-4,033,182	c 39	N77-28511 *
US-PATENT-3,952,980	c 19	N76-22284 *	US-PATENT-3,990,860	c 27	N77-13217 *	US-PATENT-4,033,286	c 25	N79-28253 *
US-PATENT-3,952,998	c 20	N76-22296 *	US-PATENT-3,990,987	c 37	N77-13418 *	US-PATENT-4,033,316	c 33	N77-28385 *
US-PATENT-3,953,038	c 37	N76-22541 *	US-PATENT-3,994,128	c 07	N77-14025 *	US-PATENT-4,033,334	c 52	N77-28717 *
US-PATENT-3,953,343	c 24	N76-22309 *	US-PATENT-3,995,324	c 52	N77-14735 *	US-PATENT-4,033,349	c 52	N77-28716 *
US-PATENT-3,953,646	c 27	N76-22377 *	US-PATENT-3,995,476	c 35	N77-14407 *	US-PATENT-4,033,479	c 37	N77-28487 *
US-PATENT-3,953,674	c 17	N76-22245 *	US-PATENT-3,995,522	c 37	N77-14478 *	US-PATENT-4,033,503	c 26	N77-29260 *
US-PATENT-3,953,734	c 25	N76-22323 *	US-PATENT-3,995,621	c 52	N77-14736 *	US-PATENT-4,033,504	c 26	N77-28265 *
US-PATENT-3,953,792	c 35	N76-22509 *	US-PATENT-3,995,644	c 52	N77-14738 *	US-PATENT-4,033,705	c 07	N77-27116 *
US-PATENT-3,955,034	c 27	N76-23426 *	US-PATENT-3,995,789	c 37	N77-14479 *	US-PATENT-4,033,882	c 32	N77-28346 *
US-PATENT-3,955,941	c 44	N76-29700 *	US-PATENT-3,995,877	c 37	N77-14477 *	US-PATENT-4,035,037	c 37	N77-28486 *
US-PATENT-3,956,032	c 76	N76-25049 *	US-PATENT-3,995,960	c 35	N77-14411 *	US-PATENT-4,035,062	c 74	N77-28932 *
US-PATENT-3,956,050	c 37	N76-24575 *	US-PATENT-3,996,064	c 44	N77-14581 *	US-PATENT-4,035,065	c 74	N77-28933 *
US-PATENT-3,956,233	c 27	N76-24405 *	US-PATENT-3,996,067	c 44	N77-14580 *	US-PATENT-4,038,705	c 54	N77-30749 *
US-PATENT-3,956,833	c 09	N76-24280 *	US-PATENT-3,996,070	c 35	N77-14409 *	US-PATENT-4,039,489	c 27	N77-31308 *
US-PATENT-3,956,919	c 35	N76-24523 *	US-PATENT-3,996,455	c 60	N77-14751 *	US-PATENT-4,039,946	c 35	N77-30436 *
US-PATENT-3,956,932	c 35	N76-24524 *	US-PATENT-3,996,462	c 33	N77-14335 *	US-PATENT-4,039,900	c 34	N77-30399 *
US-PATENT-3,957,030	c 44	N76-23675 *	US-PATENT-3,996,464	c 35	N77-14406 *	US-PATENT-4,039,347	c 27	N77-30237 *
US-PATENT-3,957,037	c 35	N76-24525 *	US-PATENT-3,996,468	c 35	N77-14408 *	US-PATENT-4,039,754	c 32	N77-30309 *
US-PATENT-3,957,044	c 54	N76-24900 *	US-PATENT-3,996,471	c 52	N77-14737 *	US-PATENT-4,039,925	c 33	N77-30365 *
US-PATENT-3,957,104	c 37	N76-23570 *	US-PATENT-3,996,506	c 33	N77-14333 *	US-PATENT-4,040,041	c 33	N77-31404 *
US-PATENT-3,957,675	c 24	N76-24363 *	US-PATENT-3,996,532	c 32	N77-14292 *	US-PATENT-4,040,750	c 35	N77-31465 *
US-PATENT-3,958,188	c 36	N76-24553 *	US-PATENT-3,997,848	c 33	N77-14334 *	US-PATENT-4,040,867	c 44	N77-31601 *
US-PATENT-3,958,238	c 60	N76-23850 *	US-PATENT-3,999,886	c 05	N77-17029 *	US-PATENT-4,040,940	c 37	N80-14397 *
US-PATENT-3,958,553	c 44	N76-24696 *	US-PATENT-4,049,930	c 33	N78-10375 *	US-PATENT-4,041,233	c 27	N77-30236 *
US-PATENT-3,961,997	c 44	N76-28635 *	US-PATENT-4,356,157	c 25	N83-33977 *	US-PATENT-4,041,391	c 32	N77-30308 *
US-PATENT-3,964,306	c 34	N76-27517 *	US-PATENT-4,359,503	c 24	N83-33950 *	US-PATENT-4,041,697	c 37	N78-10467 *
US-PATENT-3,964,319	c 07	N76-27232 *	US-PATENT-4,000,682	c 20	N77-17143 *	US-PATENT-4,041,910	c 37	N77-31497 *
US-PATENT-3,964,813	c 37	N76-27567 *	US-PATENT-4,000,929	c 37	N77-17464 *	US-PATENT-4,042,926	c 32	N77-31350 *
US-PATENT-3,964,902	c 34	N76-27515 *	US-PATENT-4,001,552	c 38	N77-17495 *	US-PATENT-4,043,668	c 35	N84-33766 *
US-PATENT-3,964,928	c 44	N76-27664 *	US-PATENT-4,001,602	c 33	N77-17354 *	US-PATENT-4,043,674	c 36	N77-32478 *
US-PATENT-3,965,096	c 27	N76-32315 *	US-PATENT-4,003,004	c 33	N77-17351 *	US-PATENT-4,044,753	c 44	N77-32582 *
US-PATENT-3,965,354	c 33	N76-27473 *	US-PATENT-4,003,084	c 35	N77-17426 *	US-PATENT-4,044,821	c 44	N77-32581 *
US-PATENT-3,965,475	c 33	N76-27472 *	US-PATENT-4,003,257	c 23	N77-17161 *	US-PATENT-4,045,063	c 37	N77-32499 *
US-PATENT-3,966,499	c 44	N76-31666 *	US-PATENT-4,004,292	c 74	N77-18893 *	US-PATENT-4,045,149	c 07	N77-32148 *
US-PATENT-3,966,547	c 25	N76-27383 *	US-PATENT-4,005,574	c 07	N77-17059 *	US-PATENT-4,045,247	c 35	N77-32454 *
US-PATENT-3,967,091	c 37	N76-27568 *	US-PATENT-4,006,631	c 04	N77-19056 *	US-PATENT-4,045,255	c 26	N77-32279 *
US-PATENT-3,971,230	c 37	N76-29590 *	US-PATENT-4,006,999	c 24	N77-19170 *	US-PATENT-4,045,315	c 44	N77-32580 *
US-PATENT-3,971,256	c 91	N76-30131 *	US-PATENT-4,007,430	c 36	N77-19416 *	US-PATENT-4,045,359	c 25	N77-32255 *
US-PATENT-3,971,362	c 52	N76-29894 *	US-PATENT-4,007,434	c 32	N77-18307 *	US-PATENT-4,045,728	c 35	N77-32455 *
US-PATENT-3,971,363	c 52	N76-29895 *	US-PATENT-4,007,601	c 34	N77-19353 *	US-PATENT-4,045,792	c 60	N77-32731 *
US-PATENT-3,971,364	c 52	N76-29896 *	US-PATENT-4,007,623	c 35	N77-18417 *	US-PATENT-4,045,795	c 32	N77-32342 *
US-PATENT-3,971,535	c 05	N76-29217 *	US-PATENT-4,007,891	c 07	N77-18154 *	US-PATENT-4,046,012	c 35	N77-32456 *
US-PATENT-3,971,602	c 37	N76-29588 *	US-PATENT-4,008,348	c 34	N77-18382 *	US-PATENT-4,046,190	c 34	N77-32413 *
US-PATENT-3,971,697	c 25	N76-29379 *	US-PATENT-4,008,407	c 73	N77-18891 *	US-PATENT-4,046,262	c 54	N77-32721 *
US-PATENT-3,971,703	c 51	N76-29891 *	US-PATENT-4,010,455	c 37	N77-19458 *	US-PATENT-4,046,434	c 37	N77-32500 *



US-PATENT-4,046,435	c 37	N77-32501 *	US-PATENT-4,081,250	c 44	N78-31527 *	US-PATENT-4,107,919	c 34	N79-13288 *
US-PATENT-4,046,462	c 44	N77-32583 *	US-PATENT-4,082,001	c 35	N78-24515 *	US-PATENT-4,108,241	c 34	N79-13289 *
US-PATENT-4,046,529	c 54	N77-32722 *	US-PATENT-4,082,569	c 44	N78-25527 *	US-PATENT-4,109,213	c 33	N79-22373 *
US-PATENT-4,046,560	c 26	N77-32280 *	US-PATENT-4,083,097	c 44	N78-25528 *	US-PATENT-4,109,644	c 52	N79-18580 *
US-PATENT-4,046,617	c 76	N77-32919 *	US-PATENT-4,083,181	c 07	N78-25089 *	US-PATENT-4,110,683	c 33	N79-18193 *
US-PATENT-4,046,619	c 27	N77-32308 *	US-PATENT-4,083,380	c 37	N78-25426 *	US-PATENT-4,110,703	c 36	N79-18307 *
US-PATENT-4,047,840	c 37	N78-10468 *	US-PATENT-4,083,520	c 15	N78-25119 *	US-PATENT-4,111,041	c 35	N79-14345 *
US-PATENT-4,051,558	c 52	N78-10686 *	US-PATENT-4,083,765	c 35	N78-25391 *	US-PATENT-4,111,058	c 35	N79-14347 *
US-PATENT-4,051,834	c 44	N78-10554 *	US-PATENT-4,084,124	c 44	N78-25531 *	US-PATENT-4,111,068	c 37	N79-14382 *
US-PATENT-4,051,877	c 35	N78-10428 *	US-PATENT-4,084,132	c 33	N78-25319 *	US-PATENT-4,111,184	c 44	N79-14526 *
US-PATENT-4,052,144	c 25	N78-10224 *	US-PATENT-4,084,612	c 34	N78-25351 *	US-PATENT-4,111,718	c 35	N79-14346 *
US-PATENT-4,052,181	c 71	N78-10837 *	US-PATENT-4,084,825	c 07	N78-25090 *	US-PATENT-4,111,729	c 28	N79-14228 *
US-PATENT-4,052,302	c 25	N78-10225 *	US-PATENT-4,084,985	c 44	N78-25529 *	US-PATENT-4,111,775	c 76	N79-14906 *
US-PATENT-4,052,523	c 24	N78-10214 *	US-PATENT-4,085,004	c 73	N78-28913 *	US-PATENT-4,111,851	c 24	N79-14156 *
US-PATENT-4,052,614	c 35	N78-10429 *	US-PATENT-4,085,241	c 44	N78-25530 *	US-PATENT-4,112,357	c 33	N79-14305 *
US-PATENT-4,052,648	c 33	N78-10376 *	US-PATENT-4,085,332	c 25	N78-25148 *	US-PATENT-4,112,497	c 32	N79-14267 *
US-PATENT-4,052,659	c 33	N78-10377 *	US-PATENT-4,087,902	c 33	N78-27326 *	US-PATENT-4,112,875	c 44	N79-33526 *
US-PATENT-4,052,666	c 43	N78-10529 *	US-PATENT-4,087,962	c 34	N78-27357 *	US-PATENT-4,116,131	c 20	N78-32179 *
US-PATENT-4,052,705	c 60	N78-10709 *	US-PATENT-4,087,975	c 44	N78-32542 *	US-PATENT-4,117,669	c 07	N79-10057 *
US-PATENT-4,053,229	c 74	N78-13874 *	US-PATENT-4,088,018	c 37	N78-27424 *	US-PATENT-4,117,731	c 35	N79-10390 *
US-PATENT-4,053,231	c 35	N78-18391 *	US-PATENT-4,088,094	c 51	N78-27733 *	US-PATENT-4,117,749	c 37	N79-10419 *
US-PATENT-4,053,918	c 44	N78-13526 *	US-PATENT-4,088,270	c 07	N78-27121 *	US-PATENT-4,117,881	c 51	N79-10694 *
US-PATENT-4,055,004	c 09	N78-18083 *	US-PATENT-4,088,291	c 37	N78-27425 *	US-PATENT-4,118,014	c 37	N79-10420 *
US-PATENT-4,055,041	c 07	N78-18066 *	US-PATENT-4,088,312	c 37	N78-27423 *	US-PATENT-4,118,315	c 51	N79-10693 *
US-PATENT-4,055,072	c 35	N78-19465 *	US-PATENT-4,088,408	c 74	N78-27904 *	US-PATENT-4,118,427	c 27	N80-32514 *
US-PATENT-4,055,089	c 35	N78-18390 *	US-PATENT-4,088,532	c 25	N78-27226 *	US-PATENT-4,118,620	c 37	N79-10421 *
US-PATENT-4,055,147	c 35	N78-19466 *	US-PATENT-4,088,806	c 24	N78-27180 *	US-PATENT-4,118,665	c 33	N79-10338 *
US-PATENT-4,055,416	c 26	N78-18182 *	US-PATENT-4,088,926	c 75	N78-27913 *	US-PATENT-4,118,666	c 32	N79-10262 *
US-PATENT-4,055,447	c 26	N78-18183 *	US-PATENT-4,088,951	c 35	N78-28411 *	US-PATENT-4,118,671	c 33	N79-10339 *
US-PATENT-4,055,686	c 37	N78-13436 *	US-PATENT-4,088,954	c 35	N78-32397 *	US-PATENT-4,118,701	c 32	N79-10264 *
US-PATENT-4,055,705	c 34	N78-18355 *	US-PATENT-4,088,965	c 36	N78-27402 *	US-PATENT-4,118,581	c 27	N81-14076 *
US-PATENT-4,055,707	c 44	N78-19599 *	US-PATENT-4,088,999	c 44	N78-28594 *	US-PATENT-4,119,926	c 33	N79-11313 *
US-PATENT-4,055,764	c 35	N78-13400 *	US-PATENT-4,089,004	c 32	N80-29539 *	US-PATENT-4,119,964	c 32	N79-11265 *
US-PATENT-4,055,777	c 33	N78-18308 *	US-PATENT-4,089,209	c 35	N78-27384 *	US-PATENT-4,119,972	c 32	N79-11264 *
US-PATENT-4,055,810	c 36	N78-18410 *	US-PATENT-4,089,705	c 44	N78-27515 *	US-PATENT-4,119,996	c 33	N79-12321 *
US-PATENT-4,055,847	c 33	N78-13320 *	US-PATENT-4,090,213	c 44	N80-29835 *	US-PATENT-4,121,965	c 76	N79-11920 *
US-PATENT-4,061,029	c 35	N78-14364 *	US-PATENT-4,091,166	c 27	N78-31233 *	US-PATENT-4,121,995	c 25	N79-11152 *
US-PATENT-4,061,041	c 71	N78-14867 *	US-PATENT-4,091,329	c 33	N78-32339 *	US-PATENT-4,122,214	c 44	N79-11472 *
US-PATENT-4,061,146	c 52	N78-14773 *	US-PATENT-4,091,464	c 54	N78-31735 *	US-PATENT-4,122,334	c 74	N79-12890 *
US-PATENT-4,061,190	c 43	N78-14452 *	US-PATENT-4,091,464	c 54	N79-24651 *	US-PATENT-4,122,383	c 44	N79-12541 *
US-PATENT-4,061,427	c 36	N78-14380 *	US-PATENT-4,091,465	c 54	N78-31736 *	US-PATENT-4,122,454	c 32	N79-13214 *
US-PATENT-4,061,561	c 25	N78-14104 *	US-PATENT-4,091,613	c 44	N78-32539 *	US-PATENT-4,122,518	c 52	N79-12694 *
US-PATENT-4,061,570	c 54	N78-14784 *	US-PATENT-4,091,665	c 09	N78-31129 *	US-PATENT-4,122,712	c 34	N79-12359 *
US-PATENT-4,061,577	c 74	N78-14889 *	US-PATENT-4,091,798	c 44	N78-31526 *	US-PATENT-4,122,725	c 38	N79-14398 *
US-PATENT-4,061,579	c 24	N78-14096 *	US-PATENT-4,091,800	c 44	N78-31525 *	US-PATENT-4,122,816	c 37	N79-11405 *
US-PATENT-4,061,812	c 24	N78-15180 *	US-PATENT-4,092,188	c 28	N78-31255 *	US-PATENT-4,122,833	c 44	N79-11471 *
US-PATENT-4,061,834	c 27	N78-14164 *	US-PATENT-4,092,274	c 27	N78-31232 *	US-PATENT-4,122,991	c 18	N79-11108 *
US-PATENT-4,061,856	c 27	N78-15276 *	US-PATENT-4,092,466	c 27	N78-32256 *	US-PATENT-4,123,355	c 45	N79-12584 *
US-PATENT-4,061,955	c 44	N78-14625 *	US-PATENT-4,092,466	c 27	N80-10358 *	US-PATENT-4,124,180	c 05	N79-12061 *
US-PATENT-4,061,974	c 32	N78-15323 *	US-PATENT-4,092,606	c 33	N78-32338 *	US-PATENT-4,124,330	c 07	N79-14095 *
US-PATENT-4,062,227	c 39	N78-15512 *	US-PATENT-4,092,617	c 33	N78-32340 *	US-PATENT-4,124,732	c 27	N79-12221 *
US-PATENT-4,062,245	c 37	N78-16369 *	US-PATENT-4,092,633	c 54	N78-32720 *	US-PATENT-4,124,814	c 36	N79-14362 *
US-PATENT-4,062,347	c 44	N78-15560 *	US-PATENT-4,092,648	c 32	N78-31321 *	US-PATENT-4,129,357	c 74	N79-14891 *
US-PATENT-4,062,650	c 25	N78-15210 *	US-PATENT-4,092,712	c 33	N78-32341 *	US-PATENT-4,130,032	c 37	N79-14383 *
US-PATENT-4,062,996	c 74	N78-15879 *	US-PATENT-4,092,874	c 37	N78-31426 *	US-PATENT-4,130,112	c 52	N79-14751 *
US-PATENT-4,063,088	c 74	N78-15880 *	US-PATENT-4,093,156	c 05	N78-32086 *	US-PATENT-4,130,471	c 25	N79-14169 *
US-PATENT-4,063,092	c 35	N78-15461 *	US-PATENT-4,093,354	c 73	N78-32848 *	US-PATENT-4,130,490	c 33	N79-15245 *
US-PATENT-4,063,282	c 39	N78-16387 *	US-PATENT-4,093,382	c 38	N78-32447 *	US-PATENT-4,130,795	c 35	N79-14349 *
US-PATENT-4,063,814	c 74	N78-17866 *	US-PATENT-4,093,771	c 27	N78-32260 *	US-PATENT-4,131,336	c 44	N79-14529 *
US-PATENT-4,063,981	c 24	N78-17149 *	US-PATENT-4,093,917	c 35	N78-32396 *	US-PATENT-4,131,459	c 27	N79-14213 *
US-PATENT-4,064,566	c 27	N78-17215 *	US-PATENT-4,094,073	c 35	N78-32395 *	US-PATENT-4,131,486	c 44	N79-14528 *
US-PATENT-4,064,642	c 54	N78-17675 *	US-PATENT-4,094,758	c 26	N78-32229 *	US-PATENT-4,132,068	c 07	N79-14097 *
US-PATENT-4,064,692	c 37	N78-17384 *	US-PATENT-4,094,775	c 52	N80-14687 *	US-PATENT-4,132,069	c 07	N79-14096 *
US-PATENT-4,065,053	c 44	N78-17460 *	US-PATENT-4,094,862	c 27	N78-32261 *	US-PATENT-4,132,130	c 44	N79-14527 *
US-PATENT-4,065,202	c 35	N78-17357 *	US-PATENT-4,094,943	c 27	N78-32282 *	US-PATENT-4,132,375	c 08	N79-14108 *
US-PATENT-4,065,340	c 24	N78-17150 *	US-PATENT-4,095,593	c 54	N78-32721 *	US-PATENT-4,132,594	c 52	N79-14749 *
US-PATENT-4,065,345	c 27	N78-17205 *	US-PATENT-4,096,315	c 74	N78-32854 *	US-PATENT-4,132,599	c 52	N79-14750 *
US-PATENT-4,066,039	c 37	N78-17383 *	US-PATENT-4,097,194	c 07	N78-33101 *	US-PATENT-4,132,829	c 27	N79-14214 *
US-PATENT-4,067,015	c 17	N78-17140 *	US-PATENT-4,098,142	c 37	N79-10422 *	US-PATENT-4,132,940	c 35	N79-14348 *
US-PATENT-4,067,043	c 74	N78-17865 *	US-PATENT-4,099,799	c 37	N79-10418 *	US-PATENT-4,132,989	c 32	N79-14268 *
US-PATENT-4,067,653	c 74	N78-17867 *	US-PATENT-4,100,331	c 44	N79-10513 *	US-PATENT-4,133,697	c 44	N79-17314 *
US-PATENT-4,067,742	c 27	N78-17206 *	US-PATENT-4,100,487	c 33	N79-10337 *	US-PATENT-4,133,697	c 44	N80-14474 *
US-PATENT-4,068,469	c 07	N78-17055 *	US-PATENT-4,100,531	c 32	N79-10263 *	US-PATENT-4,133,941	c 44	N79-17313 *
US-PATENT-4,068,470	c 07	N78-17056 *	US-PATENT-4,101,195	c 89	N79-10969 *	US-PATENT-4,133,941	c 25	N82-21268 *
US-PATENT-4,068,495	c 31	N78-17237 *	US-PATENT-4,101,644	c 25	N79-10162 *	US-PATENT-4,134,447	c 31	N79-17029 *
US-PATENT-4,068,763	c 54	N78-17676 *	US-PATENT-4,101,780	c 35	N79-10389 *	US-PATENT-4,134,683	c 43	N79-17288 *
US-PATENT-4,069,028	c 34	N78-17335 *	US-PATENT-4,101,891	c 35	N79-10391 *	US-PATENT-4,134,744	c 35	N79-17192 *
US-PATENT-4,069,212	c 27	N78-17213 *	US-PATENT-4,101,961	c 52	N79-10724 *	US-PATENT-4,134,786	c 85	N79-17747 *
US-PATENT-4,069,478	c 60	N78-17691 *	US-PATENT-4,102,580	c 74	N79-11865 *	US-PATENT-4,135,019	c 24	N79-16915 *
US-PATENT-4,069,661	c 07	N78-18067 *	US-PATENT-4,103,550	c 31	N79-11246 *	US-PATENT-4,135,127	c 33	N79-17133 *
US-PATENT-4,070,574	c 74	N78-18905 *	US-PATENT-4,103,619	c 28	N79-11231 *	US-PATENT-4,135,290	c 44	N79-18444 *
US-PATENT-4,072,532	c 27	N78-19302 *	US-PATENT-4,103,712	c 37	N79-11402 *	US-PATENT-4,135,367	c 44	N79-18443 *
US-PATENT-4,075,057	c 73	N78-19920 *	US-PATENT-4,104,018	c 25	N79-11151 *	US-PATENT-4,135,817	c 35	N79-18296 *
US-PATENT-4,077,231	c 31	N78-25256 *	US-PATENT-4,104,084	c 44	N79-11467 *	US-PATENT-4,135,851	c 37	N79-18318 *
US-PATENT-4,077,678	c 44	N78-24608 *	US-PATENT-4,104,091	c 44	N79-11468 *	US-PATENT-4,135,851	c 37	N80-26658 *
US-PATENT-4,077,788	c 28	N78-24365 *	US-PATENT-4,104,134	c 44	N79-11469 *	US-PATENT-4,135,851	c 37	N82-19540 *
US-PATENT-4,077,788	c 28	N81-14103 *	US-PATENT-4,104,134	c 44	N80-16452 *	US-PATENT-4,136,211	c 24	N79-17916 *
US-PATENT-4,077,813	c 26	N78-24333 *	US-PATENT-4,104,873	c 37	N79-11403 *	US-PATENT-4,137,010	c 05	N79-17847 *
US-PATENT-4,077,818	c 44	N78-24609 *	US-PATENT-4,105,261	c 37	N79-11404 *	US-PATENT-4,137,365	c 27	N79-18052 *
US-PATENT-4,077,921	c 24	N78-24290 *	US-PATENT-4,105,517	c 44	N79-11470 *	US-PATENT-4,139,291	c 74	N79-20856 *
US-PATENT-4,078,110	c 34	N78-25350 *	US-PATENT-4,105,966	c 33	N79-11315 *	US-PATENT-4,139,806	c 71	N79-20827 *
US-PATENT-4,078,175	c 76	N78-24950 *	US-PATENT-4,106,218	c 74	N79-13855 *	US-PATENT-4,139,839	c 60	N79-20751 *
US-PATENT-4,078,290	c 37	N78-24544 *	US-PATENT-4,106,587	c 71	N79-14871 *	US-PATENT-4,139,862	c 32	N79-20297 *
US-PATENT-4,078,378	c 37	N78-24545 *	US-PATENT-4,106,687	c 37	N79-13364 *	US-PATENT-4,140,972	c 32	N79-20296 *
US-PATENT-4,079,268	c 32	N78-24391 *	US-PATENT-4,107,363	c 33	N79-12331 *	US-PATENT-4,141,219	c 34	N79-20335 *
US-PATENT-4,080,901	c 20	N78-24275 *	US-PATENT-4,107,627	c 72	N79-13826 *	US-PATENT-4,141,224	c 34	N79-20336 *



US-PATENT-4,141,259	c 37	N79-20377 *	US-PATENT-4,181,589	c 51	N80-16715 *	US-PATENT-4,215,327	c 32	N80-32605 *
US-PATENT-4,142,101	c 74	N79-20857 *	US-PATENT-4,182,158	c 35	N80-18358 *	US-PATENT-4,215,345	c 04	N80-32359 *
US-PATENT-4,142,119	c 33	N79-20314 *	US-PATENT-4,183,217	c 20	N80-18097 *	US-PATENT-4,215,548	c 37	N80-31790 *
US-PATENT-4,143,314	c 20	N79-20179 *	US-PATENT-4,184,072	c 44	N80-18552 *	US-PATENT-4,215,590	c 37	N80-32717 *
US-PATENT-4,145,058	c 37	N79-22475 *	US-PATENT-4,184,111	c 44	N80-18551 *	US-PATENT-4,215,592	c 37	N80-32716 *
US-PATENT-4,145,255	c 25	N79-22235 *	US-PATENT-4,184,149	c 06	N80-18036 *	US-PATENT-4,216,186	c 76	N80-32244 *
US-PATENT-4,145,524	c 27	N79-22300 *	US-PATENT-4,184,155	c 43	N80-18498 *	US-PATENT-4,216,542	c 33	N81-15192 *
US-PATENT-4,145,933	c 39	N79-22537 *	US-PATENT-4,184,327	c 07	N80-18039 *	US-PATENT-4,217,165	c 76	N80-32245 *
US-PATENT-4,146,180	c 37	N79-22474 *	US-PATENT-4,184,368	c 48	N80-18667 *	US-PATENT-4,217,633	c 44	N81-12542 *
US-PATENT-4,146,367	c 25	N81-33246 *	US-PATENT-4,184,472	c 76	N80-18951 *	US-PATENT-4,218,280	c 27	N80-32516 *
US-PATENT-4,146,409	c 26	N79-22271 *	US-PATENT-4,184,491	c 52	N80-18690 *	US-PATENT-4,218,833	c 72	N80-33186 *
US-PATENT-4,148,031	c 32	N79-24210 *	US-PATENT-4,184,609	c 37	N80-18393 *	US-PATENT-4,218,850	c 33	N80-32650 *
US-PATENT-4,148,295	c 44	N79-23481 *	US-PATENT-4,184,903	c 44	N80-18550 *	US-PATENT-4,218,682	c 32	N80-32604 *
US-PATENT-4,148,375	c 46	N79-22679 *	US-PATENT-4,185,164	c 33	N80-18286 *	US-PATENT-4,218,685	c 32	N81-14187 *
US-PATENT-4,148,452	c 08	N79-23097 *	US-PATENT-4,185,493	c 35	N80-18357 *	US-PATENT-4,218,892	c 35	N81-14287 *
US-PATENT-4,148,962	c 24	N79-24062 *	US-PATENT-4,186,347	c 32	N80-18253 *	US-PATENT-4,218,921	c 71	N81-15767 *
US-PATENT-4,149,034	c 71	N79-23753 *	US-PATENT-4,186,749	c 52	N80-18691 *	US-PATENT-4,218,941	c 37	N81-14319 *
US-PATENT-4,149,233	c 33	N79-24257 *	US-PATENT-4,187,394	c 32	N80-18252 *	US-PATENT-4,219,027	c 52	N81-14612 *
US-PATENT-4,149,278	c 54	N79-24652 *	US-PATENT-4,187,416	c 33	N80-18285 *	US-PATENT-4,219,084	c 31	N81-14137 *
US-PATENT-4,149,423	c 32	N79-24203 *	US-PATENT-4,187,470	c 36	N80-18372 *	US-PATENT-4,219,107	c 37	N81-15364 *
US-PATENT-4,149,521	c 44	N79-24433 *	US-PATENT-4,187,506	c 33	N80-18287 *	US-PATENT-4,219,171	c 37	N81-14320 *
US-PATENT-4,149,665	c 44	N79-24431 *	US-PATENT-4,188,368	c 31	N80-18231 *	US-PATENT-4,219,203	c 37	N81-15363 *
US-PATENT-4,149,817	c 44	N79-24432 *	US-PATENT-4,188,823	c 02	N80-20224 *	US-PATENT-4,219,926	c 44	N81-14389 *
US-PATENT-4,149,938	c 25	N79-24073 *	US-PATENT-4,189,234	c 74	N80-21138 *	US-PATENT-4,220,171	c 07	N81-14999 *
US-PATENT-4,150,425	c 33	N79-24254 *	US-PATENT-4,189,675	c 32	N80-20448 *	US-PATENT-4,221,005	c 32	N81-15179 *
US-PATENT-4,151,086	c 34	N79-24285 *	US-PATENT-4,189,914	c 07	N81-29129 *	US-PATENT-4,222,098	c 33	N81-14220 *
US-PATENT-4,151,456	c 33	N79-23345 *	US-PATENT-4,190,060	c 52	N81-29763 *	US-PATENT-4,225,102	c 02	N81-14968 *
US-PATENT-4,151,612	c 54	N79-24651 *	US-PATENT-4,190,626	c 24	N81-29163 *	US-PATENT-4,225,372	c 27	N81-14077 *
US-PATENT-4,151,800	c 24	N79-25142 *	US-PATENT-4,191,159	c 37	N80-29703 *	US-PATENT-4,226,475	c 43	N81-26509 *
US-PATENT-4,152,194	c 76	N79-23798 *	US-PATENT-4,191,505	c 44	N80-21828 *	US-PATENT-4,227,096	c 33	N81-17348 *
US-PATENT-4,153,134	c 46	N79-23555 *	US-PATENT-4,191,893	c 44	N80-29834 *	US-PATENT-4,228,422	c 33	N81-14221 *
US-PATENT-4,153,476	c 44	N79-25482 *	US-PATENT-4,192,290	c 44	N80-20810 *	US-PATENT-4,228,656	c 37	N81-14318 *
US-PATENT-4,153,818	c 32	N79-23310 *	US-PATENT-4,192,910	c 33	N80-20487 *	US-PATENT-4,229,182	c 28	N81-15119 *
US-PATENT-4,154,084	c 43	N79-25443 *	US-PATENT-4,192,910	c 44	N81-29524 *	US-PATENT-4,229,196	c 28	N81-14103 *
US-PATENT-4,154,228	c 52	N79-27836 *	US-PATENT-4,192,994	c 74	N80-21140 *	US-PATENT-4,229,473	c 24	N81-14000 *
US-PATENT-4,154,230	c 52	N79-26771 *	US-PATENT-4,193,388	c 44	N80-20808 *	US-PATENT-4,229,473	c 24	N81-33235 *
US-PATENT-4,154,256	c 05	N79-24976 *	US-PATENT-4,193,435	c 37	N80-23653 *	US-PATENT-4,230,717	c 52	N81-14613 *
US-PATENT-4,154,501	c 33	N81-29342 *	US-PATENT-4,193,570	c 35	N80-21719 *	US-PATENT-4,233,258	c 27	N81-14078 *
US-PATENT-4,154,912	c 44	N79-25481 *	US-PATENT-4,193,693	c 35	N80-20563 *	US-PATENT-4,233,606	c 32	N81-14185 *
US-PATENT-4,155,475	c 24	N79-25143 *	US-PATENT-4,193,827	c 28	N80-20402 *	US-PATENT-4,234,258	c 25	N81-14015 *
US-PATENT-4,156,309	c 44	N79-26475 *	US-PATENT-4,193,827	c 28	N81-14103 *	US-PATENT-4,234,715	c 25	N81-14016 *
US-PATENT-4,156,548	c 35	N79-26372 *	US-PATENT-4,194,115	c 25	N80-20334 *	US-PATENT-4,234,971	c 32	N81-14186 *
US-PATENT-4,156,752	c 15	N79-26100 *	US-PATENT-4,195,244	c 35	N80-20559 *	US-PATENT-4,235,060	c 37	N81-14317 *
US-PATENT-4,156,971	c 43	N79-26439 *	US-PATENT-4,195,279	c 35	N80-20560 *	US-PATENT-4,236,383	c 44	N81-17518 *
US-PATENT-4,157,655	c 43	N80-14423 *	US-PATENT-4,195,512	c 43	N80-23711 *	US-PATENT-4,236,684	c 08	N81-19130 *
US-PATENT-4,157,718	c 52	N80-14684 *	US-PATENT-4,195,666	c 37	N80-23654 *	US-PATENT-4,237,662	c 31	N81-27323 *
US-PATENT-4,158,583	c 28	N79-28342 *	US-PATENT-4,196,129	c 27	N80-32515 *	US-PATENT-4,238,911	c 31	N81-27324 *
US-PATENT-4,158,742	c 12	N79-26075 *	US-PATENT-4,196,619	c 46	N80-24906 *	US-PATENT-4,239,057	c 37	N81-17433 *
US-PATENT-4,158,775	c 72	N80-14877 *	US-PATENT-4,196,840	c 37	N80-23655 *	US-PATENT-4,240,256	c 37	N81-17432 *
US-PATENT-4,158,895	c 52	N79-26772 *	US-PATENT-4,197,530	c 33	N80-23559 *	US-PATENT-4,240,290	c 06	N81-17057 *
US-PATENT-4,159,262	c 27	N79-28307 *	US-PATENT-4,198,209	c 28	N80-23471 *	US-PATENT-4,240,601	c 43	N81-17499 *
US-PATENT-4,159,366	c 44	N79-26474 *	US-PATENT-4,198,232	c 26	N80-23419 *	US-PATENT-4,241,308	c 33	N81-17349 *
US-PATENT-4,159,634	c 37	N79-28550 *	US-PATENT-4,198,788	c 74	N80-24149 *	US-PATENT-4,241,312	c 35	N81-19427 *
US-PATENT-4,160,254	c 33	N79-28416 *	US-PATENT-4,198,792	c 25	N80-23383 *	US-PATENT-4,242,498	c 27	N81-17259 *
US-PATENT-4,160,508	c 37	N79-28551 *	US-PATENT-4,198,988	c 52	N80-23969 *	US-PATENT-4,242,553	c 33	N81-19389 *
US-PATENT-4,160,601	c 35	N79-28527 *	US-PATENT-4,199,448	c 27	N80-23452 *	US-PATENT-4,242,864	c 07	N81-19116 *
US-PATENT-4,161,661	c 33	N79-28415 *	US-PATENT-4,199,650	c 27	N80-24437 *	US-PATENT-4,243,323	c 74	N81-17888 *
US-PATENT-4,161,731	c 31	N79-28370 *	US-PATENT-4,199,764	c 32	N80-23524 *	US-PATENT-4,243,327	c 74	N81-17887 *
US-PATENT-4,161,747	c 37	N79-28549 *	US-PATENT-4,199,937	c 34	N80-24573 *	US-PATENT-4,244,215	c 04	N81-21047 *
US-PATENT-4,162,169	c 24	N79-31347 *	US-PATENT-4,199,937	c 44	N81-24519 *	US-PATENT-4,244,810	c 09	N82-29330 *
US-PATENT-4,162,701	c 34	N79-31523 *	US-PATENT-4,200,721	c 37	N80-24438 *	US-PATENT-4,244,853	c 27	N81-19296 *
US-PATENT-4,162,928	c 44	N79-31753 *	US-PATENT-4,201,468	c 32	N80-24510 *	US-PATENT-4,244,857	c 27	N81-17260 *
US-PATENT-4,163,678	c 44	N79-31752 *	US-PATENT-4,203,723	c 27	N80-26446 *	US-PATENT-4,245,085	c 27	N81-17262 *
US-PATENT-4,164,079	c 09	N79-31228 *	US-PATENT-4,204,037	c 51	N80-27067 *	US-PATENT-4,245,286	c 33	N81-19392 *
US-PATENT-4,164,718	c 32	N80-14281 *	US-PATENT-4,204,154	c 33	N80-26599 *	US-PATENT-4,245,288	c 33	N81-19393 *
US-PATENT-4,165,460	c 43	N79-31706 *	US-PATENT-4,204,402	c 07	N80-26298 *	US-PATENT-4,245,469	c 44	N81-24519 *
US-PATENT-4,166,170	c 27	N79-33316 *	US-PATENT-4,204,544	c 52	N80-27072 *	US-PATENT-4,245,566	c 31	N81-19343 *
US-PATENT-4,166,170	c 27	N81-14078 *	US-PATENT-4,204,899	c 24	N80-26388 *	US-PATENT-4,245,768	c 37	N81-19455 *
US-PATENT-4,166,959	c 74	N79-34011 *	US-PATENT-4,205,229	c 35	N80-26635 *	US-PATENT-4,245,956	c 05	N81-19087 *
US-PATENT-4,167,111	c 46	N80-10709 *	US-PATENT-4,206,383	c 72	N80-27163 *	US-PATENT-4,246,001	c 27	N81-17261 *
US-PATENT-4,168,287	c 27	N80-10358 *	US-PATENT-4,206,713	c 31	N81-15154 *	US-PATENT-4,246,901	c 52	N81-24711 *
US-PATENT-4,168,483	c 39	N80-10507 *	US-PATENT-4,206,970	c 74	N80-27185 *	US-PATENT-4,247,434	c 25	N81-19242 *
US-PATENT-4,168,706	c 54	N80-10799 *	US-PATENT-4,207,024	c 37	N80-26658 *	US-PATENT-4,248,083	c 35	N81-19426 *
US-PATENT-4,168,718	c 20	N80-10278 *	US-PATENT-4,207,024	c 37	N82-19540 *	US-PATENT-4,249,116	c 33	N81-20352 *
US-PATENT-4,168,939	c 05	N80-14107 *	US-PATENT-4,209,393	c 45	N82-11634 *	US-PATENT-4,249,238	c 07	N81-19115 *
US-PATENT-4,169,129	c 37	N80-10494 *	US-PATENT-4,209,561	c 24	N81-13999 *	US-PATENT-4,249,417	c 52	N81-20703 *
US-PATENT-4,170,776	c 46	N80-14603 *	US-PATENT-4,210,278	c 31	N80-32583 *	US-PATENT-4,249,957	c 44	N81-19558 *
US-PATENT-4,170,987	c 52	N81-27783 *	US-PATENT-4,210,401	c 35	N80-28687 *	US-PATENT-4,250,143	c 54	N81-24724 *
US-PATENT-4,171,615	c 20	N80-14188 *	US-PATENT-4,210,474	c 28	N80-28536 *	US-PATENT-4,252,007	c 33	N81-25299 *
US-PATENT-4,171,645	c 35	N80-14371 *	US-PATENT-4,210,622	c 44	N80-24741 *	US-PATENT-4,252,111	c 52	N81-25661 *
US-PATENT-4,172,228	c 33	N80-14332 *	US-PATENT-4,211,354	c 24	N81-17170 *	US-PATENT-4,252,440	c 39	N81-25400 *
US-PATENT-4,172,786	c 45	N80-14579 *	US-PATENT-4,211,354	c 24	N81-26179 *	US-PATENT-4,252,768	c 37	N81-25371 *
US-PATENT-4,172,883	c 26	N80-14229 *	US-PATENT-4,212,199	c 02	N80-28300 *	US-PATENT-4,253,156	c 34	N81-26402 *
US-PATENT-4,173,001	c 36	N80-14384 *	US-PATENT-4,212,297	c 51	N81-14605 *	US-PATENT-4,253,769	c 25	N81-25159 *
US-PATENT-4,173,324	c 37	N80-14398 *	US-PATENT-4,212,477	c 37	N80-28711 *	US-PATENT-4,254,464	c 62	N81-24779 *
US-PATENT-4,173,397	c 44	N80-14473 *	US-PATENT-4,212,690	c 37	N81-26447 *	US-PATENT-4,255,048	c 36	N81-24422 *
US-PATENT-4,173,820	c 44	N80-14474 *	US-PATENT-4,212,690	c 26	N80-28492 *	US-PATENT-4,255,495	c 26	N81-25188 *
US-PATENT-4,175,249	c 44	N80-14472 *	US-PATENT-4,213,051	c 35	N80-28686 *	US-PATENT-4,255,929	c 37	N81-25370 *
US-PATENT-4,176,007	c 51	N80-16714 *	US-PATENT-4,213,064	c 60	N81-15706 *	US-PATENT-4,256,093	c 52	N81-25660 *
US-PATENT-4,176,360	c 18	N80-14183 *	US-PATENT-4,213,131	c 32	N80-28578 *	US-PATENT-4,256,366	c 32	N81-25278 *
US-PATENT-4,176,662	c 52	N80-16725 *	US-PATENT-4,213,684	c 74	N81-17886 *	US-PATENT-4,259,821	c 31	N81-25258 *
US-PATENT-4,176,950	c 36	N80-16321 *	US-PATENT-4,214,226	c 31	N80-32584 *	US-PATENT-4,259,825	c 31	N81-25259 *
US-PATENT-4,177,325	c 44	N80-16452 *	US-PATENT-4,214,703	c 07	N80-32392 *	US-PATENT-4,260,166	c 37	N81-24442 *
US-PATENT-4,177,333	c 25	N80-16116 *	US-PATENT-4,214,902	c 26	N80-32484 *	US-PATENT-4,260,187	c 37	N81-27519 *
US-PATENT-4,178,100	c 35	N80-18359 *	US-PATENT-4,214,905	c 24	N80-33482 *	US-PATENT-4,261,349	c 52	N81-25662 *
US-PATENT-4,180,648	c 27	N80-16158 *	US-PATENT-4,215,273	c 74	N80-33210 *	US-PATENT-4,261,537	c 08	N81-24106 *

US-PATENT-4,262,064	c 44	N81-24521 *	US-PATENT-4,300,159	c 43	N82-13465 *	US-PATENT-4,346,715	c 52	N82-33996 *
US-PATENT-4,262,067	c 27	N81-24257 *	US-PATENT-4,300,656	c 71	N82-16800 *	US-PATENT-4,346,754	c 34	N83-34221 *
US-PATENT-4,262,080	c 27	N81-25209 *	US-PATENT-4,300,723	c 34	N82-13376 *	US-PATENT-4,346,990	c 36	N82-32712 *
US-PATENT-4,262,195	c 44	N81-24520 *	US-PATENT-4,301,740	c 37	N82-21587 *	US-PATENT-4,347,613	c 36	N83-10417 *
US-PATENT-4,262,198	c 74	N83-19597 *	US-PATENT-4,302,223	c 25	N82-21269 *	US-PATENT-4,349,424	c 24	N83-10117 *
US-PATENT-4,262,206	c 74	N81-24900 *	US-PATENT-4,302,734	c 33	N82-16340 *	US-PATENT-4,349,424	c 70	N84-28565 *
US-PATENT-4,262,258	c 33	N81-27396 *	US-PATENT-4,303,981	c 28	N82-18401 *	US-PATENT-4,349,429	c 25	N83-10126 *
US-PATENT-4,262,259	c 33	N81-24338 *	US-PATENT-4,304,219	c 44	N82-18686 *	US-PATENT-4,349,954	c 26	N83-10170 *
US-PATENT-4,263,112	c 28	N81-24280 *	US-PATENT-4,304,320	c 37	N82-18601 *	US-PATENT-4,350,410	c 74	N83-10900 *
US-PATENT-4,264,310	c 54	N81-27806 *	US-PATENT-4,305,205	c 37	N82-26672 *	US-PATENT-4,350,574	c 44	N83-10494 *
US-PATENT-4,264,728	c 51	N81-28698 *	US-PATENT-4,307,024	c 25	N82-24312 *	US-PATENT-4,351,022	c 33	N83-10345 *
US-PATENT-4,264,802	c 35	N81-26431 *	US-PATENT-4,307,510	c 60	N82-24839 *	US-PATENT-4,355,311	c 32	N83-31918 *
US-PATENT-4,264,908	c 33	N81-26358 *	US-PATENT-4,307,575	c 44	N82-26776 *	US-PATENT-4,355,870	c 74	N83-13978 *
US-PATENT-4,264,940	c 33	N81-27397 *	US-PATENT-4,307,856	c 05	N82-26277 *	US-PATENT-4,355,896	c 47	N83-32232 *
US-PATENT-4,264,984	c 60	N81-27814 *	US-PATENT-4,308,309	c 27	N82-24339 *	US-PATENT-4,357,402	c 25	N83-13188 *
US-PATENT-4,265,416	c 14	N81-26161 *	US-PATENT-4,308,868	c 52	N82-29863 *	US-PATENT-4,358,358	c 25	N83-13187 *
US-PATENT-4,265,177	c 33	N81-27395 *	US-PATENT-4,309,039	c 37	N82-24490 *	US-PATENT-4,358,480	c 24	N83-13172 *
US-PATENT-4,266,743	c 08	N81-26152 *	US-PATENT-4,309,146	c 44	N82-24639 *	US-PATENT-4,358,486	c 24	N83-13171 *
US-PATENT-4,266,788	c 37	N81-26447 *	US-PATENT-4,309,372	c 25	N82-21268 *	US-PATENT-4,358,732	c 33	N83-18996 *
US-PATENT-4,267,594	c 33	N81-26359 *	US-PATENT-4,310,049	c 25	N82-23282 *	US-PATENT-4,358,846	c 32	N83-13323 *
US-PATENT-4,267,953	c 24	N81-26179 *	US-PATENT-4,310,132	c 24	N82-26384 *	US-PATENT-4,360,325	c 44	N83-14693 *
US-PATENT-4,267,992	c 37	N81-24443 *	US-PATENT-4,310,574	c 27	N82-28441 *	US-PATENT-4,360,701	c 44	N83-14692 *
US-PATENT-4,269,640	c 37	N82-24491 *	US-PATENT-4,310,906	c 33	N82-26572 *	US-PATENT-4,362,361	c 74	N83-17305 *
US-PATENT-4,269,787	c 27	N81-24256 *	US-PATENT-4,311,055	c 54	N82-26987 *	US-PATENT-4,362,769	c 27	N83-34039 *
US-PATENT-4,270,539	c 52	N81-28740 *	US-PATENT-4,311,057	c 37	N82-24493 *	US-PATENT-4,363,188	c 51	N83-17045 *
US-PATENT-4,270,984	c 44	N81-29524 *	US-PATENT-4,311,378	c 35	N82-26628 *	US-PATENT-4,363,237	c 71	N83-17235 *
US-PATENT-4,271,761	c 15	N82-24272 *	US-PATENT-4,311,615	c 25	N82-26396 *	US-PATENT-4,363,242	c 33	N83-16626 *
US-PATENT-4,272,046	c 08	N82-24205 *	US-PATENT-4,311,870	c 44	N82-26777 *	US-PATENT-4,366,680	c 31	N83-31897 *
US-PATENT-4,272,302	c 33	N81-26360 *	US-PATENT-4,312,292	c 37	N82-24492 *	US-PATENT-4,370,750	c 34	N83-19015 *
US-PATENT-4,272,470	c 23	N81-29160 *	US-PATENT-4,313,077	c 33	N82-26569 *	US-PATENT-4,371,301	c 37	N83-19091 *
US-PATENT-4,272,720	c 47	N82-24779 *	US-PATENT-4,313,103	c 33	N82-26570 *	US-PATENT-4,371,596	c 44	N83-32176 *
US-PATENT-4,273,304	c 05	N81-26114 *	US-PATENT-4,313,291	c 09	N82-29330 *	US-PATENT-4,371,873	c 32	N83-19968 *
US-PATENT-4,273,505	c 54	N81-26718 *	US-PATENT-4,313,726	c 09	N82-24212 *	US-PATENT-4,371,946	c 32	N83-18975 *
US-PATENT-4,273,918	c 27	N82-24338 *	US-PATENT-4,313,745	c 27	N82-28442 *	US-PATENT-4,372,110	c 07	N83-33884 *
US-PATENT-4,274,038	c 37	N81-33483 *	US-PATENT-4,313,777	c 33	N82-26571 *	US-PATENT-4,372,158	c 44	N83-21503 *
US-PATENT-4,274,285	c 35	N81-29407 *	US-PATENT-4,314,984	c 25	N82-28368 *	US-PATENT-4,372,159	c 44	N83-21504 *
US-PATENT-4,274,901	c 24	N81-33235 *	US-PATENT-4,315,194	c 33	N82-26568 *	US-PATENT-4,372,377	c 74	N83-19596 *
US-PATENT-4,275,317	c 33	N82-24418 *	US-PATENT-4,315,197	c 33	N82-24421 *	US-PATENT-4,372,680	c 35	N83-21311 *
US-PATENT-4,275,453	c 33	N82-24417 *	US-PATENT-4,315,266	c 32	N82-27558 *	US-PATENT-4,373,003	c 27	N83-18908 *
US-PATENT-4,276,344	c 27	N81-27272 *	US-PATENT-4,316,035	c 23	N82-28353 *	US-PATENT-4,373,039	c 27	N83-19900 *
US-PATENT-4,276,344	c 27	N85-21347 *	US-PATENT-4,317,102	c 35	N82-24470 *	US-PATENT-4,373,142	c 44	N83-32175 *
US-PATENT-4,276,403	c 27	N81-27271 *	US-PATENT-4,319,133	c 33	N82-28545 *	US-PATENT-4,373,989	c 76	N83-20789 *
US-PATENT-4,276,553	c 32	N81-27341 *	US-PATENT-4,320,290	c 74	N82-24072 *	US-PATENT-4,374,183	c 26	N83-31795 *
US-PATENT-4,276,588	c 33	N81-33404 *	US-PATENT-4,320,397	c 32	N82-23376 *	US-PATENT-4,374,378	c 35	N83-34272 *
US-PATENT-4,277,402	c 23	N82-16174 *	US-PATENT-4,320,911	c 37	N82-24494 *	US-PATENT-4,375,281	c 05	N83-19737 *
US-PATENT-4,277,721	c 33	N82-24415 *	US-PATENT-4,321,099	c 44	N82-28780 *	US-PATENT-4,375,396	c 31	N83-19947 *
US-PATENT-4,278,220	c 07	N82-26293 *	US-PATENT-4,321,572	c 33	N82-24422 *	US-PATENT-4,375,536	c 27	N83-34040 *
US-PATENT-4,278,351	c 74	N81-29963 *	US-PATENT-4,325,001	c 35	N82-24471 *	US-PATENT-4,375,674	c 39	N83-20280 *
US-PATENT-4,278,830	c 44	N81-29525 *	US-PATENT-4,325,707	c 25	N82-29371 *	US-PATENT-4,376,637	c 35	N84-17555 *
US-PATENT-4,278,830	c 44	N82-28780 *	US-PATENT-4,326,381	c 44	N82-24640 *	US-PATENT-4,376,872	c 44	N83-32177 *
US-PATENT-4,278,978	c 32	N81-29308 *	US-PATENT-4,326,685	c 04	N82-23231 *	US-PATENT-4,377,089	c 35	N83-21312 *
US-PATENT-4,279,018	c 33	N81-33405 *	US-PATENT-4,327,150	c 27	N82-24340 *	US-PATENT-4,377,169	c 52	N83-21785 *
US-PATENT-4,279,001	c 33	N82-24416 *	US-PATENT-4,327,437	c 60	N82-29013 *	US-PATENT-4,377,266	c 07	N83-20944 *
US-PATENT-4,279,632	c 31	N81-33319 *	US-PATENT-4,327,581	c 09	N82-23254 *	US-PATENT-4,377,343	c 74	N83-21949 *
US-PATENT-4,279,906	c 52	N81-29764 *	US-PATENT-4,328,464	c 36	N82-28616 *	US-PATENT-4,377,371	c 18	N83-20996 *
US-PATENT-4,280,141	c 33	N81-33403 *	US-PATENT-4,329,114	c 07	N82-32366 *	US-PATENT-4,377,371	c 37	N84-22957 *
US-PATENT-4,280,689	c 37	N81-33482 *	US-PATENT-4,329,385	c 27	N82-28440 *	US-PATENT-4,377,949	c 45	N83-25217 *
US-PATENT-4,280,766	c 35	N81-33448 *	US-PATENT-4,330,100	c 05	N82-28279 *	US-PATENT-4,378,209	c 35	N83-24828 *
US-PATENT-4,281,102	c 27	N81-29229 *	US-PATENT-4,330,359	c 76	N82-30105 *	US-PATENT-4,378,813	c 52	N83-25346 *
US-PATENT-4,281,384	c 18	N81-29152 *	US-PATENT-4,330,572	c 27	N82-33520 *	US-PATENT-4,379,970	c 33	N83-24763 *
US-PATENT-4,281,708	c 33	N82-24419 *	US-PATENT-4,331,422	c 52	N82-29862 *	US-PATENT-4,380,046	c 60	N83-25378 *
US-PATENT-4,282,479	c 33	N82-24420 *	US-PATENT-4,331,742	c 44	N82-29710 *	US-PATENT-4,381,174	c 37	N83-26078 *
US-PATENT-4,282,525	c 46	N82-12685 *	US-PATENT-4,331,746	c 44	N82-29708 *	US-PATENT-4,381,333	c 44	N83-34448 *
US-PATENT-4,282,752	c 44	N82-16474 *	US-PATENT-4,331,873	c 44	N82-32841 *	US-PATENT-4,381,375	c 37	N83-34323 *
US-PATENT-4,283,705	c 06	N82-16075 *	US-PATENT-4,331,956	c 33	N82-29538 *	US-PATENT-4,381,583	c 31	N83-31895 *
US-PATENT-4,283,995	c 37	N81-32510 *	US-PATENT-4,332,441	c 36	N82-29589 *	US-PATENT-4,381,881	c 74	N83-29032 *
US-PATENT-4,284,034	c 51	N81-32829 *	US-PATENT-4,335,190	c 27	N83-31855 *	US-PATENT-4,382,116	c 44	N83-27344 *
US-PATENT-4,284,461	c 27	N82-11206 *	US-PATENT-4,335,196	c 44	N83-13579 *	US-PATENT-4,382,224	c 33	N83-27126 *
US-PATENT-4,284,682	c 28	N82-16238 *	US-PATENT-4,335,206	c 35	N82-28604 *	US-PATENT-4,382,239	c 32	N83-27085 *
US-PATENT-4,286,209	c 35	N82-11431 *	US-PATENT-4,335,503	c 44	N82-29709 *	US-PATENT-4,383,171	c 35	N83-27184 *
US-PATENT-4,286,460	c 09	N82-11088 *	US-PATENT-4,336,117	c 26	N82-29415 *	US-PATENT-4,383,533	c 52	N83-27578 *
US-PATENT-4,286,542	c 37	N82-12441 *	US-PATENT-4,336,276	c 27	N82-29453 *	US-PATENT-4,383,785	c 31	N83-27058 *
US-PATENT-4,287,152	c 35	N82-11432 *	US-PATENT-4,336,616	c 33	N82-29539 *	US-PATENT-4,384,578	c 52	N83-27577 *
US-PATENT-4,287,518	c 32	N82-11336 *	US-PATENT-4,338,061	c 07	N83-31603 *	US-PATENT-4,384,823	c 34	N83-27144 *
US-PATENT-4,287,578	c 32	N82-18443 *	US-PATENT-4,338,368	c 27	N82-29456 *	US-PATENT-4,385,043	c 24	N83-25789 *
US-PATENT-4,287,606	c 74	N82-19029 *	US-PATENT-4,338,371	c 24	N82-29362 *	US-PATENT-4,385,113	c 51	N83-27569 *
US-PATENT-4,287,838	c 25	N82-11144 *	US-PATENT-4,338,371	c 54	N84-11758 *	US-PATENT-4,385,949	c 31	N83-34073 *
US-PATENT-4,288,585	c 27	N82-18389 *	US-PATENT-4,338,516	c 74	N82-30071 *	US-PATENT-4,386,157	c 51	N83-28849 *
US-PATENT-4,288,982	c 20	N82-18314 *	US-PATENT-4,338,568	c 33	N83-31954 *	US-PATENT-4,386,750	c 18	N83-28064 *
US-PATENT-4,290,612	c 37	N82-16408 *	US-PATENT-4,340,318	c 37	N82-32732 *	US-PATENT-4,387,513	c 06	N83-33882 *
US-PATENT-4,290,779	c 44	N82-16475 *	US-PATENT-4,340,425	c 26	N82-31505 *	US-PATENT-4,387,935	c 37	N83-32067 *
US-PATENT-4,291,294	c 04	N82-16059 *	US-PATENT-4,341,012	c 35	N82-31659 *	US-PATENT-4,388,171	c 23	N84-16255 *
US-PATENT-4,291,887	c 37	N82-12442 *	US-PATENT-4,341,843	c 26	N82-30371 *	US-PATENT-4,388,346	c 33	N84-16456 *
US-PATENT-4,292,375	c 24	N82-24296 *	US-PATENT-4,341,918	c 44	N82-31764 *	US-PATENT-4,388,502	c 05	N83-27975 *
US-PATENT-4,292,634	c 32	N82-12297 *	US-PATENT-4,341,925	c 32	N82-31583 *	US-PATENT-4,388,542	c 44	N83-28573 *
US-PATENT-4,293,522	c 25	N82-12166 *	US-PATENT-4,343,287	c 37	N82-32730 *	US-PATENT-4,388,585	c 33	N83-28319 *
US-PATENT-4,294,261	c 52	N82-11770 *	US-PATENT-4,343,447	c 08	N82-32373 *	US-PATENT-4,388,585	c 33	N84-33660 *
US-PATENT-4,294,264	c 52	N82-22875 *	US-PATENT-4,343,506	c 85	N82-33288 *	US-PATENT-4,388,965	c 34	N83-28356 *
US-PATENT-4,295,111	c 33	N82-11357 *	US-PATENT-4,343,584	c 37	N82-32731 *	US-PATENT-4,389,504	c 27	N83-28240 *
US-PATENT-4,295,140	c 35	N82-15381 *	US-PATENT-4,343,772	c 44	N83-10501 *	US-PATENT-4,389,504	c 27	N85-21349 *
US-PATENT-4,295,786	c 37	N82-19540 *	US-PATENT-4,344,591	c 24	N82-32417 *	US-PATENT-4,389,849	c 44	N83-28574 *
US-PATENT-4,298,833	c 33	N82-18493 *	US-PATENT-4,344,787	c 31	N83-31896 *	US-PATENT-4,389,904	c 35	N83-29650 *
US-PATENT-4,298,926	c 33	N82-18494 *	US-PATENT-4,344,996	c 27	N82-33521 *	US-PATENT-4,391,129	c 34	N83-31993 *
US-PATENT-4,298,987	c 60	N82-16747 *	US-PATENT-4,345,153	c 35	N82-32659 *	US-PATENT-4,391,423	c 18	N83-29303 *
US-PATENT-4,299,492	c 36	N82-16396 *	US-PATENT-4,346,595	c 06	N83-10040 *	US-PATENT-4,391,514	c 36	N83-34304 *
US-PATENT-4,300,106	c 36	N82-13415 *	US-PATENT-4,346,595	c 06	N84-34443 *	US-PATENT-4,391,518	c 36	N83-29680 *

US-PATENT-4,391,609	c 25	N83-31743 *	US-PATENT-4,425,808	c 35	N85-21598 *	US-PATENT-4,472,716	c 35	N84-33769 *
US-PATENT-4,392,356	c 34	N83-29625 *	US-PATENT-4,425,854	c 25	N84-16276 *	US-PATENT-4,472,728	c 35	N84-33765 *
US-PATENT-4,392,749	c 35	N83-29651 *	US-PATENT-4,426,614	c 33	N84-16455 *	US-PATENT-4,473,259	c 37	N85-20337 *
US-PATENT-4,392,874	c 35	N83-29652 *	US-PATENT-4,426,678	c 33	N84-16453 *	US-PATENT-4,473,674	c 24	N84-34571 *
US-PATENT-4,392,920	c 27	N83-29388 *	US-PATENT-4,426,874	c 35	N84-28019 *	US-PATENT-4,473,792	c 33	N84-33660 *
US-PATENT-4,393,039	c 25	N83-29324 *	US-PATENT-4,428,122	c 35	N84-16523 *	US-PATENT-4,474,062	c 06	N84-34443 *
US-PATENT-4,393,706	c 71	N83-32516 *	US-PATENT-4,428,226	c 07	N84-22559 *	US-PATENT-4,474,180	c 52	N84-34913 *
US-PATENT-4,393,708	c 71	N83-32515 *	US-PATENT-4,428,675	c 35	N84-22929 *	US-PATENT-4,474,471	c 35	N84-34705 *
US-PATENT-4,393,716	c 39	N83-32081 *	US-PATENT-4,428,703	c 37	N84-16561 *	US-PATENT-4,474,975	c 25	N85-21280 *
US-PATENT-4,393,777	c 37	N84-12491 *	US-PATENT-4,429,537	c 37	N84-22958 *	US-PATENT-4,475,063	c 33	N85-21491 *
US-PATENT-4,394,610	c 33	N83-31953 *	US-PATENT-4,430,360	c 37	N84-22957 *	US-PATENT-4,475,385	c 09	N84-34448 *
US-PATENT-4,394,726	c 60	N83-32342 *	US-PATENT-4,430,673	c 74	N84-23247 *	US-PATENT-4,475,527	c 37	N85-21650 *
US-PATENT-4,394,819	c 35	N83-32026 *	US-PATENT-4,431,306	c 35	N84-22931 *	US-PATENT-4,475,921	c 71	N85-22104 *
US-PATENT-4,395,123	c 74	N83-32577 *	US-PATENT-4,431,333	c 18	N84-22605 *	US-PATENT-4,478,879	c 44	N85-20530 *
US-PATENT-4,395,503	c 27	N83-34043 *	US-PATENT-4,431,761	c 27	N84-22747 *	US-PATENT-4,479,053	c 74	N85-22139 *
US-PATENT-4,395,511	c 27	N84-14324 *	US-PATENT-4,431,792	c 27	N84-22746 *	US-PATENT-4,479,386	c 27	N85-20126 *
US-PATENT-4,395,540	c 27	N84-22746 *	US-PATENT-4,432,853	c 52	N84-23095 *	US-PATENT-4,479,560	c 35	N85-20294 *
US-PATENT-4,395,540	c 27	N85-20123 *	US-PATENT-4,433,115	c 27	N84-22745 *	US-PATENT-4,481,570	c 60	N85-21992 *
US-PATENT-4,395,557	c 27	N83-31854 *	US-PATENT-4,433,276	c 33	N84-22885 *	US-PATENT-4,482,778	c 44	N85-21768 *
US-PATENT-4,395,557	c 27	N84-22745 *	US-PATENT-4,433,439	c 54	N84-23113 *	US-PATENT-4,482,779	c 33	N85-21492 *
US-PATENT-4,395,557	c 27	N85-21347 *	US-PATENT-4,433,544	c 44	N84-23018 *	US-PATENT-4,483,512	c 37	N85-20338 *
US-PATENT-4,395,656	c 33	N83-31952 *	US-PATENT-4,433,672	c 44	N84-28203 *	US-PATENT-4,483,639	c 37	N85-21649 *
US-PATENT-4,396,918	c 04	N84-27713 *	US-PATENT-4,434,106	c 27	N84-22744 *	US-PATENT-4,483,817	c 25	N85-21279 *
US-PATENT-4,397,716	c 44	N83-34449 *	US-PATENT-4,434,189	c 36	N84-22944 *	US-PATENT-4,485,151	c 24	N85-21266 *
US-PATENT-4,398,021	c 27	N83-34041 *	US-PATENT-4,434,490	c 36	N84-22943 *	US-PATENT-4,485,151	c 24	N85-35233 *
US-PATENT-4,398,021	c 27	N85-20124 *	US-PATENT-4,434,659	c 35	N84-22928 *	US-PATENT-4,485,670	c 34	N85-21568 *
US-PATENT-4,398,129	c 33	N83-34189 *	US-PATENT-4,435,642	c 35	N84-28016 *	US-PATENT-4,485,671	c 35	N85-20295 *
US-PATENT-4,398,412	c 35	N84-28018 *	US-PATENT-4,435,781	c 60	N84-28491 *	US-PATENT-4,485,992	c 08	N85-19985 *
US-PATENT-4,398,667	c 71	N84-14873 *	US-PATENT-4,437,069	c 33	N84-22887 *	US-PATENT-4,488,155	c 33	N85-21493 *
US-PATENT-4,398,925	c 71	N83-35781 *	US-PATENT-4,437,923	c 35	N84-22930 *	US-PATENT-4,488,335	c 27	N85-20125 *
US-PATENT-4,399,415	c 36	N83-35350 *	US-PATENT-4,437,961	c 33	N84-22884 *	US-PATENT-4,488,663	c 35	N85-21595 *
US-PATENT-4,399,515	c 35	N84-14491 *	US-PATENT-4,437,962	c 24	N84-22695 *	US-PATENT-4,489,027	c 27	N85-20124 *
US-PATENT-4,400,191	c 31	N83-35176 *	US-PATENT-4,437,962	c 24	N85-21267 *	US-PATENT-4,489,239	c 36	N85-21631 *
US-PATENT-4,400,642	c 76	N83-34796 *	US-PATENT-4,439,301	c 44	N84-23019 *	US-PATENT-4,489,243	c 44	N85-21769 *
US-PATENT-4,400,657	c 33	N83-34190 *	US-PATENT-4,439,465	c 26	N84-22734 *	US-PATENT-4,489,264	c 33	N85-22877 *
US-PATENT-4,401,505	c 76	N83-35888 *	US-PATENT-4,439,718	c 33	N84-22886 *	US-PATENT-4,490,117	c 09	N85-19990 *
US-PATENT-4,401,934	c 33	N83-35227 *	US-PATENT-4,439,766	c 32	N84-22820 *	US-PATENT-4,490,229	c 31	N85-20153 *
US-PATENT-4,401,953	c 33	N83-34191 *	US-PATENT-4,439,968	c 16	N84-22601 *	US-PATENT-4,491,427	c 37	N85-21651 *
US-PATENT-4,402,221	c 71	N83-36846 *	US-PATENT-4,442,716	c 35	N84-22934 *	US-PATENT-4,493,021	c 32	N85-21428 *
US-PATENT-4,402,358	c 34	N83-35307 *	US-PATENT-4,443,321	c 25	N84-22709 *	US-PATENT-4,493,211	c 09	N85-21178 *
US-PATENT-4,402,447	c 35	N83-35338 *	US-PATENT-4,443,701	c 74	N84-28590 *	US-PATENT-4,493,553	c 36	N85-21639 *
US-PATENT-4,402,992	c 31	N83-35177 *	US-PATENT-4,443,724	c 35	N84-28017 *	US-PATENT-4,495,044	c 24	N85-21267 *
US-PATENT-4,404,469	c 74	N84-11920 *	US-PATENT-4,444,368	c 05	N84-22551 *	US-PATENT-4,495,339	c 25	N85-30039 *
US-PATENT-4,404,793	c 07	N83-36029 *	US-PATENT-4,444,464	c 74	N84-23248 *	US-PATENT-4,495,520	c 32	N85-21427 *
US-PATENT-4,405,184	c 37	N84-12492 *	US-PATENT-4,444,972	c 27	N84-22750 *	US-PATENT-4,496,122	c 05	N85-21147 *
US-PATENT-4,405,197	c 74	N84-11921 *	US-PATENT-4,444,979	c 27	N84-22749 *	US-PATENT-4,496,701	c 27	N85-21347 *
US-PATENT-4,406,256	c 37	N83-36483 *	US-PATENT-4,445,118	c 04	N84-22546 *	US-PATENT-4,497,540	c 74	N85-23396 *
US-PATENT-4,406,797	c 25	N83-36118 *	US-PATENT-4,445,378	c 35	N84-22933 *	US-PATENT-4,497,935	c 27	N85-21349 *
US-PATENT-4,406,989	c 33	N83-36356 *	US-PATENT-4,446,199	c 26	N84-33555 *	US-PATENT-4,497,939	c 27	N85-21351 *
US-PATENT-4,407,001	c 33	N83-36355 *	US-PATENT-4,446,396	c 35	N84-22932 *	US-PATENT-4,497,940	c 27	N85-21352 *
US-PATENT-4,407,165	c 37	N83-36482 *	US-PATENT-4,446,459	c 60	N84-28492 *	US-PATENT-4,497,948	c 27	N85-21350 *
US-PATENT-4,407,468	c 01	N83-35992 *	US-PATENT-4,446,556	c 36	N84-28065 *	US-PATENT-4,498,231	c 35	N85-21598 *
US-PATENT-4,407,563	c 74	N83-36898 *	US-PATENT-4,446,757	c 37	N84-28084 *	US-PATENT-4,498,333	c 35	N85-21597 *
US-PATENT-4,407,589	c 33	N83-36357 *	US-PATENT-4,447,251	c 71	N84-28568 *	US-PATENT-4,499,260	c 27	N85-21348 *
US-PATENT-4,407,686	c 35	N84-12443 *	US-PATENT-4,447,943	c 52	N84-28389 *	US-PATENT-4,499,424	c 35	N85-21596 *
US-PATENT-4,408,597	c 52	N84-11744 *	US-PATENT-4,448,408	c 37	N84-28083 *	US-PATENT-4,499,470	c 43	N85-21723 *
US-PATENT-4,408,658	c 27	N83-36220 *	US-PATENT-4,449,370	c 37	N84-33808 *	US-PATENT-4,500,265	c 31	N85-21404 *
US-PATENT-4,410,189	c 37	N84-11497 *	US-PATENT-4,449,400	c 47	N84-28292 *	US-PATENT-4,500,492	c 37	N85-21652 *
US-PATENT-4,410,682	c 24	N84-11213 *	US-PATENT-4,449,514	c 44	N84-28204 *	US-PATENT-4,503,436	c 32	N85-29118 *
US-PATENT-4,411,380	c 24	N84-11214 *	US-PATENT-4,449,894	c 37	N84-28081 *	US-PATENT-4,505,998	c 33	N85-29144 *
US-PATENT-4,411,597	c 07	N84-22560 *	US-PATENT-4,450,268	c 27	N84-27884 *	US-PATENT-4,506,183	c 34	N85-29179 *
US-PATENT-4,411,660	c 54	N84-11758 *	US-PATENT-4,450,447	c 32	N84-27951 *	US-PATENT-4,507,928	c 31	N85-29082 *
US-PATENT-4,412,664	c 02	N84-11136 *	US-PATENT-4,451,017	c 18	N84-27787 *	US-PATENT-4,508,296	c 18	N85-29991 *
US-PATENT-4,413,522	c 35	N84-12445 *	US-PATENT-4,451,496	c 26	N84-27855 *	US-PATENT-4,509,048	c 32	N85-34327 *
US-PATENT-4,413,784	c 34	N84-12406 *	US-PATENT-4,452,088	c 24	N84-27829 *	US-PATENT-4,509,130	c 36	N85-29264 *
US-PATENT-4,414,080	c 25	N84-12262 *	US-PATENT-4,452,412	c 16	N84-27784 *	US-PATENT-4,509,132	c 33	N85-34333 *
US-PATENT-4,414,509	c 35	N84-12444 *	US-PATENT-4,453,163	c 06	N84-27733 *	US-PATENT-4,509,548	c 37	N85-34403 *
US-PATENT-4,414,816	c 07	N84-24577 *	US-PATENT-4,454,611	c 54	N84-28484 *	US-PATENT-4,510,277	c 27	N85-34282 *
US-PATENT-4,415,133	c 05	N84-12154 *	US-PATENT-4,454,649	c 44	N84-28205 *	US-PATENT-4,510,296	c 23	N85-28973 *
US-PATENT-4,415,311	c 37	N84-12493 *	US-PATENT-4,454,753	c 09	N84-27749 *	US-PATENT-4,510,476	c 33	N85-29146 *
US-PATENT-4,415,450	c 45	N84-12654 *	US-PATENT-4,455,418	c 27	N84-27885 *	US-PATENT-4,511,362	c 25	N85-35253 *
US-PATENT-4,416,111	c 07	N84-33410 *	US-PATENT-4,455,418	c 25	N85-28982 *	US-PATENT-4,511,838	c 76	N85-30923 *
US-PATENT-4,416,266	c 52	N84-28388 *	US-PATENT-4,455,532	c 72	N84-28575 *	US-PATENT-4,512,332	c 44	N85-30474 *
US-PATENT-4,417,175	c 70	N84-28565 *	US-PATENT-4,455,680	c 32	N84-27952 *	US-PATENT-4,512,661	c 35	N85-30282 *
US-PATENT-4,417,190	c 33	N84-14424 *	US-PATENT-4,456,208	c 27	N84-27886 *	US-PATENT-4,512,678	c 37	N85-30334 *
US-PATENT-4,417,215	c 33	N84-14421 *	US-PATENT-4,456,708	c 51	N84-28361 *	US-PATENT-4,512,699	c 37	N85-29285 *
US-PATENT-4,418,130	c 33	N84-14422 *	US-PATENT-4,458,418	c 37	N84-28085 *	US-PATENT-4,512,846	c 76	N85-29800 *
US-PATENT-4,418,480	c 04	N84-14132 *	US-PATENT-4,458,554	c 37	N84-28082 *	US-PATENT-4,513,317	c 32	N85-29117 *
US-PATENT-4,418,722	c 44	N84-14583 *	US-PATENT-4,459,083	c 02	N84-28732 *	US-PATENT-4,513,423	c 36	N85-30305 *
US-PATENT-4,420,035	c 34	N84-14461 *	US-PATENT-4,459,470	c 27	N84-33589 *	US-PATENT-4,513,750	c 52	N85-30618 *
US-PATENT-4,420,352	c 27	N84-22748 *	US-PATENT-4,459,528	c 33	N84-27975 *	US-PATENT-4,513,810	c 35	N85-29214 *
US-PATENT-4,420,518	c 27	N84-14323 *	US-PATENT-4,459,562	c 33	N84-27974 *	US-PATENT-4,514,137	c 37	N85-29282 *
US-PATENT-4,420,836	c 36	N84-14509 *	US-PATENT-4,462,871	c 76	N85-35112 *	US-PATENT-4,514,143	c 05	N85-29947 *
US-PATENT-4,420,977	c 71	N84-23233 *	US-PATENT-4,463,357	c 46	N85-21846 *	US-PATENT-4,514,178	c 35	N85-29212 *
US-PATENT-4,421,109	c 54	N84-16803 *	US-PATENT-4,463,465	c 03	N84-33394 *	US-PATENT-4,514,557	c 25	N85-28982 *
US-PATENT-4,421,371	c 33	N84-14423 *	US-PATENT-4,463,606	c 71	N85-22105 *	US-PATENT-4,515,207	c 34	N85-29180 *
US-PATENT-4,421,700	c 24	N84-16262 *	US-PATENT-4,464,710	c 33	N84-33663 *	US-PATENT-4,515,751	c 35	N85-29213 *
US-PATENT-4,421,820	c 27	N84-14322 *	US-PATENT-4,466,242	c 20	N85-21256 *	US-PATENT-4,516,071	c 33	N85-30187 *
US-PATENT-4,422,012	c 33	N84-16452 *	US-PATENT-4,466,667	c 35	N84-33768 *	US-PATENT-4,516,435	c 37	N85-29286 *
US-PATENT-4,422,609	c 37	N84-16560 *	US-PATENT-4,469,552	c 76	N84-35113 *	US-PATENT-4,517,472	c 33	N85-29147 *
US-PATENT-4,423,605	c 34	N84-22903 *	US-PATENT-4,469,942	c 35	N84-33767 *	US-PATENT-4,517,505	c 37	N85-30333 *
US-PATENT-4,424,592	c 36	N84-16542 *	US-PATENT-4,469,998	c 33	N84-33661 *	US-PATENT-4,517,530	c 33	N85-29143 *
US-PATENT-4,425,376	c 71	N84-16940 *	US-PATENT-4,470,293	c 37	N84-33807 *	US-PATENT-4,518,277	c 37	N85-30336 *
US-PATENT-4,425,543	c 33	N84-16454 *	US-PATENT-4,470,403	c 44	N84-34792 *	US-PATENT-4,518,625	c 24	N85-30027 *
US-PATENT-4,425,785	c 15	N84-16231 *	US-PATENT-4,471,357	c 32	N84-34651 *	US-PATENT-4,518,722	c 27	N85-29044 *
US-PATENT-4,425,808	c 35	N84-28015 *	US-PATENT-4,472,473	c 18	N84-33450 *	US-PATENT-4,519,545	c 37	N85-29283 *

US-PATENT-4,520,601	c 37	N85-30335 *	US-PATENT-4,579-782	c 24	N86-25416 *	US-PATENT-4,648,133	c 32	N87-21207 *
US-PATENT-4,520,656	c 71	N85-29693 *	US-PATENT-4,579,302	c 18	N86-24729 *	US-PATENT-4,648,267	c 34	N87-21255 *
US-PATENT-4,521,077	c 74	N85-29750	US-PATENT-4,579,475	c 37	N86-27630 *	US-PATENT-4,648,569	c 08	N87-20999 *
US-PATENT-4,521,659	c 31	N85-29083 *	US-PATENT-4,580-791	c 37	N86-25790 *	US-PATENT-4,649,189	c 27	N87-21112 *
US-PATENT-4,521,688	c 35	N85-30281 *	US-PATENT-4,582,277	c 16	N86-26352 *	US-PATENT-4,649,273	c 72	N87-21661 *
US-PATENT-4,521,702	c 33	N85-29145 *	US-PATENT-4,582,289	c 37	N87-21333 *	US-PATENT-4,649,278	c 72	N87-21660 *
US-PATENT-4,521,854	c 33	N85-29142 *	US-PATENT-4,582,590	c 25	N86-25428 *	US-PATENT-4,649,287	c 44	N87-21410 *
US-PATENT-4,522,469	c 76	N85-33826 *	US-PATENT-4,583,587	c 34	N86-27593 *	US-PATENT-4,649,541	c 60	N87-21591 *
US-PATENT-4,522,661	c 76	N85-30922 *	US-PATENT-4,583,860	c 74	N86-26190 *	US-PATENT-4,649,750	c 71	N87-21653 *
US-PATENT-4,522,755	c 27	N86-19455 *	US-PATENT-4,584,249	c 44	N86-25874 *	US-PATENT-4,650,108	c 37	N87-21334 *
US-PATENT-4,522,844	c 26	N85-29005 *	US-PATENT-4,584,510	c 08	N86-27288 *	US-PATENT-4,650,385	c 37	N87-22976 *
US-PATENT-4,523,008	c 27	N85-29043 *	US-PATENT-4,584,887	c 35	N86-26595 *	US-PATENT-4,652,833	c 33	N87-21235 *
US-PATENT-4,523,682	c 71	N85-30765 *	US-PATENT-4,585,191	c 20	N86-26368 *	US-PATENT-4,654,065	c 27	N87-21111 *
US-PATENT-4,523,741	c 37	N85-29284 *	US-PATENT-4,585,344	c 35	N86-25753 *	US-PATENT-4,654,110	c 76	N87-23286 *
US-PATENT-4,523,810	c 74	N85-29749 *	US-PATENT-4,586,140	c 06	N86-27280 *	US-PATENT-4,655,482	c 37	N87-22977 *
US-PATENT-4,524,237	c 44	N85-30475 *	US-PATENT-4,586,394	c 35	N87-21304 *	US-PATENT-4,657,044	c 37	N87-21332 *
US-PATENT-4,526,925	c 27	N86-20560 *	US-PATENT-4,586,487	c 44	N86-27706 *	US-PATENT-4,660,000	c 33	N87-21232 *
US-PATENT-4,526,925	c 27	N87-22845 *	US-PATENT-4,587,312	c 27	N86-27450 *	US-PATENT-4,661,558	c 27	N87-22848 *
US-PATENT-4,527,092	c 37	N85-33489 *	US-PATENT-4,587,324	c 23	N86-32525 *	US-PATENT-4,661,770	c 33	N87-22894 *
US-PATENT-4,527,910	c 37	N85-33490 *	US-PATENT-4,587,526	c 37	N86-25791 *	US-PATENT-4,662,220	c 35	N87-22953 *
US-PATENT-4,528,386	c 23	N85-33187 *	US-PATENT-4,588,778	c 27	N86-27451 *	US-PATENT-4,662,751	c 74	N87-23259 *
US-PATENT-4,528,417	c 44	N85-34441 *	US-PATENT-4,588,986	c 32	N86-27513 *	US-PATENT-4,663,627	c 06	N87-22678 *
US-PATENT-4,528,639	c 60	N85-33701 *	US-PATENT-4,591,772	c 37	N86-27629 *	US-PATENT-4,663,483	c 27	N87-22847 *
US-PATENT-4,529,358	c 34	N85-33433 *	US-PATENT-4,591,838	c 25	N86-27431 *	US-PATENT-4,664,177	c 34	N87-22950 *
US-PATENT-4,531,143	c 33	N86-19516 *	US-PATENT-4,593,415	c 54	N86-28618 *	US-PATENT-4,664,177	c 34	N88-23958 *
US-PATENT-4,532,797	c 35	N85-34373 *	US-PATENT-4,594,540	c 31	N86-29055 *	US-PATENT-4,664,344	c 37	N87-22985 *
US-PATENT-4,533,101	c 07	N85-35194 *	US-PATENT-4,594,720	c 36	N86-29204 *	US-PATENT-4,664,980	c 27	N87-23736 *
US-PATENT-4,533,242	c 74	N85-34629 *	US-PATENT-4,594,734	c 54	N86-28620 *	US-PATENT-4,665,277	c 33	N87-23879 *
US-PATENT-4,534,166	c 07	N85-35195 *	US-PATENT-4,595,399	c 35	N86-29174 *	US-PATENT-4,665,334	c 37	N87-23970 *
US-PATENT-4,535,033	c 24	N85-35233 *	US-PATENT-4,595,548	c 27	N86-29039 *	US-PATENT-4,666,086	c 37	N87-24689 *
US-PATENT-4,535,035	c 26	N85-35267 *	US-PATENT-4,596,626	c 76	N86-28760 *	US-PATENT-4,666,561	c 25	N88-23846 *
US-PATENT-4,535,636	c 35	N85-34375 *	US-PATENT-4,598,007	c 24	N86-28131 *	US-PATENT-4,668,589	c 27	N87-25469 *
US-PATENT-4,536,114	c 37	N85-34401 *	US-PATENT-4,598,427	c 54	N86-28619 *	US-PATENT-4,669,354	c 37	N87-23983 *
US-PATENT-4,536,565	c 27	N85-34280 *	US-PATENT-4,598,428	c 54	N86-29507 *	US-PATENT-4,669,836	c 52	N87-24874 *
US-PATENT-4,537,554	c 85	N85-34722 *	US-PATENT-4,598,981	c 74	N86-28732 *	US-PATENT-4,669,958	c 08	N87-23631 *
US-PATENT-4,537,834	c 27	N85-34281 *	US-PATENT-4,599,001	c 74	N86-29650 *	US-PATENT-4,670,565	c 27	N87-23751 *
US-PATENT-4,538,066	c 35	N85-34374 *	US-PATENT-4,600,299	c 74	N86-32266 *	US-PATENT-4,672,202	c 37	N87-23982 *
US-PATENT-4,538,446	c 34	N86-12547 *	US-PATENT-4,600,301	c 35	N86-32697 *	US-PATENT-4,675,379	c 27	N87-24564 *
US-PATENT-4,538,778	c 08	N85-35200 *	US-PATENT-4,600,769	c 27	N86-31726 *	US-PATENT-4,675,563	c 33	N87-23904 *
US-PATENT-4,539,293	c 23	N85-35227 *	US-PATENT-4,600,840	c 72	N86-33127 *	US-PATENT-4,675,880	c 32	N87-25511 *
US-PATENT-4,540,986	c 04	N86-19304 *	US-PATENT-4,602,081	c 27	N86-32568 *	US-PATENT-4,676,110	c 39	N87-25601 *
US-PATENT-4,542,520	c 74	N86-20126 *	US-PATENT-4,602,509	c 35	N86-32695 *	US-PATENT-4,676,846	c 26	N87-28647 *
US-PATENT-4,542,858	c 33	N86-20669 *	US-PATENT-4,603,061	c 27	N86-31727 *	US-PATENT-4,676,853	c 37	N87-23981 *
US-PATENT-4,542,963	c 74	N86-20125 *	US-PATENT-4,603,306	c 33	N86-32624 *	US-PATENT-4,676,962	c 23	N87-23698 *
US-PATENT-4,543,295	c 27	N86-20561 *	US-PATENT-4,604,038	c 37	N86-32738 *	US-PATENT-4,677,629	c 36	N87-23960 *
US-PATENT-4,543,302	c 44	N86-19721 *	US-PATENT-4,604,181	c 27	N86-32569 *	US-PATENT-4,677,636	c 36	N87-23961 *
US-PATENT-4,543,442	c 76	N86-20150 *	US-PATENT-4,604,844	c 37	N86-32737 *	US-PATENT-4,677,642	c 35	N87-23944 *
US-PATENT-4,544,025	c 35	N86-20750 *	US-PATENT-4,604,903	c 35	N86-32696 *	US-PATENT-4,677,803	c 31	N87-25492 *
US-PATENT-4,544,068	c 35	N86-20751 *	US-PATENT-4,605,155	c 37	N86-32736 *	US-PATENT-4,678,438	c 14	N87-25344 *
US-PATENT-4,545,025	c 60	N86-21154 *	US-PATENT-4,605,303	c 09	N86-32447 *	US-PATENT-4,680,897	c 31	N87-25491 *
US-PATENT-4,545,553	c 33	N86-20671 *	US-PATENT-4,605,946	c 76	N87-13313 *	US-PATENT-4,681,818	c 26	N87-25455 *
US-PATENT-4,545,586	c 37	N86-20788 *	US-PATENT-4,607,193	c 31	N86-32587 *	US-PATENT-4,681,142	c 37	N87-25573 *
US-PATENT-4,545,723	c 37	N86-19603 *	US-PATENT-4,608,452	c 44	N86-32875 *	US-PATENT-4,681,437	c 76	N87-25862 *
US-PATENT-4,546,248	c 32	N86-20647 *	US-PATENT-4,608,821	c 20	N87-16875 *	US-PATENT-4,682,006	c 74	N87-25843 *
US-PATENT-4,547,121	c 37	N86-20789 *	US-PATENT-4,610,736	c 26	N87-14482 *	US-PATENT-4,682,053	c 36	N87-25567 *
US-PATENT-4,547,686	c 33	N86-20672 *	US-PATENT-4,612,072	c 76	N87-15882 *	US-PATENT-4,682,225	c 17	N87-25348 *
US-PATENT-4,548,083	c 39	N86-20841 *	US-PATENT-4,614,428	c 74	N87-14971 *	US-PATENT-4,682,343	c 33	N87-25531 *
US-PATENT-4,549,435	c 35	N86-20752 *	US-PATENT-4,615,637	c 18	N87-14373 *	US-PATENT-4,682,494	c 09	N87-25334 *
US-PATENT-4,550,129	c 24	N86-19380 *	US-PATENT-4,616,793	c 05	N87-14314 *	US-PATENT-4,682,745	c 37	N87-25582 *
US-PATENT-4,550,177	c 23	N86-19376 *	US-PATENT-4,618,215	c 09	N87-14355 *	US-PATENT-4,683,809	c 24	N87-27742 *
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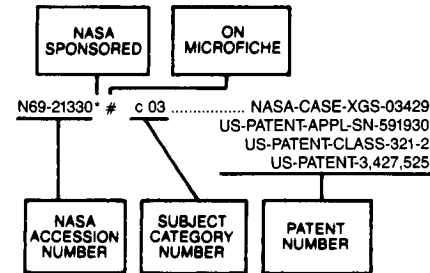
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N69-27459* #	c 14	NASA-CASE-XMS-05909-1 US-PATENT-APPL-SN-685764 US-PATENT-CLASS-136-213 US-PATENT-3,431,149	N69-39736* #	c 07	NASA-CASE-XNP-04180 US-PATENT-APPL-SN-545228 US-PATENT-CLASS-250-203 US-PATENT-3,448,273	N69-39984* #	c 09	NASA-CASE-XLA-08507 US-PATENT-APPL-SN-632154 US-PATENT-CLASS-321-11 US-PATENT-3,434,033
N69-27460* #	c 07	NASA-CASE-XGS-05582 US-PATENT-APPL-SN-646424 US-PATENT-CLASS-343-854 US-PATENT-3,438,044	N69-39785* #	c 14	NASA-CASE-XKS-03495 US-PATENT-APPL-SN-559351 US-PATENT-CLASS-324-61 US-PATENT-3,426,272	N69-39986* #	c 09	NASA-CASE-XMS-05562-1 US-PATENT-APPL-SN-529609 US-PATENT-CLASS-330-2 US-PATENT-3,434,064
N69-27461* #	c 14	NASA-CASE-XLA-03724 US-PATENT-APPL-SN-568071 US-PATENT-CLASS-350-6 US-PATENT-3,437,394	N69-39786* #	c 15	NASA-CASE-XGS-04554 US-PATENT-APPL-SN-584072 US-PATENT-CLASS-29-472.9 US-PATENT-3,447,233	N69-39987* #	c 09	NASA-CASE-XMS-04215-1 US-PATENT-APPL-SN-605102 US-PATENT-CLASS-307-265 US-PATENT-3,446,992
N69-27462* #	c 07	NASA-CASE-XMS-05303 US-PATENT-APPL-SN-617022 US-PATENT-CLASS-333-97 US-PATENT-3,428,923	N69-39884* #	c 25	NASA-CASE-XLE-00690 US-PATENT-APPL-SN-489442 US-PATENT-CLASS-324-33 US-PATENT-3,447,071	N69-39988* #	c 12	NASA-CASE-XLE-02624 US-PATENT-APPL-SN-635327 US-PATENT-CLASS-35-49 US-PATENT-3,429,058
N69-27463* #	c 09	NASA-CASE-XGS-03095 US-PATENT-APPL-SN-552344 US-PATENT-CLASS-307-222 US-PATENT-3,437,832	N69-39885* #	c 09	NASA-CASE-XMS-04061-1 US-PATENT-APPL-SN-511564 US-PATENT-CLASS-328-116 US-PATENT-3,456,201	N70-10867* #	c 15	NASA-CASE-ERC-10208 US-PATENT-APPL-SN-847596 US-PATENT-CLASS-ERC-10072 US-PATENT-APPL-SN-845972
N69-27466* #	c 11	NASA-CASE-XNP-04969 US-PATENT-APPL-SN-593604 US-PATENT-CLASS-248-317 US-PATENT-3,430,909	N69-39888* #	c 10	NASA-CASE-XNP-02713 US-PATENT-APPL-SN-528031 US-PATENT-CLASS-307-252 US-PATENT-3,458,726	N70-11148* #	c 09	NASA-CASE-NPO-10863 US-PATENT-APPL-SN-848325 US-PATENT-CLASS-NPO-10447 US-PATENT-APPL-SN-848351
N69-27483* #	c 15	NASA-CASE-XLA-03105 US-PATENT-APPL-SN-529594 US-PATENT-CLASS-263-48 US-PATENT-3,430,937	N69-39889* #	c 06	NASA-CASE-XLE-07087 US-PATENT-APPL-SN-619521 US-PATENT-CLASS-313-231 US-PATENT-3,447,015	N70-1252* #	c 06	NASA-CASE-NPO-10447 US-PATENT-APPL-SN-848351 US-PATENT-CLASS-MSC-12259-1 US-PATENT-APPL-SN-853763
N69-27484* #	c 14	NASA-CASE-XLA-04556 US-PATENT-APPL-SN-607608 US-PATENT-CLASS-250-83 US-PATENT-3,433,953	N69-39890* #	c 03	NASA-CASE-XLE-02824 US-PATENT-APPL-SN-487343 US-PATENT-CLASS-310-10 US-PATENT-3,443,128	N70-12616* #	c 07	NASA-CASE-MSC-12259-1 US-PATENT-APPL-SN-853763 US-PATENT-CLASS-MFS-14741 US-PATENT-APPL-SN-880247
N69-27485* #	c 14	NASA-CASE-XGS-02401 US-PATENT-APPL-SN-502740 US-PATENT-CLASS-250-203 US-PATENT-3,428,812	N69-39895* #	c 18	NASA-CASE-XNP-06508 US-PATENT-APPL-SN-617776 US-PATENT-CLASS-117-21 US-PATENT-3,446,642	N70-20737* #	c 09	NASA-CASE-MFS-14741 US-PATENT-APPL-SN-880247 US-PATENT-CLASS-XMS-04890-1 US-PATENT-APPL-SN-797057
N69-27486* #	c 14	NASA-CASE-XAC-11225 US-PATENT-APPL-SN-638707 US-PATENT-CLASS-248-18 US-PATENT-3,430,902	N69-39896* #	c 14	NASA-CASE-XAC-02970 US-PATENT-APPL-SN-447930 US-PATENT-CLASS-250-217 US-PATENT-3,452,872	N70-22192* #	c 15	NASA-CASE-XMS-04890-1 US-PATENT-APPL-SN-797057 US-PATENT-CLASS-60-258 US-PATENT-3,490,238
N69-27487* #	c 04	NASA-CASE-XGS-05533 US-PATENT-APPL-SN-568346 US-PATENT-CLASS-195-68 US-PATENT-3,437,560	N69-39897* #	c 09	NASA-CASE-XAC-08981 US-PATENT-APPL-SN-634066 US-PATENT-CLASS-317-16 US-PATENT-3,450,946	N70-26819* #	c 15	NASA-CASE-LAR-10590-1 US-PATENT-APPL-SN-21732 US-PATENT-CLASS-NMF-00447 US-PATENT-APPL-SN-134479
N69-27490* #	c 15	NASA-CASE-XLA-02854 US-PATENT-APPL-SN-598118 US-PATENT-CLASS-285-3 US-PATENT-3,427,047	N69-39898* #	c 03	NASA-CASE-XLE-01015 US-PATENT-APPL-SN-502746 US-PATENT-CLASS-310-4 US-PATENT-3,446,997	N70-33179* #	c 14	NASA-CASE-XMF-00447 US-PATENT-APPL-SN-134479 US-PATENT-CLASS-340-198 US-PATENT-3,041,587
N69-27491* #	c 16	NASA-CASE-XGS-04480 US-PATENT-APPL-SN-591007 US-PATENT-CLASS-250-199 US-PATENT-3,433,960	N69-39899* #	c 09	NASA-CASE-XNP-09776 US-PATENT-APPL-SN-617779 US-PATENT-CLASS-310-4 US-PATENT-3,446,998	N70-33180* #	c 15	NASA-CASE-XLA-00137 US-PATENT-APPL-SN-8203 US-PATENT-CLASS-93-1 US-PATENT-3,010,372
N69-27499* #	c 31	NASA-CASE-XMS-12158-1 US-PATENT-APPL-SN-762936 US-PATENT-CLASS-244-1 US-PATENT-3,439,886	N69-39935* #	c 15	NASA-CASE-XNP-08882 US-PATENT-APPL-SN-640784 US-PATENT-CLASS-220-14 US-PATENT-3,446,387	N70-33181* #	c 21	NASA-CASE-XLA-00120 US-PATENT-APPL-SN-853984 US-PATENT-CLASS-250-83.3 US-PATENT-3,038,077
N69-27500* #	c 09	NASA-CASE-XNP-09228 US-PATENT-APPL-SN-584070 US-PATENT-CLASS-307-136 US-PATENT-3,430,063	N69-39936* #	c 06	NASA-CASE-XNP-04816 US-PATENT-APPL-SN-578926 US-PATENT-CLASS-73-23.1 US-PATENT-3,443,416	N70-33182* #	c 09	NASA-CASE-XAC-00086 US-PATENT-APPL-SN-824755 US-PATENT-CLASS-340-147 US-PATENT-3,059,220
N69-27502* #	c 15	NASA-CASE-XMF-04132 US-PATENT-APPL-SN-640788 US-PATENT-CLASS-220-55 US-PATENT-3,429,477	N69-39937* #	c 14	NASA-CASE-XNP-09750 US-PATENT-APPL-SN-632162 US-PATENT-CLASS-250-83 US-PATENT-3,456,112	N70-33226* #	c 15	NASA-CASE-XLE-00020 US-PATENT-APPL-SN-387332 US-PATENT-CLASS-253-39.15 US-PATENT-3,011,760
N69-27503* #	c 14	NASA-CASE-XFR-09479 US-PATENT-APPL-SN-653278 US-PATENT-CLASS-73-49.8 US-PATENT-3,433,079	N69-39938* #	c 07	NASA-CASE-XGS-05918 US-PATENT-APPL-SN-685497 US-PATENT-CLASS-343-7.5 US-PATENT-3,430,237	N70-33241* #	c 28	NASA-CASE-XLE-00103 US-PATENT-APPL-SN-517100 US-PATENT-CLASS-60-39.74 US-PATENT-2,940,259
N69-27504* #	c 15	NASA-CASE-XNP-09452 US-PATENT-APPL-SN-640789 US-PATENT-CLASS-267-1 US-PATENT-3,430,942	N69-39974* #	c 07	NASA-CASE-XGS-05918 US-PATENT-APPL-SN-685497 US-PATENT-CLASS-343-7.5 US-PATENT-3,430,237	N70-33242* #	c 31	NASA-CASE-XLA-00165 US-PATENT-APPL-SN-47120 US-PATENT-CLASS-244-117 US-PATENT-3,028,128
N69-27505* #	c 15	NASA-CASE-XLA-09122 US-PATENT-APPL-SN-619903 US-PATENT-CLASS-64-28 US-PATENT-3,430,460	N69-39975* #	c 14	NASA-CASE-XLA-01781 US-PATENT-APPL-SN-441936 US-PATENT-CLASS-73-86 US-PATENT-3,425,268	N70-33254* #	c 14	NASA-CASE-XLA-00062 US-PATENT-APPL-SN-853983 US-PATENT-CLASS-88-16 US-PATENT-3,041,924
N69-27871* #	c 15	NASA-CASE-XMS-04318 US-PATENT-APPL-SN-521996 US-PATENT-CLASS-219-347 US-PATENT-3,431,397	N69-39978* #	c 07	NASA-CASE-XGS-02749 US-PATENT-APPL-SN-502753 US-PATENT-CLASS-179-15 US-PATENT-3,450,842	N70-33255* #	c 02	NASA-CASE-XLA-00230 US-PATENT-APPL-SN-41455 US-PATENT-CLASS-244-43 US-PATENT-3,053,484
N69-31244* #	c 06	NASA-CASE-NPO-10714 US-PATENT-APPL-SN-817569 US-PATENT-CLASS-ERC-10187 US-PATENT-APPL-SN-825253	N69-39979* #	c 18	NASA-CASE-XGS-04119 US-PATENT-APPL-SN-452945 US-PATENT-CLASS-106-74 US-PATENT-3,454,410	N70-33264* #	c 15	NASA-CASE-XLE-00092 US-PATENT-APPL-SN-835146 US-PATENT-CLASS-253-39.15 US-PATENT-3,057,597
N69-31343* #	c 16	NASA-CASE-ERC-10187 US-PATENT-APPL-SN-825253 US-PATENT-CLASS-ERC-10120 US-PATENT-APPL-SN-827597	N69-39980* #	c 07	NASA-CASE-XGS-05211 US-PATENT-APPL-SN-590145 US-PATENT-CLASS-250-209 US-PATENT-3,444,380	N70-33265* #	c 28	NASA-CASE-XLE-00817 US-PATENT-APPL-SN-264735 US-PATENT-CLASS-60-35.3 US-PATENT-3,173,246
N69-39733* #	c 06	NASA-CASE-XMF-03873 US-PATENT-APPL-SN-543774 US-PATENT-CLASS-73-24 US-PATENT-3,429,177	N69-39981* #	c 01	NASA-CASE-XLA-06095 US-PATENT-APPL-SN-683612 US-PATENT-CLASS-244-138 US-PATENT-3,443,779	N70-33266* #	c 02	NASA-CASE-XLA-00221 US-PATENT-APPL-SN-51473 US-PATENT-CLASS-244-46 US-PATENT-3,064,928
N69-39734* #	c 09	NASA-CASE-XMF-04238 US-PATENT-APPL-SN-562443	N69-39982* #	c 14	NASA-CASE-XGS-01725 US-PATENT-APPL-SN-483891	N70-33278* #	c 11	NASA-CASE-XLE-00168 US-PATENT-APPL-SN-842170 US-PATENT-CLASS-73-116 US-PATENT-3,063,291

N70-33279*	c 21	NASA-CASE-XFR-00181 US-PATENT-APPL-SN-28175 US-PATENT-CLASS-244-83 US-PATENT-3,028,126	N70-33386*	c 14	NASA-CASE-XLA-00113 US-PATENT-APPL-SN-2792 US-PATENT-CLASS-73-147 US-PATENT-3,001,395	N70-34559* #	c 09	NASA-CASE-LAR-10218-1 US-PATENT-APPL-SN-47441
N70-33283*	c 17	NASA-CASE-XLE-00151 US-PATENT-APPL-SN-848481 US-PATENT-CLASS-75-171 US-PATENT-2,971,837	N70-34134*	c 03	NASA-CASE-XLE-00212 US-PATENT-APPL-SN-151598 US-PATENT-CLASS-310-4 US-PATENT-3,202,844	N70-34596*	c 09	NASA-CASE-XMF-00324 US-PATENT-APPL-SN-109789 US-PATENT-CLASS-339-176 US-PATENT-3,189,864
N70-33284*	c 28	NASA-CASE-XLE-00078 US-PATENT-APPL-SN-18776 US-PATENT-CLASS-60-35.6 US-PATENT-3,049,876	N70-34135*	c 31	NASA-CASE-XLA-00686 US-PATENT-APPL-SN-195347 US-PATENT-CLASS-343-833 US-PATENT-3,202,998	N70-34646* #	c 03	NASA-CASE-NPO-11138 US-PATENT-APPL-SN-9251
N70-33285*	c 05	NASA-CASE-XLA-00118 US-PATENT-APPL-SN-840983 US-PATENT-CLASS-5-345 US-PATENT-3,038,175	N70-34156*	c 14	NASA-CASE-XLE-00266 US-PATENT-APPL-SN-202024 US-PATENT-CLASS-73-15 US-PATENT-3,204,447	N70-34661*	c 25	NASA-CASE-XLA-00147 US-PATENT-APPL-SN-178215 US-PATENT-CLASS-313-156 US-PATENT-3,201,635
N70-33286*	c 02	NASA-CASE-XLA-00142 US-PATENT-APPL-SN-26375 US-PATENT-CLASS-244-46 US-PATENT-3,028,122	N70-34157*	c 03	NASA-CASE-XMF-00517 US-PATENT-APPL-SN-216711 US-PATENT-CLASS-244-1 US-PATENT-3,204,889	N70-34664*	c 15	NASA-CASE-XMF-00515 US-PATENT-APPL-SN-278790 US-PATENT-CLASS-308-9 US-PATENT-3,199,931
N70-33287*	c 11	NASA-CASE-XLA-00112 US-PATENT-APPL-SN-843022 US-PATENT-CLASS-73-147 US-PATENT-3,005,339	N70-34158*	c 14	NASA-CASE-XGS-00359 US-PATENT-APPL-SN-94952 US-PATENT-CLASS-250-203 US-PATENT-3,205,361	N70-34667*	c 03	NASA-CASE-XLA-00326 US-PATENT-APPL-SN-318443 US-PATENT-CLASS-89-1 US-PATENT-3,200,706
N70-33288*	c 17	NASA-CASE-XLE-02428 US-PATENT-APPL-SN-339821 US-PATENT-CLASS-29-198 US-PATENT-3,170,773	N70-34159*	c 31	NASA-CASE-XMF-03856 US-PATENT-APPL-SN-416941 US-PATENT-CLASS-248-188.9 US-PATENT-3,208,707	N70-34675* #	c 08	NASA-CASE-XNP-04162-1 US-PATENT-APPL-SN-872664
N70-33305*	c 12	NASA-CASE-XLA-00229 US-PATENT-APPL-SN-18780 US-PATENT-CLASS-114-66.5 US-PATENT-3,016,863	N70-34160*	c 02	NASA-CASE-XLA-01804 US-PATENT-APPL-SN-353637 US-PATENT-CLASS-244-50 US-PATENT-3,208,694	N70-34697* #	c 14	NASA-CASE-NPO-11106 US-PATENT-APPL-SN-15020
N70-33311*	c 15	NASA-CASE-XLE-00046 US-PATENT-APPL-SN-686796 US-PATENT-CLASS-29-488 US-PATENT-3,008,229	N70-34161*	c 14	NASA-CASE-XLA-00203 US-PATENT-APPL-SN-227682 US-PATENT-CLASS-73-105 US-PATENT-3,208,272	N70-34699* #	c 15	NASA-CASE-NPO-10682 US-PATENT-APPL-SN-15023
N70-33312*	c 09	NASA-CASE-XLA-00141 US-PATENT-APPL-SN-19971 US-PATENT-CLASS-219-34 US-PATENT-3,005,081	N70-34162*	c 28	NASA-CASE-XMF-01544 US-PATENT-APPL-SN-394638 US-PATENT-CLASS-60-35.55 US-PATENT-3,208,215	N70-34705*	c 14	NASA-CASE-XMF-00456 US-PATENT-APPL-SN-298800 US-PATENT-CLASS-73-88.5 US-PATENT-3,212,325
N70-33322*	c 14	NASA-CASE-XLA-00135 US-PATENT-APPL-SN-861152 US-PATENT-CLASS-244-14 US-PATENT-3,004,735	N70-34175*	c 28	NASA-CASE-XLE-01783 US-PATENT-APPL-SN-313132 US-PATENT-CLASS-60-35.5 US-PATENT-3,210,927	N70-34743*	c 08	NASA-CASE-XGS-00174 US-PATENT-APPL-SN-120803 US-PATENT-CLASS-307-88 US-PATENT-3,198,955
N70-33323*	c 15	NASA-CASE-XMF-00341 US-PATENT-APPL-SN-77256 US-PATENT-CLASS-62-45 US-PATENT-3,012,407	N70-34176*	c 31	NASA-CASE-XMF-00389 US-PATENT-APPL-SN-151114 US-PATENT-CLASS-244-1 US-PATENT-3,202,381	N70-34778*	c 08	NASA-CASE-XLA-00471 US-PATENT-APPL-SN-197553 US-PATENT-CLASS-235-154 US-PATENT-3,194,951
N70-33329*	c 11	NASA-CASE-XLA-00119 US-PATENT-APPL-SN-842171 US-PATENT-CLASS-240-1.2 US-PATENT-2,984,735	N70-34178*	c 02	NASA-CASE-XLA-00166 US-PATENT-APPL-SN-84961 US-PATENT-CLASS-244-46 US-PATENT-3,087,692	N70-34783*	c 27	NASA-CASE-XLA-00304 US-PATENT-APPL-SN-54552 US-PATENT-CLASS-18-39 US-PATENT-3,193,883
N70-33330*	c 15	NASA-CASE-XLE-00023 US-PATENT-APPL-SN-512352 US-PATENT-CLASS-78-1 US-PATENT-2,991,671	N70-34247*	c 15	NASA-CASE-XLE-00288 US-PATENT-APPL-SN-118200 US-PATENT-CLASS-62-50 US-PATENT-3,068,658	N70-34786*	c 11	NASA-CASE-XLA-00493 US-PATENT-APPL-SN-202029 US-PATENT-CLASS-73-432 US-PATENT-3,196,690
N70-33331*	c 28	NASA-CASE-XLA-00105 US-PATENT-APPL-SN-719173 US-PATENT-CLASS-60-35.6 US-PATENT-3,001,363	N70-34249*	c 15	NASA-CASE-XMF-00375 US-PATENT-APPL-SN-166969 US-PATENT-CLASS-72-56 US-PATENT-3,188,844	N70-34787*	c 08	NASA-CASE-XGS-00689 US-PATENT-APPL-SN-250451 US-PATENT-CLASS-235-176 US-PATENT-3,196,261
N70-33332*	c 02	NASA-CASE-XLA-00087 US-PATENT-APPL-SN-811509 US-PATENT-CLASS-244-12 US-PATENT-2,991,961	N70-34294*	c 28	NASA-CASE-XLE-00208 US-PATENT-APPL-SN-106135 US-PATENT-CLASS-60-35.54 US-PATENT-3,132,476	N70-34788*	c 28	NASA-CASE-XLE-00388 US-PATENT-APPL-SN-234568 US-PATENT-CLASS-55-306 US-PATENT-3,196,598
N70-33343*	c 03	NASA-CASE-XLA-00115 US-PATENT-APPL-SN-847027 US-PATENT-CLASS-244-1 US-PATENT-3,001,739	N70-34295*	c 21	NASA-CASE-XLA-01989 US-PATENT-APPL-SN-305020 US-PATENT-CLASS-244-1 US-PATENT-3,189,299	N70-34794*	c 14	NASA-CASE-XMF-00479 US-PATENT-APPL-SN-169977 US-PATENT-CLASS-73-71.2 US-PATENT-3,194,060
N70-33344*	c 33	NASA-CASE-XMS-00486 US-PATENT-APPL-SN-300113 US-PATENT-CLASS-244-1 US-PATENT-3,130,940	N70-34296*	c 31	NASA-CASE-XLA-00678 US-PATENT-APPL-SN-197551 US-PATENT-CLASS-244-1 US-PATENT-3,169,725	N70-34799*	c 14	NASA-CASE-XLA-00492 US-PATENT-APPL-SN-284265 US-PATENT-CLASS-73-88.5 US-PATENT-3,199,340
N70-33356*	c 28	NASA-CASE-XLE-00267 US-PATENT-APPL-SN-58147 US-PATENT-CLASS-60-35.5 US-PATENT-3,016,693	N70-34297*	c 21	NASA-CASE-XGS-00466 US-PATENT-APPL-SN-123597 US-PATENT-CLASS-250-83.3 US-PATENT-3,188,472	N70-34812*	c 33	NASA-CASE-XLE-00387 US-PATENT-APPL-SN-203411 US-PATENT-CLASS-219-19 US-PATENT-3,108,171
N70-33372*	c 28	NASA-CASE-XLE-00037 US-PATENT-APPL-SN-639589 US-PATENT-CLASS-253-39.15 US-PATENT-2,974,925	N70-34298*	c 14	NASA-CASE-XMF-00462 US-PATENT-APPL-SN-148001 US-PATENT-CLASS-88-14 US-PATENT-3,185,023	N70-34813*	c 14	NASA-CASE-XAC-00073 US-PATENT-APPL-SN-47122 US-PATENT-CLASS-73-147 US-PATENT-3,100,990
N70-33374*	c 28	NASA-CASE-XLA-00154 US-PATENT-APPL-SN-31242 US-PATENT-CLASS-60-35.6 US-PATENT-3,012,400	N70-34502*	c 09	NASA-CASE-XMF-00421 US-PATENT-APPL-SN-197548 US-PATENT-CLASS-317-140 US-PATENT-3,189,794	N70-34814*	c 15	NASA-CASE-XMF-00392 US-PATENT-APPL-SN-151112 US-PATENT-CLASS-219-137 US-PATENT-3,102,948
N70-33375*	c 28	NASA-CASE-XLE-00207 US-PATENT-APPL-SN-180370 US-PATENT-CLASS-60-35.6 US-PATENT-3,173,251	N70-34539*	c 21	NASA-CASE-XMF-00185 US-PATENT-APPL-SN-97112 US-PATENT-CLASS-244-76 US-PATENT-3,070,330	N70-34815*	c 11	NASA-CASE-XAC-00399 US-PATENT-APPL-SN-134481 US-PATENT-CLASS-35-12 US-PATENT-3,196,557
N70-33376*	c 15	NASA-CASE-XLE-00101 US-PATENT-APPL-SN-551961 US-PATENT-CLASS-251-173 US-PATENT-2,945,667	N70-34540*	c 33	NASA-CASE-XLA-00330 US-PATENT-APPL-SN-264729 US-PATENT-CLASS-219-121 US-PATENT-3,201,560	N70-34816*	c 14	NASA-CASE-XAC-00042 US-PATENT-APPL-SN-734805 US-PATENT-CLASS-73-398 US-PATENT-3,022,672
N70-33382*	c 15	NASA-CASE-XLE-00010 US-PATENT-APPL-SN-554899 US-PATENT-CLASS-266-19 US-PATENT-2,934,331	N70-34545*	c 33	NASA-CASE-XLE-00490 US-PATENT-APPL-SN-252259 US-PATENT-CLASS-219-347 US-PATENT-3,189,726	N70-34817*	c 15	NASA-CASE-XAC-00074 US-PATENT-APPL-SN-47123 US-PATENT-CLASS-137-340 US-PATENT-3,158,172
						N70-34818*	c 14	NASA-CASE-XLE-00503 US-PATENT-APPL-SN-261912 US-PATENT-CLASS-73-136 US-PATENT-3,196,675
						N70-34819*	c 09	NASA-CASE-XGS-00381 US-PATENT-APPL-SN-104188 US-PATENT-CLASS-307-88.5 US-PATENT-3,085,165
						N70-34820*	c 14	NASA-CASE-XAC-00030 US-PATENT-APPL-SN-760819

		US-PATENT-CLASS-73-401			US-PATENT-APPL-SN-178721			US-PATENT-3,150,387
		US-PATENT-3,024,659			US-PATENT-CLASS-310-5	N70-36802*	c 28	NASA-CASE-XMF-00923
N70-34844*	c 11	NASA-CASE-XLE-00252			US-PATENT-3,205,381			US-PATENT-APPL-SN-264736
		US-PATENT-APPL-SN-144803	N70-35409*	c 15	NASA-CASE-XHQ-01208			US-PATENT-CLASS-60-35.5
		US-PATENT-CLASS-73-116			US-PATENT-APPL-SN-42022	N70-36803*	c 03	US-PATENT-3,159,967
		US-PATENT-3,199,343			US-PATENT-CLASS-121-38			NASA-CASE-XNP-00644
N70-34850*	c 15	NASA-CASE-XLA-00754			US-PATENT-3,088,441			US-PATENT-APPL-SN-212496
		US-PATENT-APPL-SN-209479	N70-35422* #	c 28	NASA-CASE-LEW-10814-1			US-PATENT-CLASS-310-11
		US-PATENT-CLASS-244-100			US-PATENT-APPL-SN-38262			US-PATENT-3,158,764
		US-PATENT-3,143,321	N70-35423*	c 08	NASA-CASE-XNP-00432	N70-36804*	c 02	NASA-CASE-XLA-00898
N70-34856*	c 02	NASA-CASE-XAC-00139			US-PATENT-APPL-SN-127234			US-PATENT-APPL-SN-227683
		US-PATENT-APPL-SN-168560			US-PATENT-CLASS-340-347			US-PATENT-CLASS-244-152
		US-PATENT-CLASS-244-51			US-PATENT-3,172,097	N70-36805*	c 26	US-PATENT-3,170,660
		US-PATENT-3,144,999	N70-35425*	c 09	NASA-CASE-XNP-00683			NASA-CASE-XLA-00158
N70-34857*	c 05	NASA-CASE-XMS-00863			US-PATENT-APPL-SN-251451			US-PATENT-APPL-SN-221637
		US-PATENT-APPL-SN-221634			US-PATENT-CLASS-343-781			US-PATENT-CLASS-23-208
		US-PATENT-CLASS-9-11			US-PATENT-3,209,361	N70-36806*	c 28	US-PATENT-3,174,827
		US-PATENT-3,155,992	N70-35427*	c 21	NASA-CASE-XGS-00809			NASA-CASE-XLE-00145
N70-34858*	c 02	NASA-CASE-XLA-00806			US-PATENT-APPL-SN-85585			US-PATENT-APPL-SN-173081
		US-PATENT-APPL-SN-181828			US-PATENT-CLASS-88-1			US-PATENT-CLASS-60-35.6
		US-PATENT-APPL-SN-26375			US-PATENT-3,083,611	N70-36807*	c 14	US-PATENT-3,174,279
		US-PATENT-CLASS-244-46	N70-35440*	c 09	NASA-CASE-XAC-00435			NASA-CASE-XLA-00100
		US-PATENT-3,170,657			US-PATENT-APPL-SN-164428			US-PATENT-APPL-SN-534901
N70-34859*	c 15	NASA-CASE-XLE-00715			US-PATENT-CLASS-330-14			US-PATENT-CLASS-73-178
		US-PATENT-APPL-SN-212174			US-PATENT-3,196,362	N70-36824*	c 14	US-PATENT-3,168,827
		US-PATENT-CLASS-251-333	N70-35534*	c 27	NASA-CASE-XGS-03556			NASA-CASE-XLA-00481
		US-PATENT-3,191,907			US-PATENT-APPL-SN-94259			US-PATENT-APPL-SN-120797
N70-34860*	c 28	NASA-CASE-XLE-00144			US-PATENT-CLASS-60-35.6			US-PATENT-CLASS-73-212
		US-PATENT-APPL-SN-177684			US-PATENT-3,191,379	N70-36825*	c 02	US-PATENT-3,170,324
		US-PATENT-CLASS-60-35.6	N70-35587* #	c 14	NASA-CASE-FRC-10053			NASA-CASE-XLA-01583
		US-PATENT-3,120,101			US-PATENT-APPL-SN-33398			US-PATENT-APPL-SN-327565
N70-34861*	c 15	NASA-CASE-XLE-00810			NASA-CASE-XNP-00646			US-PATENT-CLASS-244-103
		US-PATENT-APPL-SN-249540	N70-35666*	c 14	US-PATENT-APPL-SN-173981			US-PATENT-3,169,001
		US-PATENT-CLASS-188-1			US-PATENT-CLASS-324-33	N70-36845*	c 31	NASA-CASE-XMF-02108
		US-PATENT-3,164,222			US-PATENT-3,171,081			US-PATENT-APPL-SN-372727
N70-34946*	c 06	NASA-CASE-XNP-00733	N70-35679* #	c 15	NASA-CASE-MSC-12279-1			US-PATENT-CLASS-244-100
		US-PATENT-APPL-SN-256484			US-PATENT-APPL-SN-24154			US-PATENT-3,181,821
		US-PATENT-CLASS-62-15	N70-36400*	c 18	NASA-CASE-XMS-00259	N70-36846*	c 33	NASA-CASE-XLA-00189
		US-PATENT-3,192,730			US-PATENT-APPL-SN-145007			US-PATENT-APPL-SN-223003
N70-34966*	c 31	NASA-CASE-XFR-00929			US-PATENT-CLASS-117-69			US-PATENT-CLASS-102-49
		US-PATENT-APPL-SN-290868			US-PATENT-3,157,529	N70-36847*	c 33	US-PATENT-3,180,264
		US-PATENT-CLASS-35-12	N70-36409*	c 15	NASA-CASE-XLA-00482			NASA-CASE-XNP-00463
		US-PATENT-3,191,316			US-PATENT-APPL-SN-166970			US-PATENT-APPL-SN-259487
N70-34967*	c 15	NASA-CASE-XNP-00595			US-PATENT-CLASS-29-423			US-PATENT-CLASS-165-96
		US-PATENT-APPL-SN-188594			US-PATENT-3,160,950	N70-36901*	c 15	US-PATENT-3,177,933
		US-PATENT-CLASS-204-298	N70-36410*	c 31	NASA-CASE-XMF-00641			NASA-CASE-XFR-00811
		US-PATENT-3,189,535			US-PATENT-APPL-SN-221945			US-PATENT-APPL-SN-257346
N70-35087*	c 15	NASA-CASE-XGS-00587			US-PATENT-CLASS-244-1			US-PATENT-CLASS-29-234
		US-PATENT-APPL-SN-313135			US-PATENT-3,158,336	N70-36907*	c 14	US-PATENT-3,166,834
		US-PATENT-CLASS-137-340	N70-36411*	c 15	NASA-CASE-XLE-00164			NASA-CASE-XNP-00614
		US-PATENT-3,211,169			US-PATENT-APPL-SN-107870			US-PATENT-APPL-SN-247419
N70-35089*	c 21	NASA-CASE-XNP-00438			US-PATENT-CLASS-60-39.66			US-PATENT-CLASS-33-1
		US-PATENT-APPL-SN-180381			US-PATENT-3,162,012	N70-36908*	c 15	US-PATENT-3,163,935
		US-PATENT-CLASS-250-203	N70-36412*	c 15	NASA-CASE-XLE-00170			NASA-CASE-XNP-00214
		US-PATENT-3,205,362			US-PATENT-APPL-SN-232914			US-PATENT-APPL-SN-180377
N70-35152*	c 05	NASA-CASE-XMS-01240			US-PATENT-CLASS-253-66			US-PATENT-CLASS-137-625.69
		US-PATENT-APPL-SN-331324			US-PATENT-3,164,369	N70-36910*	c 28	US-PATENT-3,140,728
		US-PATENT-CLASS-297-216	N70-36492*	c 15	NASA-CASE-XLE-00397			NASA-CASE-XNP-00610
		US-PATENT-3,165,356			US-PATENT-APPL-SN-195346			US-PATENT-APPL-SN-211464
N70-35219*	c 09	NASA-CASE-XNP-00611			US-PATENT-CLASS-137-614			US-PATENT-CLASS-60-35.6
		US-PATENT-APPL-SN-140443			US-PATENT-3,170,486	N70-36911*	c 07	US-PATENT-3,170,290
		US-PATENT-CLASS-343-781	N70-36493*	c 05	NASA-CASE-XMS-00864			NASA-CASE-XNP-00748
		US-PATENT-3,209,360			US-PATENT-APPL-SN-258932			US-PATENT-APPL-SN-184649
N70-35220*	c 14	NASA-CASE-XNP-00449			US-PATENT-CLASS-9-316			US-PATENT-CLASS-343-17.2
		US-PATENT-APPL-SN-118169			US-PATENT-3,152,344	N70-36913*	c 11	US-PATENT-3,183,506
		US-PATENT-CLASS-330-49	N70-36494*	c 09	NASA-CASE-XMF-00369			NASA-CASE-XMF-00411
		US-PATENT-3,160,825			US-PATENT-APPL-SN-134782			US-PATENT-APPL-SN-158914
N70-35368*	c 14	NASA-CASE-XLE-00335			US-PATENT-CLASS-339-176			US-PATENT-CLASS-73-147
		US-PATENT-APPL-SN-197554			US-PATENT-3,149,897	N70-36938*	c 21	US-PATENT-3,182,496
		US-PATENT-CLASS-73-15.6	N70-36535*	c 15	NASA-CASE-XLE-00303			NASA-CASE-XNP-00294
		US-PATENT-3,176,499			US-PATENT-APPL-SN-182692			US-PATENT-APPL-SN-182696
N70-35381*	c 28	NASA-CASE-XHQ-01897			US-PATENT-CLASS-60-35.6			US-PATENT-CLASS-60-35.5
		US-PATENT-APPL-SN-129579			US-PATENT-3,170,286	N70-36943*	c 21	US-PATENT-3,178,883
		US-PATENT-CLASS-60-35.6	N70-36536*	c 32	NASA-CASE-XLA-00204			NASA-CASE-XLA-00281
		US-PATENT-3,121,309			US-PATENT-APPL-SN-189648			US-PATENT-APPL-SN-84962
N70-35382*	c 09	NASA-CASE-XNP-00540			US-PATENT-CLASS-135-1			US-PATENT-CLASS-244-1
		US-PATENT-APPL-SN-140509			US-PATENT-3,170,471	N70-36946*	c 25	US-PATENT-3,180,587
		US-PATENT-CLASS-343-781	N70-36616*	c 17	NASA-CASE-XLE-00283			NASA-CASE-XLA-01354
		US-PATENT-3,212,096			US-PATENT-APPL-SN-107866			US-PATENT-APPL-SN-253774
N70-35383*	c 11	NASA-CASE-XMF-00580			US-PATENT-CLASS-75-171			US-PATENT-CLASS-60-35.5
		US-PATENT-APPL-SN-343425			US-PATENT-3,167,426	N70-36947*	c 15	US-PATENT-3,174,278
		US-PATENT-CLASS-248-119	N70-36617*	c 33	NASA-CASE-XLA-01291			NASA-CASE-XNP-00416
		US-PATENT-3,194,525			US-PATENT-APPL-SN-277961			US-PATENT-APPL-SN-180395
N70-35394*	c 14	NASA-CASE-XNP-00708			US-PATENT-CLASS-244-1			US-PATENT-CLASS-189-36
		US-PATENT-APPL-SN-281069			US-PATENT-3,176,933	N70-37245*	c 28	US-PATENT-3,169,613
		US-PATENT-CLASS-35-45	N70-36618*	c 14	NASA-CASE-XLE-00143			NASA-CASE-XLE-00376
		US-PATENT-3,196,558			US-PATENT-APPL-SN-104187			US-PATENT-APPL-SN-139007
N70-35395*	c 21	NASA-CASE-XNP-00465			US-PATENT-CLASS-324-61			US-PATENT-CLASS-60-35.5
		US-PATENT-APPL-SN-180379			US-PATENT-3,176,222	N70-37924*	c 31	US-PATENT-3,156,090
		US-PATENT-CLASS-244-1	N70-36654*	c 31	NASA-CASE-XMF-02853			NASA-CASE-XGS-00260
		US-PATENT-3,206,141			US-PATENT-APPL-SN-360182			US-PATENT-APPL-SN-187446
N70-35407*	c 15	NASA-CASE-XLE-00815			US-PATENT-CLASS-244-100			US-PATENT-CLASS-244-1
		US-PATENT-APPL-SN-300712			US-PATENT-3,175,789	N70-37925*	c 15	US-PATENT-3,090,580
		US-PATENT-CLASS-251-11	N70-36778*	c 03	NASA-CASE-XLA-00838			NASA-CASE-XLA-00128
		US-PATENT-3,211,414			US-PATENT-APPL-SN-192016			US-PATENT-APPL-SN-32496
N70-35408*	c 03	NASA-CASE-XGS-01593			US-PATENT-CLASS-9-8			US-PATENT-CLASS-73-384

		US-PATENT-3,093,000			US-PATENT-3,135,090			US-PATENT-3,229,884
N70-37938*	c 31	NASA-CASE-XLA-00149	N70-38601*	c 15	NASA-CASE-XLA-00679	N70-39925*	c 28	NASA-CASE-XLE-00660
		US-PATENT-APPL-SN-847023			US-PATENT-APPL-SN-213836			US-PATENT-APPL-SN-231604
		US-PATENT-CLASS-244-1			US-PATENT-CLASS-188-1			US-PATENT-CLASS-313-11.5
N70-37939*	c 02	NASA-CASE-XLE-00222	N70-38602*	c 14	US-PATENT-3,128,845	N70-39930*	c 03	US-PATENT-3,229,139
		US-PATENT-APPL-SN-77252			NASA-CASE-XLE-00243			NASA-CASE-XLA-00791
		US-PATENT-CLASS-244-113			US-PATENT-APPL-SN-118203			US-PATENT-APPL-SN-347960
		US-PATENT-3,098,630			US-PATENT-CLASS-324-106			US-PATENT-CLASS-102-49
N70-37979*	c 33	NASA-CASE-XLA-00349	N70-38603*	c 15	US-PATENT-3,202,915	N70-39931*	c 28	US-PATENT-3,229,636
		US-PATENT-APPL-SN-141220			NASA-CASE-XNP-00450			NASA-CASE-XNP-01104
		US-PATENT-CLASS-62-467			US-PATENT-APPL-SN-180394			US-PATENT-APPL-SN-290867
		US-PATENT-3,090,212			US-PATENT-CLASS-137-495			US-PATENT-CLASS-60-39-48
N70-37980*	c 28	NASA-CASE-XLE-00342	N70-38604*	c 09	US-PATENT-3,105,515	N70-40003*	c 14	US-PATENT-3,229,463
		US-PATENT-APPL-SN-60531			NASA-CASE-XGS-00458			NASA-CASE-XGS-01036
		US-PATENT-CLASS-60-35.5			US-PATENT-APPL-SN-139006			US-PATENT-APPL-SN-227692
		US-PATENT-3,119,232			US-PATENT-CLASS-307-88			US-PATENT-CLASS-88-14
N70-37981*	c 31	NASA-CASE-XLA-00138	N70-38620*	c 15	US-PATENT-3,128,389	N70-40015*	c 26	US-PATENT-3,229,568
		US-PATENT-APPL-SN-8204			NASA-CASE-XNP-00476			NASA-CASE-XLA-02057
		US-PATENT-CLASS-343-18			US-PATENT-APPL-SN-182698			US-PATENT-APPL-SN-320595
		US-PATENT-3,115,630			US-PATENT-CLASS-308-9			US-PATENT-CLASS-23-277
N70-37986*	c 31	NASA-CASE-XLA-00241	N70-38645*	c 28	US-PATENT-3,132,903	N70-40016*	c 30	US-PATENT-3,230,055
		US-PATENT-APPL-SN-61329			NASA-CASE-XNP-00234			NASA-CASE-XGS-00619
		US-PATENT-CLASS-244-1			US-PATENT-APPL-SN-180382			US-PATENT-APPL-SN-264728
		US-PATENT-3,104,079			US-PATENT-CLASS-60-35.4			US-PATENT-CLASS-244-1
N70-38009*	c 02	NASA-CASE-XLA-00195	N70-38675*	c 11	US-PATENT-3,139,725	N70-40062*	c 15	US-PATENT-3,229,930
		US-PATENT-APPL-SN-60536			NASA-CASE-XNP-00459			NASA-CASE-XMS-01624
		US-PATENT-CLASS-244-140			US-PATENT-APPL-SN-180384			US-PATENT-APPL-SN-422867
		US-PATENT-3,079,113			US-PATENT-CLASS-73-432			US-PATENT-CLASS-55-408
N70-38010*	c 31	NASA-CASE-XLA-00805	N70-38676*	c 31	US-PATENT-3,187,583	N70-40063*	c 07	US-PATENT-3,224,173
		US-PATENT-APPL-SN-181829			NASA-CASE-XLA-00258			NASA-CASE-XMS-00893
		US-PATENT-CLASS-244-46			US-PATENT-APPL-SN-101029			US-PATENT-APPL-SN-251449
		US-PATENT-3,120,361			US-PATENT-CLASS-244-1			US-PATENT-CLASS-343-18
N70-38011*	c 02	NASA-CASE-XLA-00350	N70-38710*	c 28	US-PATENT-3,144,219	N70-40123*	c 09	US-PATENT-3,224,001
		US-PATENT-APPL-SN-153266			NASA-CASE-XMF-00148			NASA-CASE-XGS-01881
		US-PATENT-CLASS-244-46			US-PATENT-APPL-SN-118202			US-PATENT-APPL-SN-155584
		US-PATENT-3,104,082			US-PATENT-CLASS-60-35.6			US-PATENT-CLASS-324-43
N70-38020*	c 15	NASA-CASE-XLE-00345	N70-38711*	c 28	US-PATENT-3,122,885	N70-40124*	c 12	US-PATENT-3,218,547
		US-PATENT-APPL-SN-183978			NASA-CASE-XLE-00057			NASA-CASE-XLE-01512
		US-PATENT-CLASS-62-55			US-PATENT-APPL-SN-0914			US-PATENT-APPL-SN-315096
		US-PATENT-3,122,000			US-PATENT-CLASS-60-35.55			US-PATENT-CLASS-149-2
N70-38181*	c 28	NASA-CASE-XNP-00217	N70-38712*	c 09	US-PATENT-3,080,711	N70-40125*	c 08	US-PATENT-3,215,572
		US-PATENT-APPL-SN-180374			NASA-CASE-XMF-01129			NASA-CASE-XAC-00404
		US-PATENT-CLASS-102-49			US-PATENT-APPL-SN-273534			US-PATENT-APPL-SN-209801
		US-PATENT-3,122,098			US-PATENT-CLASS-318-260			US-PATENT-CLASS-340-347
N70-38182*	c 11	NASA-CASE-XNP-00612	N70-38713*	c 03	US-PATENT-3,147,422	N70-40156*	c 15	US-PATENT-3,216,007
		US-PATENT-APPL-SN-228507			NASA-CASE-XGS-00473			NASA-CASE-XLA-01019
		US-PATENT-CLASS-220-63			US-PATENT-APPL-SN-139012			US-PATENT-APPL-SN-282817
		US-PATENT-3,123,248			US-PATENT-CLASS-200-39			US-PATENT-CLASS-248-358
N70-38196*	c 11	NASA-CASE-XMF-00424	N70-38995*	c 09	US-PATENT-3,141,932	N70-40157*	c 14	US-PATENT-3,223,374
		US-PATENT-APPL-SN-159804			NASA-CASE-XGS-00131			NASA-CASE-XLA-00487
		US-PATENT-CLASS-73-517			US-PATENT-APPL-SN-14488			US-PATENT-APPL-SN-236748
		US-PATENT-3,141,340			US-PATENT-CLASS-331-113			US-PATENT-CLASS-73-178
N70-38197*	c 28	NASA-CASE-XLE-00455	N70-38996*	c 15	US-PATENT-3,150,329	N70-40180*	c 15	US-PATENT-3,221,549
		US-PATENT-APPL-SN-203409			NASA-CASE-XNP-00676			NASA-CASE-XAC-00472
		US-PATENT-CLASS-75-222			US-PATENT-APPL-SN-290870			US-PATENT-APPL-SN-236749
		US-PATENT-3,141,769			US-PATENT-CLASS-222-389			US-PATENT-CLASS-73-142
N70-38198*	c 17	NASA-CASE-XLE-00231	N70-38997*	c 12	US-PATENT-3,170,605	N70-40201*	c 14	US-PATENT-3,224,263
		US-PATENT-APPL-SN-64226			NASA-CASE-XMF-00658			NASA-CASE-XLE-00720
		US-PATENT-CLASS-22-203			US-PATENT-APPL-SN-216710			US-PATENT-APPL-SN-302749
		US-PATENT-3,138,837			US-PATENT-CLASS-137-1			US-PATENT-CLASS-73-134
N70-38199*	c 28	NASA-CASE-XLE-00111	N70-38998*	c 09	US-PATENT-3,110,318	N70-40202*	c 07	US-PATENT-3,221,547
		US-PATENT-APPL-SN-835152			NASA-CASE-XNP-00431			NASA-CASE-XMF-00437
		US-PATENT-CLASS-60-39.48			US-PATENT-APPL-SN-180380			US-PATENT-APPL-SN-120795
		US-PATENT-3,136,123			US-PATENT-CLASS-340-147			US-PATENT-CLASS-343-705
N70-38200*	c 07	NASA-CASE-XLA-00414	N70-38995*	c 28	US-PATENT-3,100,294	N70-40203*	c 14	US-PATENT-3,077,599
		US-PATENT-APPL-SN-209478			NASA-CASE-XLE-00085			NASA-CASE-XLE-00702
		US-PATENT-CLASS-343-705			US-PATENT-APPL-SN-25175			US-PATENT-APPL-SN-258931
		US-PATENT-3,132,342			US-PATENT-CLASS-253-66			US-PATENT-CLASS-73-116
N70-38201*	c 09	NASA-CASE-XNP-00738	N70-38996*	c 15	US-PATENT-3,070,349	N70-40204*	c 15	US-PATENT-3,201,980
		US-PATENT-APPL-SN-204015			NASA-CASE-XMF-00339			NASA-CASE-XMF-00722
		US-PATENT-CLASS-174-115			US-PATENT-APPL-SN-110591			US-PATENT-APPL-SN-347626
		US-PATENT-3,106,603			US-PATENT-CLASS-308-9			US-PATENT-CLASS-228-50
N70-38202*	c 11	NASA-CASE-XNP-00425	N70-38997*	c 18	US-PATENT-3,070,407	N70-40233*	c 14	US-PATENT-3,219,250
		US-PATENT-APPL-SN-180396			NASA-CASE-XLE-00353			US-PATENT-XMS-01546
		US-PATENT-CLASS-89-1.7			US-PATENT-APPL-SN-65548			US-PATENT-APPL-SN-386467
		US-PATENT-3,112,672			US-PATENT-CLASS-252-58			US-PATENT-CLASS-222-45
N70-38225*	c 15	NASA-CASE-XNP-00840	N70-38998*	c 14	US-PATENT-3,072,574	N70-40234*	c 09	US-PATENT-3,228,558
		US-PATENT-APPL-SN-269222			NASA-CASE-XMF-00480			NASA-CASE-XLE-01716
		US-PATENT-CLASS-267-1			US-PATENT-APPL-SN-144804			US-PATENT-APPL-SN-349778
		US-PATENT-3,127,157			US-PATENT-CLASS-248-346			US-PATENT-CLASS-126-270
N70-38249*	c 28	NASA-CASE-XNP-00249	N70-38999*	c 28	US-PATENT-3,069,123	N70-40238*	c 14	US-PATENT-3,229,682
		US-PATENT-APPL-SN-180391			NASA-CASE-XLE-00005			US-PATENT-3,229,682
		US-PATENT-CLASS-60-35.6			US-PATENT-APPL-SN-718095			NASA-CASE-XMF-00908
		US-PATENT-3,120,738			US-PATENT-CLASS-60-35.6			US-PATENT-APPL-SN-241085
N70-38490*	c 17	NASA-CASE-XLE-00228	N70-39915*	c 09	US-PATENT-3,067,573	N70-40239*	c 14	US-PATENT-CLASS-250-201
		US-PATENT-APPL-SN-64224			NASA-CASE-XAC-00060			US-PATENT-3,229,099
		US-PATENT-CLASS-29-183.5			US-PATENT-APPL-SN-47121			NASA-CASE-XLA-00183
		US-PATENT-3,084,421			US-PATENT-CLASS-200-19			US-PATENT-APPL-SN-199202
N70-38504*	c 28	NASA-CASE-XMS-00583	N70-39922*	c 05	US-PATENT-3,076,065	N70-40240*	c 14	US-PATENT-CLASS-250-203
		US-PATENT-APPL-SN-182699			NASA-CASE-XMS-01115			US-PATENT-3,229,102
		US-PATENT-CLASS-60-35.6			US-PATENT-APPL-SN-277404			NASA-CASE-XHO-04106
		US-PATENT-3,135,089			US-PATENT-CLASS-128-29			US-PATENT-APPL-SN-91180
N70-38505*	c 28	NASA-CASE-XLE-00323	N70-39924*	c 15	US-PATENT-3,229,689	N70-40272*	c 09	US-PATENT-CLASS-250-105
		US-PATENT-APPL-SN-183977			NASA-CASE-XMF-00640			US-PATENT-3,143,651
		US-PATENT-CLASS-60-35.6			US-PATENT-APPL-SN-341467			NASA-CASE-XMF-00701
					US-PATENT-CLASS-228-50			US-PATENT-APPL-SN-261917
								US-PATENT-CLASS-307-88.5

N70-40273*	c 14	US-PATENT-3,218,479 NASA-CASE-XNP-00637 US-PATENT-APPL-SN-280776 US-PATENT-CLASS-95-58 US-PATENT-3,217,624	N70-41580*	c 03	US-PATENT-3,295,556 NASA-CASE-XLA-04622 US-PATENT-APPL-SN-277833 US-PATENT-CLASS-126-270 US-PATENT-3,295,512	N70-41811*	c 15	US-PATENT-3,287,031 NASA-CASE-XNP-01152 US-PATENT-APPL-SN-369337 US-PATENT-CLASS-137-539 US-PATENT-3,302,662
N70-40309*	c 30	NASA-CASE-XLA-00210 US-PATENT-APPL-SN-82658 US-PATENT-CLASS-343-18 US-PATENT-3,220,004	N70-41581*	c 05	NASA-CASE-XAC-01404 US-PATENT-APPL-SN-363348 US-PATENT-CLASS-74-471 US-PATENT-3,295,386	N70-41812*	c 14	NASA-CASE-XMS-03792 US-PATENT-APPL-SN-516159 US-PATENT-CLASS-200-61.45 US-PATENT-3,303,304
N70-40353*	c 30	NASA-CASE-XMF-03198 US-PATENT-APPL-SN-370134 US-PATENT-CLASS-89-1.7 US-PATENT-3,224,336	N70-41582*	c 28	NASA-CASE-XMF-01813 US-PATENT-APPL-SN-375674 US-PATENT-CLASS-181-52 US-PATENT-3,270,835	N70-41818*	c 28	NASA-CASE-XLE-00150 US-PATENT-APPL-SN-843032 US-PATENT-CLASS-29-157.3 US-PATENT-3,035,333
N70-40354*	c 15	NASA-CASE-XMF-01045 US-PATENT-APPL-SN-355130 US-PATENT-CLASS-188-1 US-PATENT-3,228,492	N70-41583*	c 18	NASA-CASE-XMF-01030 US-PATENT-APPL-SN-317389 US-PATENT-CLASS-161-115 US-PATENT-3,296,060	N70-41819*	c 05	NASA-CASE-XAC-00405 US-PATENT-APPL-SN-158916 US-PATENT-CLASS-128-1 US-PATENT-3,302,633
N70-40367*	c 28	NASA-CASE-XLE-00177 US-PATENT-APPL-SN-10812 US-PATENT-CLASS-60-35.3 US-PATENT-3,045,424	N70-41588*	c 31	NASA-CASE-XMF-01973 US-PATENT-APPL-SN-375682 US-PATENT-CLASS-244-1 US-PATENT-3,295,790	N70-41829*	c 15	NASA-CASE-XMF-01371 US-PATENT-APPL-SN-353634 US-PATENT-CLASS-287-119 US-PATENT-3,302,960
N70-40400*	c 14	NASA-CASE-XAC-00648 US-PATENT-APPL-SN-216939 US-PATENT-CLASS-73-147 US-PATENT-3,218,850	N70-41589*	c 02	NASA-CASE-XMF-01174 US-PATENT-APPL-SN-410331 US-PATENT-CLASS-244-100 US-PATENT-3,295,798	N70-41855*	c 31	NASA-CASE-XNP-02982 US-PATENT-APPL-SN-388966 US-PATENT-CLASS-244-1 US-PATENT-3,304,028
N70-41275*	c 28	NASA-CASE-XNP-01390 US-PATENT-APPL-SN-424157 US-PATENT-CLASS-60-259 US-PATENT-3,300,981	N70-41628*	c 25	NASA-CASE-XAC-00319 US-PATENT-APPL-SN-77251 US-PATENT-CLASS-315-111 US-PATENT-3,229,155	N70-41856*	c 21	NASA-CASE-XNP-01307 US-PATENT-APPL-SN-390250 US-PATENT-CLASS-244-1 US-PATENT-3,286,953
N70-41297*	c 05	NASA-CASE-XMS-01492 US-PATENT-APPL-SN-398131 US-PATENT-CLASS-55-35 US-PATENT-3,300,949	N70-41629*	c 15	NASA-CASE-XGS-02441 US-PATENT-APPL-SN-411944 US-PATENT-CLASS-285-331 US-PATENT-3,301,578	N70-41863*	c 02	NASA-CASE-XLA-01220 US-PATENT-APPL-SN-379417 US-PATENT-CLASS-244-16 US-PATENT-3,286,957
N70-41310*	c 15	NASA-CASE-XNP-01567 US-PATENT-APPL-SN-448898 US-PATENT-CLASS-248-178 US-PATENT-3,295,808	N70-41630*	c 02	NASA-CASE-XMS-00907 US-PATENT-APPL-SN-428890 US-PATENT-CLASS-244-138 US-PATENT-3,301,511	N70-41864*	c 03	NASA-CASE-XGS-01419 US-PATENT-APPL-SN-323182 US-PATENT-CLASS-136-179 US-PATENT-3,287,174
N70-41311*	c 28	NASA-CASE-XNP-00876 US-PATENT-APPL-SN-377784 US-PATENT-CLASS-60-251 US-PATENT-3,298,182	N70-41631*	c 31	NASA-CASE-XMS-04142 US-PATENT-APPL-SN-422865 US-PATENT-CLASS-244-1 US-PATENT-3,301,507	N70-41871*	c 31	NASA-CASE-XMS-04390 US-PATENT-APPL-SN-502729 US-PATENT-CLASS-62-45 US-PATENT-3,304,729
N70-41329*	c 05	NASA-CASE-XMS-01615 US-PATENT-APPL-SN-329595 US-PATENT-CLASS-128-2.05 US-PATENT-3,298,362	N70-41646*	c 15	NASA-CASE-XLE-01449 US-PATENT-APPL-SN-330209 US-PATENT-CLASS-137-197 US-PATENT-3,295,545	N70-41897*	c 27	NASA-CASE-XNP-01749 US-PATENT-APPL-SN-440033 US-PATENT-CLASS-149-109 US-PATENT-3,305,415
N70-41330*	c 14	NASA-CASE-XLE-00688 US-PATENT-APPL-SN-334672 US-PATENT-CLASS-73-32 US-PATENT-3,298,221	N70-41647*	c 14	NASA-CASE-XGS-00769 US-PATENT-APPL-SN-319893 US-PATENT-CLASS-242-55.19 US-PATENT-3,295,782	N70-41922*	c 28	NASA-CASE-XNP-02839 US-PATENT-APPL-SN-477333 US-PATENT-CLASS-60-202 US-PATENT-3,304,718
N70-41331*	c 07	NASA-CASE-XLA-01400 US-PATENT-APPL-SN-363653 US-PATENT-CLASS-325-65 US-PATENT-3,296,531	N70-41655*	c 09	NASA-CASE-XMF-00906 US-PATENT-APPL-SN-264731 US-PATENT-CLASS-324-113 US-PATENT-3,287,640	N70-41929*	c 09	NASA-CASE-XNP-01951 US-PATENT-APPL-SN-413662 US-PATENT-CLASS-335-300 US-PATENT-3,305,810
N70-41332*	c 14	NASA-CASE-XLA-00495 US-PATENT-APPL-SN-269215 US-PATENT-CLASS-324-70 US-PATENT-3,296,526	N70-41675*	c 09	NASA-CASE-XMS-01315 US-PATENT-APPL-SN-347101 US-PATENT-CLASS-307-88.5 US-PATENT-3,302,040	N70-41930*	c 21	NASA-CASE-XNP-01501 US-PATENT-APPL-SN-432027 US-PATENT-CLASS-343-12 US-PATENT-3,305,861
N70-41366*	c 14	NASA-CASE-XLA-01353 US-PATENT-APPL-SN-403960 US-PATENT-CLASS-73-147 US-PATENT-3,301,046	N70-41676*	c 14	NASA-CASE-XGS-01231 US-PATENT-APPL-SN-346356 US-PATENT-CLASS-250-71 US-PATENT-3,302,023	N70-41946*	c 14	NASA-CASE-XLE-00011 US-PATENT-APPL-SN-735911 US-PATENT-CLASS-88-14 US-PATENT-2,960,002
N70-41367*	c 32	NASA-CASE-XGS-00938 US-PATENT-APPL-SN-392970 US-PATENT-CLASS-214-1 US-PATENT-3,295,699	N70-41677*	c 11	NASA-CASE-XMF-01772 US-PATENT-APPL-SN-370135 US-PATENT-CLASS-73-116 US-PATENT-3,295,366	N70-41948*	c 31	NASA-CASE-XMF-01899 US-PATENT-APPL-SN-428882 US-PATENT-CLASS-60-257 US-PATENT-3,304,724
N70-41370*	c 32	NASA-CASE-XNP-01962 US-PATENT-APPL-SN-369640 US-PATENT-CLASS-92-94 US-PATENT-3,298,285	N70-41678*	c 07	NASA-CASE-XGS-02608 US-PATENT-APPL-SN-456578 US-PATENT-CLASS-343-18 US-PATENT-3,289,205	N70-41954*	c 03	NASA-CASE-XAC-03392 US-PATENT-APPL-SN-430776 US-PATENT-CLASS-74-519 US-PATENT-3,304,799
N70-41371*	c 15	NASA-CASE-XMF-01452 US-PATENT-APPL-SN-356692 US-PATENT-CLASS-29-271 US-PATENT-3,300,847	N70-41679*	c 15	NASA-CASE-XLA-01441 US-PATENT-APPL-SN-516151 US-PATENT-CLASS-102-49 US-PATENT-3,302,569	N70-41955*	c 14	NASA-CASE-XNP-02029 US-PATENT-APPL-SN-221276 US-PATENT-CLASS-88-14 US-PATENT-3,323,408
N70-41372*	c 07	NASA-CASE-XLA-01127 US-PATENT-APPL-SN-363654 US-PATENT-CLASS-325-65 US-PATENT-3,300,731	N70-41680*	c 07	NASA-CASE-XNP-02723 US-PATENT-APPL-SN-371857 US-PATENT-CLASS-343-14 US-PATENT-3,287,725	N70-41957*	c 14	NASA-CASE-XAC-01101 US-PATENT-APPL-SN-355129 US-PATENT-CLASS-73-141 US-PATENT-3,304,773
N70-41373*	c 31	NASA-CASE-XMS-01906 US-PATENT-APPL-SN-339040 US-PATENT-CLASS-244-1 US-PATENT-3,300,162	N70-41681*	c 14	NASA-CASE-XAC-02877 US-PATENT-APPL-SN-449902 US-PATENT-CLASS-73-30 US-PATENT-3,295,360	N70-41960*	c 15	NASA-CASE-XNP-05082 US-PATENT-APPL-SN-521753 US-PATENT-CLASS-174-68.5 US-PATENT-3,321,570
N70-41447*	c 28	NASA-CASE-XNP-00732 US-PATENT-APPL-SN-261918 US-PATENT-CLASS-210-314 US-PATENT-3,295,684	N70-41682*	c 14	NASA-CASE-XMS-05936 US-PATENT-APPL-SN-557868 US-PATENT-CLASS-73-517 US-PATENT-3,295,377	N70-41961*	c 08	NASA-CASE-XNP-00911 US-PATENT-APPL-SN-280777 US-PATENT-CLASS-178-67 US-PATENT-3,305,636
N70-41576*	c 28	NASA-CASE-XLE-00519 US-PATENT-APPL-SN-249542 US-PATENT-CLASS-313-63 US-PATENT-3,287,582	N70-41717*	c 09	NASA-CASE-XMS-02087 US-PATENT-APPL-SN-439489 US-PATENT-CLASS-165-1 US-PATENT-3,301,315	N70-41964*	c 10	NASA-CASE-XGS-01983 US-PATENT-APPL-SN-388023 US-PATENT-CLASS-333-79 US-PATENT-3,305,801
N70-41578*	c 16	NASA-CASE-XGS-01504 US-PATENT-APPL-SN-340113 US-PATENT-CLASS-331-94 US-PATENT-3,287,660	N70-41807*	c 14	NASA-CASE-XNP-01472 US-PATENT-APPL-SN-321656 US-PATENT-CLASS-178-7.2 US-PATENT-3,287,496	N70-41967*	c 28	NASA-CASE-XLA-02651 US-PATENT-APPL-SN-449901 US-PATENT-CLASS-102-49 US-PATENT-3,304,865
N70-41579*	c 32	NASA-CASE-XLE-00620 US-PATENT-APPL-SN-304698 US-PATENT-CLASS-138-119	N70-41808*	c 15	NASA-CASE-XMS-02532 US-PATENT-APPL-SN-398132 US-PATENT-CLASS-285-27	N70-41991*	c 10	NASA-CASE-XNP-03128 US-PATENT-APPL-SN-397665 US-PATENT-CLASS-250-83.6

N70-41992*	c 28	US-PATENT-3,321,628 NASA-CASE-XLE-00685 US-PATENT-APPL-SN-407595 US-PATENT-CLASS-60-260 US-PATENT-3,321,922	N71-10616*	c 14	US-PATENT-3,311,315 NASA-CASE-XMF-02433 US-PATENT-APPL-SN-405630 US-PATENT-CLASS-73-70.2 US-PATENT-3,310,978	N71-10781*	c 14	US-PATENT-3,316,716 NASA-CASE-XLE-01481 US-PATENT-APPL-SN-319905 US-PATENT-CLASS-73-99 US-PATENT-3,282,091
N70-41993*	c 15	NASA-CASE-XLE-01300 US-PATENT-APPL-SN-380960 US-PATENT-CLASS-73-100 US-PATENT-3,323,356	N71-10617*	c 15	NASA-CASE-XMF-01887 US-PATENT-APPL-SN-422868 US-PATENT-CLASS-308-5 US-PATENT-3,325,229	N71-10782*	c 15	NASA-CASE-XKS-01985 US-PATENT-APPL-SN-357337 US-PATENT-CLASS-285-24 US-PATENT-3,319,979
N70-41994*	c 14	NASA-CASE-XMF-02822 US-PATENT-APPL-SN-403959 US-PATENT-CLASS-73-194 US-PATENT-3,323,362	N71-10618*	c 09	NASA-CASE-XNP-03332 US-PATENT-APPL-SN-368123 US-PATENT-CLASS-313-63 US-PATENT-3,311,772	N71-10797*	c 14	NASA-CASE-XLE-01246 US-PATENT-APPL-SN-249537 US-PATENT-CLASS-324-61 US-PATENT-3,324,388
N70-42000*	c 05	NASA-CASE-XMS-03371 US-PATENT-APPL-SN-418931 US-PATENT-CLASS-73-432 US-PATENT-3,323,370	N71-10658*	c 15	NASA-CASE-XMS-03252 US-PATENT-APPL-SN-425362 US-PATENT-CLASS-60-54.5 US-PATENT-3,318,093	N71-10798*	c 09	NASA-CASE-XMS-00945 US-PATENT-APPL-SN-385530 US-PATENT-CLASS-330-22 US-PATENT-3,319,175
N70-42003*	c 32	NASA-CASE-XLA-02131 US-PATENT-APPL-SN-377777 US-PATENT-CLASS-73-90 US-PATENT-3,304,768	N71-10659*	c 09	NASA-CASE-XNP-01383 US-PATENT-APPL-SN-369336 US-PATENT-CLASS-324-77 US-PATENT-3,317,832	N71-10799*	c 15	NASA-CASE-XLA-01807 US-PATENT-APPL-SN-442558 US-PATENT-CLASS-287-189.36 US-PATENT-3,318,622
N70-42015*	c 31	NASA-CASE-XLA-01967 US-PATENT-APPL-SN-457875 US-PATENT-CLASS-244-135 US-PATENT-3,321,159	N71-10672*	c 15	NASA-CASE-XLA-01091 US-PATENT-APPL-SN-351259 US-PATENT-CLASS-264-102 US-PATENT-3,317,641	N71-10809*	c 15	NASA-CASE-XMF-02107 US-PATENT-APPL-SN-384811 US-PATENT-CLASS-140-124 US-PATENT-3,318,343
N70-42016*	c 02	NASA-CASE-XLA-01290 US-PATENT-APPL-SN-393451 US-PATENT-CLASS-244-42 US-PATENT-3,321,157	N71-10673*	c 09	NASA-CASE-XGS-01473 US-PATENT-APPL-SN-364867 US-PATENT-CLASS-307-88.5 US-PATENT-3,317,751	N71-11037*	c 02	NASA-CASE-XLA-06824-2 US-PATENT-APPL-SN-775966 US-PATENT-CLASS-244-31 US-PATENT-3,508,724
N70-42017*	c 15	NASA-CASE-XMS-04072 US-PATENT-APPL-SN-485960 US-PATENT-CLASS-30-228 US-PATENT-3,320,669	N71-10676*	c 07	NASA-CASE-XNP-03134 US-PATENT-APPL-SN-422095 US-PATENT-CLASS-333-21 US-PATENT-3,324,423	N71-11038*	c 02	NASA-CASE-XLA-06958 US-PATENT-APPL-SN-551815 US-PATENT-CLASS-244-44 US-PATENT-3,310,261
N70-42032*	c 10	NASA-CASE-XNP-02654 US-PATENT-APPL-SN-435387 US-PATENT-CLASS-307-88.5 US-PATENT-3,321,645	N71-10677*	c 09	NASA-CASE-XGS-01451 US-PATENT-APPL-SN-405629 US-PATENT-CLASS-318-138 US-PATENT-3,324,370	N71-11039*	c 02	NASA-CASE-MSC-12111-1 US-PATENT-APPL-SN-775877 US-PATENT-CLASS-244-23 US-PATENT-3,490,721
N70-42033*	c 15	NASA-CASE-XNP-02092 US-PATENT-APPL-SN-371856 US-PATENT-CLASS-156-345 US-PATENT-3,323,967	N71-10678*	c 21	NASA-CASE-XGS-01159 US-PATENT-APPL-SN-332313 US-PATENT-CLASS-250-203 US-PATENT-3,311,748	N71-11041* #	c 02	NASA-CASE-XLA-03659 US-PATENT-APPL-SN-444087 US-PATENT-CLASS-244-46 US-PATENT-3,270,989
N70-42034*	c 15	NASA-CASE-XNP-01412 US-PATENT-APPL-SN-426702 US-PATENT-CLASS-175-310 US-PATENT-3,321,034	N71-10728*	c 03	NASA-CASE-XNP-01464 US-PATENT-APPL-SN-430778 US-PATENT-CLASS-136-182 US-PATENT-3,317,352	N71-11043*	c 02	NASA-CASE-XLA-08801-1 US-PATENT-APPL-SN-710533 US-PATENT-CLASS-244-43 US-PATENT-3,493,197
N70-42073*	c 03	NASA-CASE-XFR-04104 US-PATENT-APPL-SN-476759 US-PATENT-CLASS-74-471 US-PATENT-3,323,386	N71-10746*	c 11	NASA-CASE-XMS-02977 US-PATENT-APPL-SN-416938 US-PATENT-CLASS-35-12 US-PATENT-3,281,963	N71-11049*	c 03	NASA-CASE-NPO-10109 US-PATENT-APPL-SN-701654 US-PATENT-CLASS-136-89 US-PATENT-3,532,551
N70-42074*	c 14	NASA-CASE-XLE-02998 US-PATENT-APPL-SN-516794 US-PATENT-CLASS-116-117 US-PATENT-3,323,484	N71-10747*	c 31	NASA-CASE-XMF-00442 US-PATENT-APPL-SN-202030 US-PATENT-CLASS-343-705 US-PATENT-3,277,486	N71-11050*	c 03	NASA-CASE-XNP-06506 US-PATENT-APPL-SN-577778 US-PATENT-CLASS-136-89 US-PATENT-3,446,676
N70-42075*	c 31	NASA-CASE-XMS-02677 US-PATENT-APPL-SN-472066 US-PATENT-CLASS-244-1 US-PATENT-3,321,154	N71-10748*	c 11	NASA-CASE-XFR-04147 US-PATENT-APPL-SN-476761 US-PATENT-CLASS-35-12 US-PATENT-3,281,965	N71-11051*	c 03	NASA-CASE-XNP-03378 US-PATENT-APPL-SN-360878 US-PATENT-CLASS-136-170 US-PATENT-3,282,740
N71-10500*	c 14	NASA-CASE-XLE-01609 US-PATENT-APPL-SN-438797 US-PATENT-CLASS-73-290 US-PATENT-3,326,043	N71-10771*	c 21	NASA-CASE-XNP-03914 US-PATENT-APPL-SN-468647 US-PATENT-CLASS-250-203 US-PATENT-3,317,731	N71-11052*	c 03	NASA-CASE-XLE-04526 US-PATENT-APPL-SN-640457 US-PATENT-CLASS-136-86 US-PATENT-3,507,704
N71-10560*	c 24	NASA-CASE-XLE-00808 US-PATENT-APPL-SN-307269 US-PATENT-CLASS-148-188 US-PATENT-3,310,443	N71-10772*	c 18	NASA-CASE-XLE-01765 US-PATENT-APPL-SN-316477 US-PATENT-CLASS-117-65.2 US-PATENT-3,317,341	N71-11053*	c 03	NASA-CASE-XGS-00886 US-PATENT-APPL-SN-319894 US-PATENT-CLASS-136-132 US-PATENT-3,282,739
N71-10574*	c 28	NASA-CASE-XLE-01902 US-PATENT-APPL-SN-485656 US-PATENT-CLASS-60-202 US-PATENT-3,324,659	N71-10773*	c 14	NASA-CASE-XLA-02605 US-PATENT-APPL-SN-459138 US-PATENT-CLASS-177-210 US-PATENT-3,316,991	N71-11055*	c 03	NASA-CASE-XMF-05843 US-PATENT-APPL-SN-666553 US-PATENT-CLASS-310-4 US-PATENT-3,509,386
N71-10577*	c 15	NASA-CASE-XLE-04677 US-PATENT-APPL-SN-447928 US-PATENT-CLASS-220-67 US-PATENT-3,326,407	N71-10774*	c 14	NASA-CASE-XLA-01131 US-PATENT-APPL-SN-322545 US-PATENT-CLASS-73-23 US-PATENT-3,312,101	N71-11056*	c 03	NASA-CASE-XNP-05821 US-PATENT-APPL-SN-545223 US-PATENT-CLASS-136-89 US-PATENT-3,493,437
N71-10578*	c 10	NASA-CASE-XMS-01554 US-PATENT-APPL-SN-414482 US-PATENT-CLASS-323-8 US-PATENT-3,325,723	N71-10775*	c 07	NASA-CASE-XLA-00901 US-PATENT-APPL-SN-269212 US-PATENT-CLASS-325-305 US-PATENT-3,311,832	N71-11057*	c 03	NASA-CASE-MSC-13112 US-PATENT-APPL-SN-765738 US-PATENT-CLASS-290-40 US-PATENT-3,508,070
N71-10582*	c 31	NASA-CASE-XLA-02132 US-PATENT-APPL-SN-453227 US-PATENT-CLASS-102-49 US-PATENT-3,286,630	N71-10776*	c 11	NASA-CASE-XLA-03127 US-PATENT-APPL-SN-447927 US-PATENT-CLASS-35-12 US-PATENT-3,281,964	N71-11058*	c 03	NASA-CASE-XGS-01475 US-PATENT-APPL-SN-344793 US-PATENT-CLASS-244-1 US-PATENT-3,459,391
N71-10604*	c 11	NASA-CASE-XMF-03248 US-PATENT-APPL-SN-377780 US-PATENT-CLASS-73-116 US-PATENT-3,310,980	N71-10777*	c 11	NASA-CASE-XLE-01533 US-PATENT-APPL-SN-334678 US-PATENT-CLASS-55-400 US-PATENT-3,282,035	N71-11189*	c 05	NASA-CASE-XFR-10856 US-PATENT-APPL-SN-626376 US-PATENT-CLASS-3,534,727
N71-10607*	c 26	NASA-CASE-XLE-02792 US-PATENT-APPL-SN-352400 US-PATENT-CLASS-148-1.5 US-PATENT-3,311,510	N71-10778*	c 15	NASA-CASE-XNP-00710 US-PATENT-APPL-SN-271821 US-PATENT-CLASS-251-61 US-PATENT-3,317,180	N71-11190*	c 05	NASA-CASE-XMS-04935 US-PATENT-APPL-SN-518487 US-PATENT-CLASS-128-142.5 US-PATENT-3,502,074
N71-10608*	c 03	NASA-CASE-XGS-03505 US-PATENT-APPL-SN-498167 US-PATENT-CLASS-136-28 US-PATENT-3,311,502	N71-10779*	c 14	NASA-CASE-XMF-02307 US-PATENT-APPL-SN-422869 US-PATENT-CLASS-73-40.5 US-PATENT-3,316,752	N71-11193*	c 05	NASA-CASE-ARC-10043-1 US-PATENT-APPL-SN-676012 US-PATENT-CLASS-128-2.1 US-PATENT-3,508,541
N71-10609*	c 07	NASA-CASE-XGS-01223 US-PATENT-APPL-SN-319892 US-PATENT-CLASS-242-55.19	N71-10780*	c 28	NASA-CASE-XLA-01043 US-PATENT-APPL-SN-379768 US-PATENT-CLASS-60-225	N71-11194*	c 05	NASA-CASE-XLA-05332 US-PATENT-APPL-SN-757861 US-PATENT-CLASS-2-2.1 US-PATENT-3,534,407



N71-11195*	c 05	NASA-CASE-LAR-10007-1 US-PATENT-APPL-SN-770203 US-PATENT-CLASS-2-2.1 US-PATENT-3,534,406	N71-12258*	c 03	NASA-CASE-XLA-00711 US-PATENT-APPL-SN-357334 US-PATENT-CLASS-89-1.7 US-PATENT-3,249,012	N71-12506*	c 08	NASA-CASE-XNP-08832 US-PATENT-APPL-SN-681692 US-PATENT-CLASS-340-172.5 US-PATENT-3,535,696
N71-11199*	c 05	NASA-CASE-XKS-02342 US-PATENT-APPL-SN-407603 US-PATENT-CLASS-182-191 US-PATENT-3,262,518	N71-12259*	c 03	NASA-CASE-XLA-01396 US-PATENT-APPL-SN-357336 US-PATENT-CLASS-89-1.7 US-PATENT-3,249,013	N71-12507*	c 08	NASA-CASE-XLA-01952 US-PATENT-APPL-SN-676386 US-PATENT-CLASS-340-324 US-PATENT-3,537,096
N71-11202*	c 05	NASA-CASE-XFR-08403 US-PATENT-APPL-SN-704420 US-PATENT-CLASS-73-23 US-PATENT-3,507,146	N71-12260*	c 03	NASA-CASE-XNP-01020 US-PATENT-APPL-SN-430780 US-PATENT-CLASS-60-97 US-PATENT-3,238,730	N71-12513*	c 09	NASA-CASE-XGS-07801 US-PATENT-APPL-SN-640452 US-PATENT-CLASS-148-188 US-PATENT-3,490,965
N71-11203*	c 05	NASA-CASE-XMS-09632-1 US-PATENT-APPL-SN-791693 US-PATENT-CLASS-128-142.5 US-PATENT-3,500,827	N71-12335*	c 05	NASA-CASE-XMS-00784 US-PATENT-APPL-SN-358127 US-PATENT-CLASS-2-2.1 US-PATENT-3,286,274	N71-12514*	c 09	NASA-CASE-XLA-07497 US-PATENT-APPL-SN-631848 US-PATENT-CLASS-307-252 US-PATENT-3,491,255
N71-11207*	c 05	NASA-CASE-XLA-03213 US-PATENT-APPL-SN-621715 US-PATENT-CLASS-202-182 US-PATENT-3,444,051	N71-12336*	c 05	NASA-CASE-XMS-05304 US-PATENT-APPL-SN-511567 US-PATENT-CLASS-244-4 US-PATENT-3,270,986	N71-12515*	c 09	NASA-CASE-XNP-08836 US-PATENT-APPL-SN-669698 US-PATENT-CLASS-340-174 US-PATENT-3,535,702
N71-11235*	c 06	NASA-CASE-XLA-03104 US-PATENT-APPL-SN-510155 US-PATENT-CLASS-260-78 US-PATENT-3,518,232	N71-12341*	c 05	NASA-CASE-MFS-14671 US-PATENT-APPL-SN-723476 US-PATENT-CLASS-297-385 US-PATENT-3,516,711	N71-12516*	c 09	NASA-CASE-XNP-09768 US-PATENT-APPL-SN-698629 US-PATENT-CLASS-307-243 US-PATENT-3,535,554
N71-11236*	c 06	NASA-CASE-XMF-08651 US-PATENT-APPL-SN-593594 US-PATENT-CLASS-260-72.5 US-PATENT-3,526,611	N71-12342*	c 05	NASA-CASE-XAC-05706 US-PATENT-APPL-SN-592694 US-PATENT-CLASS-325-143 US-PATENT-3,453,546	N71-12517*	c 09	NASA-CASE-XAC-10608-1 US-PATENT-APPL-SN-710561 US-PATENT-CLASS-333-80 US-PATENT-3,493,901
N71-11237*	c 06	NASA-CASE-XMF-10753 US-PATENT-APPL-SN-668751 US-PATENT-CLASS-260-46.5 US-PATENT-3,444,127	N71-12343*	c 05	NASA-CASE-MS-11253 US-PATENT-APPL-SN-695973 US-PATENT-CLASS-297-68 US-PATENT-3,466,085	N71-12518*	c 09	NASA-CASE-XNP-09808 US-PATENT-APPL-SN-692471 US-PATENT-CLASS-200-61.42 US-PATENT-3,488,461
N71-11238*	c 06	NASA-CASE-XLA-08802 US-PATENT-APPL-SN-640454 US-PATENT-CLASS-260-78 US-PATENT-3,532,673	N71-12344*	c 05	NASA-CASE-XMS-09636 US-PATENT-APPL-SN-586330 US-PATENT-CLASS-2-2.1 US-PATENT-3,492,672	N71-12519*	c 09	NASA-CASE-XMF-06519 US-PATENT-APPL-SN-656952 US-PATENT-CLASS-328-110 US-PATENT-3,535,644
N71-11239*	c 06	NASA-CASE-XMF-08655 US-PATENT-APPL-SN-593593 US-PATENT-CLASS-260-72.5 US-PATENT-3,516,970	N71-12345*	c 05	NASA-CASE-MS-12066-1 US-PATENT-APPL-SN-812999 US-PATENT-CLASS-29-400 US-PATENT-3,490,130	N71-12520*	c 09	NASA-CASE-NPO-10230 US-PATENT-APPL-SN-691735 US-PATENT-CLASS-307-225 US-PATENT-3,535,547
N71-11240*	c 06	NASA-CASE-MFS-13994-1 US-PATENT-APPL-SN-715975 US-PATENT-CLASS-260-46.5 US-PATENT-3,516,964	N71-12346*	c 05	NASA-CASE-XMS-04212-1 US-PATENT-APPL-SN-607461 US-PATENT-CLASS-128-2.1 US-PATENT-3,490,440	N71-12521*	c 09	NASA-CASE-ARC-10030 US-PATENT-APPL-SN-679885 US-PATENT-CLASS-313-110 US-PATENT-3,493,805
N71-11242*	c 06	NASA-CASE-XMF-08656 US-PATENT-APPL-SN-593605 US-PATENT-CLASS-260-2.5 US-PATENT-3,493,524	N71-12351*	c 05	NASA-CASE-LAR-10056 US-PATENT-APPL-SN-674357 US-PATENT-CLASS-224-25 US-PATENT-3,493,153	N71-12526*	c 09	NASA-CASE-MS-12135-1 US-PATENT-APPL-SN-761404 US-PATENT-CLASS-317-31 US-PATENT-3,448,341
N71-11243*	c 06	NASA-CASE-XMF-08652 US-PATENT-APPL-SN-593606 US-PATENT-CLASS-260-2 US-PATENT-3,493,522	N71-12389*	c 07	NASA-CASE-XLA-01090 US-PATENT-APPL-SN-741824 US-PATENT-CLASS-250-199 US-PATENT-RE-26,548	N71-12539*	c 09	NASA-CASE-ERC-10552 US-PATENT-APPL-SN-720125 US-PATENT-CLASS-178-7.7 US-PATENT-3,535,446
N71-11266*	c 07	NASA-CASE-XLA-03076 US-PATENT-APPL-SN-591004 US-PATENT-CLASS-325-42 US-PATENT-3,508,152	N71-12390*	c 07	NASA-CASE-XER-09213 US-PATENT-APPL-SN-668302 US-PATENT-CLASS-332-9 US-PATENT-3,535,657	N71-12540*	c 09	NASA-CASE-XNP-01058 US-PATENT-APPL-SN-313136 US-PATENT-CLASS-315-160 US-PATENT-3,271,620
N71-11267*	c 07	NASA-CASE-XNP-10843 US-PATENT-APPL-SN-649358 US-PATENT-CLASS-325-363 US-PATENT-3,508,156	N71-12391*	c 07	NASA-CASE-XMS-05454-1 US-PATENT-APPL-SN-771803 US-PATENT-CLASS-343-17.7 US-PATENT-3,471,858	N71-12554*	c 10	NASA-CASE-NPO-10348 US-PATENT-APPL-SN-704668 US-PATENT-CLASS-324-95 US-PATENT-3,532,979
N71-11281*	c 07	NASA-CASE-XNP-10830 US-PATENT-APPL-SN-692332 US-PATENT-CLASS-178-69.5 US-PATENT-3,535,451	N71-12392*	c 07	NASA-CASE-XGS-01590 US-PATENT-APPL-SN-584067 US-PATENT-CLASS-178-88 US-PATENT-3,491,202	N71-13410*	c 01	NASA-CASE-XLA-00755 US-PATENT-APPL-SN-247423 US-PATENT-CLASS-244-35 US-PATENT-3,270,988
N71-11282*	c 07	NASA-CASE-XGS-02889 US-PATENT-APPL-SN-685748 US-PATENT-CLASS-329-104 US-PATENT-3,501,704	N71-12396*	c 07	NASA-CASE-GSC-10452 US-PATENT-APPL-SN-797794 US-PATENT-CLASS-343-776 US-PATENT-3,495,262	N71-13411*	c 01	NASA-CASE-XLA-05828 US-PATENT-APPL-SN-509460 US-PATENT-CLASS-235-61.6 US-PATENT-3,500,020
N71-11284*	c 07	NASA-CASE-XLA-01552 US-PATENT-APPL-SN-332339 US-PATENT-CLASS-325-65 US-PATENT-3,277,375	N71-12494*	c 08	NASA-CASE-XGS-04767 US-PATENT-APPL-SN-645584 US-PATENT-CLASS-307-296 US-PATENT-3,535,560	N71-13421*	c 02	NASA-CASE-XFR-00756 US-PATENT-APPL-SN-212173 US-PATENT-CLASS-235-150.22 US-PATENT-3,258,582
N71-11285*	c 07	NASA-CASE-NPO-10539 US-PATENT-APPL-SN-743429 US-PATENT-CLASS-343-779 US-PATENT-3,534,375	N71-12500*	c 08	NASA-CASE-XNP-07040 US-PATENT-APPL-SN-649357 US-PATENT-CLASS-332-31 US-PATENT-3,535,658	N71-13422*	c 02	NASA-CASE-XLA-06339 US-PATENT-APPL-SN-801336 US-PATENT-CLASS-244-76 US-PATENT-3,534,930
N71-11298*	c 07	NASA-CASE-XMF-01160 US-PATENT-APPL-SN-310507 US-PATENT-CLASS-340-198 US-PATENT-3,243,791	N71-12501*	c 08	NASA-CASE-XLA-00670 US-PATENT-APPL-SN-235162 US-PATENT-CLASS-340-347 US-PATENT-3,251,053	N71-13461*	c 06	NASA-CASE-LAR-10180-1 US-PATENT-APPL-SN-709398 US-PATENT-CLASS-250-41.9 US-PATENT-3,521,054
N71-11300*	c 07	NASA-CASE-XMS-07168 US-PATENT-APPL-SN-769788 US-PATENT-CLASS-178-6.6 US-PATENT-3,493,677	N71-12502*	c 08	NASA-CASE-NPO-10112 US-PATENT-APPL-SN-673226 US-PATENT-CLASS-340-172.5 US-PATENT-3,533,074	N71-13486*	c 09	NASA-CASE-MFS-20333 US-PATENT-APPL-SN-820965 US-PATENT-CLASS-307-149 US-PATENT-3,535,543
N71-11766*	c 21	NASA-CASE-LAR-10403 US-PATENT-APPL-SN-676391 US-PATENT-CLASS-343-6.5 US-PATENT-3,447,154	N71-12503*	c 08	NASA-CASE-NPO-10351 US-PATENT-APPL-SN-712065 US-PATENT-CLASS-328-37 US-PATENT-3,535,642	N71-13518*	c 09	NASA-CASE-MS-12178-1 US-PATENT-APPL-SN-845365 US-PATENT-CLASS-315-241 US-PATENT-3,530,336
N71-12217* #	c 01	NASA-CASE-FRC-10063 US-PATENT-APPL-SN-21263 US-PATENT-CLASS-178-6.6 US-PATENT-3,493,677	N71-12504*	c 08	NASA-CASE-XMF-05835 US-PATENT-APPL-SN-627257 US-PATENT-CLASS-340-174 US-PATENT-3,493,942	N71-13521*	c 09	NASA-CASE-XKS-09348 US-PATENT-APPL-SN-677505 US-PATENT-CLASS-343-703 US-PATENT-3,526,897
N71-12243*	c 02	NASA-CASE-XLA-04451 US-PATENT-APPL-SN-457876 US-PATENT-CLASS-244-45 US-PATENT-3,310,262	N71-12505*	c 08	NASA-CASE-XNP-05415 US-PATENT-APPL-SN-578932	N71-13522*	c 09	NASA-CASE-LEW-10364-1 US-PATENT-APPL-SN-822518
N71-12255*	c 03	NASA-CASE-NPO-10404 US-PATENT-APPL-SN-728234						

		US-PATENT-CLASS-317-258				US-PATENT-CLASS-350-3.5				US-PATENT-CLASS-60-35.6
		US-PATENT-3,535,602				US-PATENT-3,535,013				US-PATENT-3,270,503
N71-13530*	c 09	NASA-CASE-XNP-00384	N71-15562*	c 25	NASA-CASE-XLA-03374	N71-15625*	c 33	NASA-CASE-XLE-01399		
		US-PATENT-APPL-SN-180392			US-PATENT-APPL-SN-793770			US-PATENT-APPL-SN-320233		
		US-PATENT-CLASS-324-132			US-PATENT-CLASS-315-111			US-PATENT-CLASS-13-26		
		US-PATENT-3,263,171			US-PATENT-3,535,586			US-PATENT-3,263,016		
N71-13531*	c 09	NASA-CASE-MS-12033-1	N71-15563*	c 28	NASA-CASE-XLA-02865	N71-15634*	c 27	NASA-CASE-XLE-01988		
		US-PATENT-APPL-SN-602828			US-PATENT-APPL-SN-416946			US-PATENT-APPL-SN-308918		
		US-PATENT-CLASS-330-11			US-PATENT-CLASS-244-53			US-PATENT-CLASS-60-35.6		
		US-PATENT-3,526,845			US-PATENT-3,270,990			US-PATENT-3,258,912		
N71-13537*	c 10	NASA-CASE-XNP-08274	N71-15565*	c 16	NASA-CASE-MFS-20074	N71-15635*	c 27	NASA-CASE-XLE-01182		
		US-PATENT-APPL-SN-730703			US-PATENT-APPL-SN-801312			US-PATENT-APPL-SN-411949		
		US-PATENT-CLASS-73-382			US-PATENT-CLASS-350-3.5			US-PATENT-CLASS-60-39.46		
		US-PATENT-3,520,190			US-PATENT-3,535,014			US-PATENT-3,258,918		
N71-13545*	c 10	NASA-CASE-LAR-10774	N71-15566*	c 31	NASA-CASE-XKS-08012-2	N71-15637*	c 31	NASA-CASE-XLE-01640		
		US-PATENT-APPL-SN-802820			US-PATENT-APPL-SN-874958			US-PATENT-APPL-SN-473535		
		US-PATENT-CLASS-73-1			US-PATENT-CLASS-340-172.5			US-PATENT-CLASS-60-35.6		
		US-PATENT-3,534,584			US-PATENT-3,535,683			US-PATENT-3,270,504		
N71-13789*	c 15	NASA-CASE-XLA-01141	N71-15567*	c 16	NASA-CASE-ERC-10017	N71-15641*	c 33	NASA-CASE-XNP-09802		
		US-PATENT-APPL-SN-353632			US-PATENT-APPL-SN-677506			US-PATENT-APPL-SN-673229		
		US-PATENT-CLASS-102-49			US-PATENT-CLASS-350-3.5			US-PATENT-CLASS-73-190		
		US-PATENT-3,263,610			US-PATENT-3,535,012			US-PATENT-3,531,989		
N71-13958*	c 21	NASA-CASE-GSC-10087-2	N71-15568*	c 33	NASA-CASE-XLE-09475-1	N71-15642*	c 21	NASA-CASE-XGS-03431		
		US-PATENT-APPL-SN-701744			US-PATENT-APPL-SN-710945			US-PATENT-APPL-SN-588635		
		US-PATENT-CLASS-343-112			US-PATENT-CLASS-136-228			US-PATENT-CLASS-250-203		
		US-PATENT-3,495,260			US-PATENT-3,535,165			US-PATENT-3,488,504		
N71-14014*	c 18	NASA-CASE-GSC-10072	N71-15571*	c 15	NASA-CASE-XLA-07911	N71-15643*	c 31	NASA-CASE-NPO-10311		
		US-PATENT-APPL-SN-686296			US-PATENT-APPL-SN-660572			US-PATENT-APPL-SN-725475		
		US-PATENT-CLASS-106-15			US-PATENT-CLASS-33-207			US-PATENT-CLASS-73-116		
		US-PATENT-3,493,401			US-PATENT-3,492,739			US-PATENT-3,534,597		
N71-14032*	c 33	NASA-CASE-XLE-05913	N71-15582*	c 21	NASA-CASE-XLA-01163	N71-15644*	c 17	NASA-CASE-XLE-00726		
		US-PATENT-APPL-SN-551933			US-PATENT-APPL-SN-405632			US-PATENT-APPL-SN-355126		
		US-PATENT-CLASS-117-106			US-PATENT-CLASS-60-35.55			US-PATENT-CLASS-75-170		
		US-PATENT-3,490,939			US-PATENT-3,270,505			US-PATENT-3,271,140		
N71-14035*	c 33	NASA-CASE-XLE-03307	N71-15583*	c 21	NASA-CASE-XMF-01598	N71-15647*	c 31	NASA-CASE-XGS-01143		
		US-PATENT-APPL-SN-613979			US-PATENT-APPL-SN-333770			US-PATENT-APPL-SN-349781		
		US-PATENT-CLASS-244-1			US-PATENT-CLASS-244-1			US-PATENT-CLASS-60-35.6		
		US-PATENT-3,490,718			US-PATENT-3,270,985			US-PATENT-3,270,501		
N71-14043*	c 28	NASA-CASE-XLE-01124	N71-15597*	c 15	NASA-CASE-XLE-08917	N71-15658*	c 28	NASA-CASE-XLE-00409		
		US-PATENT-APPL-SN-312269			US-PATENT-APPL-SN-662829			US-PATENT-APPL-SN-249539		
		US-PATENT-CLASS-60-35.5			US-PATENT-CLASS-113-116			US-PATENT-CLASS-29-157		
		US-PATENT-3,238,715			US-PATENT-3,490,405			US-PATENT-3,254,395		
N71-14044*	c 28	NASA-CASE-XGS-08729	N71-15598*	c 14	NASA-CASE-XAC-00812	N71-15659*	c 28	NASA-CASE-XLE-05689		
		US-PATENT-APPL-SN-667637			US-PATENT-APPL-SN-255132			US-PATENT-APPL-SN-491845		
		US-PATENT-CLASS-60-200			US-PATENT-CLASS-73-341			US-PATENT-CLASS-60-35.60		
		US-PATENT-3,490,235			US-PATENT-3,238,777			US-PATENT-3,254,487		
N71-14058*	c 28	NASA-CASE-MS-12139-1	N71-15599*	c 14	NASA-CASE-XNP-04161	N71-15660*	c 28	NASA-CASE-XMF-00968		
		US-PATENT-APPL-SN-797796			US-PATENT-APPL-SN-568356			US-PATENT-APPL-SN-339825		
		US-PATENT-CLASS-103-37			US-PATENT-CLASS-250-83.3			US-PATENT-CLASS-60-35.6		
		US-PATENT-3,492,947			US-PATENT-3,444,375			US-PATENT-3,270,499		
N71-14090*	c 27	NASA-CASE-LAR-10173-1	N71-15600*	c 14	NASA-CASE-XKS-06250	N71-15661*	c 28	NASA-CASE-XLE-02066		
		US-PATENT-APPL-SN-758942			US-PATENT-APPL-SN-649075			US-PATENT-APPL-SN-426455		
		US-PATENT-CLASS-149-19			US-PATENT-CLASS-73-97			US-PATENT-CLASS-60-35.5		
		US-PATENT-3,492,176			US-PATENT-3,492,862			US-PATENT-3,262,262		
N71-14132*	c 21	NASA-CASE-XLA-05464	N71-15604*	c 14	NASA-CASE-NPO-10337	N71-15663*	c 31	NASA-CASE-XLA-00256		
		US-PATENT-APPL-SN-656995			US-PATENT-APPL-SN-714296			US-PATENT-APPL-SN-333766		
		US-PATENT-CLASS-244-1			US-PATENT-CLASS-350-58			US-PATENT-CLASS-244-1		
		US-PATENT-3,493,194			US-PATENT-3,488,103			US-PATENT-3,262,655		
N71-14159*	c 21	NASA-CASE-XGS-04393	N71-15605*	c 14	NASA-CASE-GSC-10062	N71-15664*	c 31	NASA-CASE-XLA-01332		
		US-PATENT-APPL-SN-700142			US-PATENT-APPL-SN-658955			US-PATENT-APPL-SN-250974		
		US-PATENT-CLASS-244-1			US-PATENT-CLASS-350-285			US-PATENT-CLASS-220-15		
		US-PATENT-3,490,719			US-PATENT-3,493,294			US-PATENT-3,270,908		
N71-14354*	c 26	NASA-CASE-ERC-10138	N71-15606*	c 15	NASA-CASE-XNP-06031	N71-15673*	c 23	NASA-CASE-XMS-01620		
		US-PATENT-APPL-SN-821586			US-PATENT-APPL-SN-590144			US-PATENT-APPL-SN-357340		
		US-PATENT-CLASS-225-2			US-PATENT-CLASS-250-52			US-PATENT-CLASS-248-358		
		US-PATENT-3,493,155			US-PATENT-3,493,746			US-PATENT-3,243,154		
N71-14932*	c 15	NASA-CASE-LEW-11531	N71-15607*	c 15	NASA-CASE-XMF-03287	N71-15674*	c 31	NASA-CASE-XLA-03691		
		US-PATENT-APPL-SN-643332			US-PATENT-APPL-SN-658956			US-PATENT-APPL-SN-667625		
		US-PATENT-CLASS-219-72			US-PATENT-CLASS-228-7			US-PATENT-CLASS-244-1		
		US-PATENT-3,493,711			US-PATENT-3,443,732			US-PATENT-3,534,924		
N71-14996*	c 14	NASA-CASE-XLA-00936	N71-15608*	c 15	NASA-CASE-NPO-10117	N71-15675*	c 31	NASA-CASE-XMF-03169		
		US-PATENT-APPL-SN-282818			US-PATENT-APPL-SN-668238			US-PATENT-APPL-SN-375405		
		US-PATENT-CLASS-73-170			US-PATENT-CLASS-138-42			US-PATENT-CLASS-89-1.5		
		US-PATENT-3,238,774			US-PATENT-3,493,012			US-PATENT-3,262,365		
N71-15467*	c 23	NASA-CASE-XNP-03796	N71-15609*	c 15	NASA-CASE-XMF-04709	N71-15676*	c 31	NASA-CASE-XGS-05579		
		US-PATENT-APPL-SN-453231			US-PATENT-APPL-SN-683507			US-PATENT-APPL-SN-719869		
		US-PATENT-CLASS-62-6			US-PATENT-CLASS-137-81.5			US-PATENT-CLASS-244-1		
		US-PATENT-3,260,055			US-PATENT-3,493,003			US-PATENT-3,534,925		
N71-15468*	c 17	NASA-CASE-LEW-10393-1	N71-15610*	c 15	NASA-CASE-XLE-01604-2	N71-15687*	c 31	NASA-CASE-XLA-05369		
		US-PATENT-APPL-SN-644799			US-PATENT-APPL-SN-683613			US-PATENT-APPL-SN-765123		
		US-PATENT-CLASS-75-202			US-PATENT-CLASS-117-50			US-PATENT-CLASS-102-49.5		
		US-PATENT-3,535,110			US-PATENT-3,493,415			US-PATENT-3,534,686		
N71-15469*	c 18	NASA-CASE-ARC-10099-1	N71-15620*	c 14	NASA-CASE-XLA-01926	N71-15688*	c 18	NASA-CASE-XNP-03459-2		
		US-PATENT-APPL-SN-704224			US-PATENT-APPL-SN-784521			US-PATENT-APPL-SN-681942		
		US-PATENT-CLASS-106-15			US-PATENT-CLASS-340-57			US-PATENT-CLASS-260-404.5		
		US-PATENT-3,535,130			US-PATENT-3,491,335			US-PATENT-3,535,352		
N71-15545*	c 18	NASA-CASE-XMS-09691-1	N71-15621*	c 14	NASA-CASE-XNP-09572	N71-15689*	c 31	NASA-CASE-MFS-14685		
		US-PATENT-APPL-SN-738119			US-PATENT-APPL-SN-660841			US-PATENT-APPL-SN-752947		
		US-PATENT-CLASS-8-94.12			US-PATENT-CLASS-35-10.2			US-PATENT-CLASS-180-118		
		US-PATENT-3,526,473			US-PATENT-3,493,665			US-PATENT-CLASS-180-121		
N71-15550*	c 16	NASA-CASE-XNP-05219	N71-15622*	c 14	NASA-CASE-XNP-04111	N71-15692*	c 31	NASA-CASE-XLA-01339		
		US-PATENT-APPL-SN-363103			US-PATENT-APPL-SN-560969			US-PATENT-APPL-SN-373591		
		US-PATENT-CLASS-330-4			US-PATENT-CLASS-350-213			US-PATENT-CLASS-102-49		
		US-PATENT-3,299,364			US-PATENT-3,493,291			US-PATENT-3,260,204		
N71-15551*	c 16	NASA-CASE-ERC-10019	N71-15623*	c 33	NASA-CASE-XMS-01816	N71-15871*	c 15	NASA-CASE-XMF-02039		
		US-PATENT-APPL-SN-677508			US-PATENT-APPL-SN-425364					

		US-PATENT-APPL-SN-434143			US-PATENT-APPL-SN-304749			US-PATENT-APPL-SN-701732
		US-PATENT-CLASS-219-131			US-PATENT-CLASS-35-29			US-PATENT-CLASS-250-41.9
		US-PATENT-3,271,558			US-PATENT-3,270,441			US-PATENT-3,532,880
N71-15906*	c 15	NASA-CASE-XNP-00920	N71-16030*	c 10	NASA-CASE-XMF-01096	N71-16098*	c 23	NASA-CASE-XAC-03107
		US-PATENT-APPL-SN-329331			US-PATENT-APPL-SN-307270			US-PATENT-APPL-SN-538168
		US-PATENT-CLASS-62-2			US-PATENT-CLASS-318-376			US-PATENT-CLASS-73-505
		US-PATENT-3,270,512			US-PATENT-3,271,649			US-PATENT-3,455,171
N71-15907*	c 07	NASA-CASE-XNP-01057	N71-16031*	c 12	NASA-CASE-XMS-01445	N71-16099*	c 23	NASA-CASE-XGS-07514
		US-PATENT-APPL-SN-301683			US-PATENT-APPL-SN-385526			US-PATENT-APPL-SN-640453
		US-PATENT-CLASS-343-786			US-PATENT-CLASS-137-615			US-PATENT-CLASS-328-1
		US-PATENT-3,305,870			US-PATENT-3,308,848			US-PATENT-3,509,469
N71-15908*	c 08	NASA-CASE-XLA-02705	N71-16037*	c 26	NASA-CASE-XGS-05718	N71-16100*	c 23	NASA-CASE-XGS-05715
		US-PATENT-APPL-SN-473537			US-PATENT-APPL-SN-584071			US-PATENT-APPL-SN-668257
		US-PATENT-CLASS-129-16.7			US-PATENT-CLASS-29-472.9			US-PATENT-CLASS-250-233
		US-PATENT-3,310,054			US-PATENT-3,452,423			US-PATENT-3,532,894
N71-15909*	c 10	NASA-CASE-XAC-03777	N71-16042*	c 10	NASA-CASE-XAC-00942	N71-16101*	c 23	NASA-CASE-XNP-08883
		US-PATENT-APPL-SN-484489			US-PATENT-APPL-SN-310506			US-PATENT-APPL-SN-617021
		US-PATENT-CLASS-200-6			US-PATENT-CLASS-307-88.5			US-PATENT-CLASS-356-117
		US-PATENT-3,283,088			US-PATENT-3,277,314			US-PATENT-3,520,617
N71-15910*	c 10	NASA-CASE-XGS-00823	N71-16044*	c 17	NASA-CASE-XGS-06306	N71-16102*	c 31	NASA-CASE-XGS-09190
		US-PATENT-APPL-SN-336607			US-PATENT-APPL-SN-685473			US-PATENT-APPL-SN-647298
		US-PATENT-CLASS-307-88.5			US-PATENT-CLASS-156-3			US-PATENT-CLASS-343-915
		US-PATENT-3,283,175			US-PATENT-3,532,568			US-PATENT-3,521,290
N71-15918*	c 15	NASA-CASE-XMS-02383	N71-16046*	c 18	NASA-CASE-GSC-10007	N71-16103*	c 32	NASA-CASE-LAR-10317-1
		US-PATENT-APPL-SN-299042			US-PATENT-APPL-SN-627599			US-PATENT-APPL-SN-739927
		US-PATENT-CLASS-140-123			US-PATENT-CLASS-117-201			US-PATENT-CLASS-137-582
		US-PATENT-3,299,913			US-PATENT-3,532,538			US-PATENT-3,508,578
N71-15922*	c 15	NASA-CASE-XGS-01971	N71-16052*	c 15	NASA-CASE-XLE-02999	N71-16104*	c 33	NASA-CASE-XLE-00785
		US-PATENT-APPL-SN-353645			US-PATENT-APPL-SN-431235			US-PATENT-APPL-SN-666554
		US-PATENT-CLASS-85-33			US-PATENT-CLASS-29-148.4			US-PATENT-CLASS-60-108
		US-PATENT-3,262,351			US-PATENT-3,262,186			US-PATENT-3,508,402
N71-15925*	c 11	NASA-CASE-XLA-00378	N71-16057*	c 10	NASA-CASE-XNP-01193	N71-16105*	c 18	NASA-CASE-XLE-08511-2
		US-PATENT-APPL-SN-266107			US-PATENT-APPL-SN-366226			US-PATENT-APPL-SN-711921
		US-PATENT-CLASS-219-10.49			US-PATENT-CLASS-324-57			US-PATENT-CLASS-117-119
		US-PATENT-3,238,345			US-PATENT-3,277,366			US-PATENT-3,508,955
N71-15926*	c 11	NASA-CASE-XLA-00939	N71-16058*	c 10	NASA-CASE-XMF-01097	N71-16106*	c 32	NASA-CASE-XLA-04605
		US-PATENT-APPL-SN-309354			US-PATENT-APPL-SN-290873			US-PATENT-APPL-SN-619519
		US-PATENT-CLASS-73-147			US-PATENT-CLASS-340-227			US-PATENT-CLASS-137-582
		US-PATENT-3,276,251			US-PATENT-3,277,458			US-PATENT-3,443,534
N71-15960*	c 11	NASA-CASE-XAC-00731	N71-16073*	c 25	NASA-CASE-XAC-05695	N71-16124*	c 18	NASA-CASE-XMF-05279
		US-PATENT-APPL-SN-232318			US-PATENT-APPL-SN-634038			US-PATENT-APPL-SN-617774
		US-PATENT-CLASS-220-89			US-PATENT-CLASS-324-34			US-PATENT-CLASS-106-38
		US-PATENT-3,145,874			US-PATENT-3,517,302			US-PATENT-3,508,940
N71-15962*	c 14	NASA-CASE-XGS-01587	N71-16075*	c 15	NASA-CASE-XLA-00284	N71-16210*	c 18	NASA-CASE-XNP-08837
		US-PATENT-APPL-SN-298799			US-PATENT-APPL-SN-240760			US-PATENT-APPL-SN-691736
		US-PATENT-CLASS-324-43			US-PATENT-CLASS-117-69			US-PATENT-CLASS-204-20
		US-PATENT-3,258,687			US-PATENT-3,264,135			US-PATENT-3,526,580
N71-15966*	c 15	NASA-CASE-XLE-00953	N71-16076*	c 15	NASA-CASE-XLE-00106	N71-16212*	c 23	NASA-CASE-NPO-10250
		US-PATENT-APPL-SN-336320			US-PATENT-APPL-SN-629759			US-PATENT-APPL-SN-736848
		US-PATENT-CLASS-22-200			US-PATENT-CLASS-25-156			US-PATENT-CLASS-149-1
		US-PATENT-3,237,253			US-PATENT-2,944,316			US-PATENT-3,516,879
N71-15967*	c 15	NASA-CASE-XLE-00703	N71-16077*	c 15	NASA-CASE-XLA-00302	N71-16213*	c 24	NASA-CASE-XGS-06628
		US-PATENT-APPL-SN-271822			US-PATENT-APPL-SN-284266			US-PATENT-APPL-SN-665680
		US-PATENT-CLASS-137-13			US-PATENT-CLASS-117-46			US-PATENT-CLASS-315-111
		US-PATENT-3,270,756			US-PATENT-3,271,181			US-PATENT-3,509,419
N71-15968*	c 15	NASA-CASE-XLE-00586	N71-16078*	c 15	NASA-CASE-XGS-00824	N71-16221*	c 31	NASA-CASE-XLA-05906
		US-PATENT-APPL-SN-317391			US-PATENT-APPL-SN-379072			US-PATENT-APPL-SN-777766
		US-PATENT-CLASS-55-160			US-PATENT-CLASS-89-1			US-PATENT-CLASS-73-432
		US-PATENT-3,257,780			US-PATENT-3,309,961			US-PATENT-3,526,139
N71-15969*	c 14	NASA-CASE-XMF-01099	N71-16079*	c 15	NASA-CASE-XLA-00415	N71-16222*	c 31	NASA-CASE-MFS-11133
		US-PATENT-APPL-SN-73367			US-PATENT-APPL-SN-314074			US-PATENT-APPL-SN-693419
		US-PATENT-CLASS-73-517			US-PATENT-CLASS-233-11			US-PATENT-CLASS-244-1
		US-PATENT-3,261,210			US-PATENT-3,276,679			US-PATENT-3,508,723
N71-15974*	c 32	NASA-CASE-XMS-06782	N71-16080*	c 31	NASA-CASE-MS-12049	N71-16223*	c 27	NASA-CASE-MFS-12750
		US-PATENT-APPL-SN-691739			US-PATENT-APPL-SN-693420			US-PATENT-APPL-SN-806149
		US-PATENT-CLASS-338-5			US-PATENT-CLASS-52-3			US-PATENT-CLASS-73-432
		US-PATENT-3,464,049			US-PATENT-3,465,482			US-PATENT-3,526,140
N71-15978*	c 23	NASA-CASE-XGS-00373	N71-16081*	c 31	NASA-CASE-XGS-03351	N71-16224*	c 28	NASA-CASE-MFS-11467
		US-PATENT-APPL-SN-105518			US-PATENT-APPL-SN-472747			US-PATENT-APPL-SN-730773
		US-PATENT-CLASS-161-189			US-PATENT-CLASS-244-31			US-PATENT-CLASS-239-265.43
		US-PATENT-3,276,946			US-PATENT-3,276,726			US-PATENT-3,526,365
N71-15986*	c 15	NASA-CASE-XMF-03498	N71-16085*	c 31	NASA-CASE-XLA-09881	N71-16277*	c 33	NASA-CASE-XMS-04268
		US-PATENT-APPL-SN-396443			US-PATENT-APPL-SN-710562			US-PATENT-APPL-SN-516160
		US-PATENT-CLASS-29-155.55			US-PATENT-CLASS-244-138			US-PATENT-CLASS-165-133
		US-PATENT-3,258,831			US-PATENT-3,520,503			US-PATENT-3,502,141
N71-15990*	c 30	NASA-CASE-XAC-08494	N71-16086*	c 09	NASA-CASE-XLE-02038	N71-16278*	c 33	NASA-CASE-XMF-04237
		US-PATENT-APPL-SN-690998			US-PATENT-APPL-SN-349782			US-PATENT-APPL-SN-539237
		US-PATENT-CLASS-356-74			US-PATENT-CLASS-73-147			US-PATENT-CLASS-219-364
		US-PATENT-3,532,428			US-PATENT-3,273,388			US-PATENT-3,517,162
N71-15992*	c 14	NASA-CASE-XGS-01052	N71-16087*	c 02	NASA-CASE-XAC-02058	N71-16281*	c 20	NASA-CASE-XLA-02081
		US-PATENT-APPL-SN-314572			US-PATENT-APPL-SN-342572			US-PATENT-APPL-SN-522795
		US-PATENT-CLASS-73-15			US-PATENT-CLASS-244-1			US-PATENT-CLASS-73-189
		US-PATENT-3,242,716			US-PATENT-3,276,722			US-PATENT-3,507,150
N71-16014*	c 14	NASA-CASE-XLE-00820	N71-16088*	c 07	NASA-CASE-XGS-01022	N71-16340*	c 20	NASA-CASE-XMF-14032
		US-PATENT-APPL-SN-328569			US-PATENT-APPL-SN-331323			US-PATENT-APPL-SN-679862
		US-PATENT-CLASS-324-32			US-PATENT-CLASS-325-4			US-PATENT-CLASS-250-209
		US-PATENT-3,283,241			US-PATENT-3,277,373			US-PATENT-3,501,641
N71-16025*	c 17	NASA-CASE-XLE-02991	N71-16089*	c 09	NASA-CASE-XAC-02405	N71-16341*	c 23	NASA-CASE-XGS-05291
		US-PATENT-APPL-SN-375401			US-PATENT-APPL-SN-433821			US-PATENT-APPL-SN-553891
		US-PATENT-CLASS-75-170			US-PATENT-CLASS-200-6			US-PATENT-CLASS-356-209
		US-PATENT-3,276,865			US-PATENT-3,271,532			US-PATENT-3,504,983
N71-16026*	c 17	NASA-CASE-XLE-02082	N71-16090*	c 30	NASA-CASE-GSC-10083-1	N71-16345*	c 31	NASA-CASE-XMF-05344
		US-PATENT-APPL-SN-360180			US-PATENT-APPL-SN-641431			US-PATENT-APPL-SN-702396
		US-PATENT-CLASS-75-171			US-PATENT-CLASS-343-6			US-PATENT-CLASS-244-1
		US-PATENT-3,276,866			US-PATENT-3,471,856			US-PATENT-3,520,495
N71-16028*	c 11	NASA-CASE-XLA-01787	N71-16095*	c 24	NASA-CASE-XAC-05506-1	N71-16346*	c 31	NASA-CASE-XMS-03613

		US-PATENT-APPL-SN-802816			US-PATENT-APPL-SN-270118	N71-17685*	c 15	NASA-CASE-NPO-10034
		US-PATENT-CLASS-244-1			US-PATENT-CLASS-230-162			US-PATENT-APPL-SN-668241
		US-PATENT-3,526,372			US-PATENT-3,309,012			US-PATENT-CLASS-339-17
N71-16348*	c 27	NASA-CASE-MSC-12280	N71-17626*	c 14	NASA-CASE-LAR-10274-1	N71-17686*	c 15	US-PATENT-3,464,051
		US-PATENT-APPL-SN-372648			US-PATENT-APPL-SN-717052			NASA-CASE-MFS-20586
		US-PATENT-CLASS-250-43.5			US-PATENT-CLASS-188-1			US-PATENT-APPL-SN-688868
		US-PATENT-3,501,632			US-PATENT-3,491,857			US-PATENT-CLASS-29-428
N71-16355*	c 23	NASA-CASE-XGS-05534	N71-17627*	c 14	NASA-CASE-XGS-03532	N71-17687*	c 15	US-PATENT-3,526,030
		US-PATENT-APPL-SN-578925			US-PATENT-APPL-SN-538913			NASA-CASE-XLA-04143
		US-PATENT-CLASS-23-253			US-PATENT-CLASS-356-106			US-PATENT-APPL-SN-628246
		US-PATENT-3,520,660			US-PATENT-3,488,123			US-PATENT-CLASS-156-510
N71-16356*	c 33	NASA-CASE-NPO-10158	N71-17628*	c 15	NASA-CASE-MFS-10340	N71-17688*	c 15	US-PATENT-3,508,999
		US-PATENT-APPL-SN-730702			US-PATENT-APPL-SN-716734			NASA-CASE-XLE-09527
		US-PATENT-CLASS-73-343			US-PATENT-CLASS-225-1			US-PATENT-APPL-SN-686344
		US-PATENT-3,526,134			US-PATENT-3,507,425			US-PATENT-CLASS-29-148.4
N71-16357*	c 33	NASA-CASE-NPO-10138	N71-17629*	c 31	NASA-CASE-XLE-03583			US-PATENT-3,500,525
		US-PATENT-APPL-SN-759457			US-PATENT-APPL-SN-400617	N71-17691*	c 31	NASA-CASE-XLA-00937
		US-PATENT-CLASS-236-1			US-PATENT-CLASS-244-3.22			US-PATENT-APPL-SN-393461
		US-PATENT-3,526,359			US-PATENT-3,276,376			US-PATENT-CLASS-244-3.14
N71-16365*	c 23	NASA-CASE-XNP-08840	N71-17631*	c 12	NASA-CASE-NPO-10122	N71-17692*	c 15	US-PATENT-3,310,258
		US-PATENT-APPL-SN-649360			US-PATENT-APPL-SN-710949			NASA-CASE-MFS-14772
		US-PATENT-CLASS-356-36			US-PATENT-CLASS-80-217			US-PATENT-APPL-SN-774151
		US-PATENT-3,526,460			US-PATENT-3,534,555			US-PATENT-CLASS-74-63
N71-16392*	c 27	NASA-CASE-XNP-09744	N71-17645*	c 32	NASA-CASE-XNP-01153	N71-17693*	c 15	US-PATENT-3,529,480
		US-PATENT-APPL-SN-685750			US-PATENT-APPL-SN-336608			NASA-CASE-NPO-10064
		US-PATENT-CLASS-60-39.47			US-PATENT-CLASS-73-88			US-PATENT-APPL-SN-688755
		US-PATENT-3,507,114			US-PATENT-3,273,381			US-PATENT-CLASS-244-1
N71-16393*	c 17	NASA-CASE-NPO-10271	N71-17647*	c 15	NASA-CASE-XMF-01667	N71-17694*	c 15	US-PATENT-3,501,112
		US-PATENT-APPL-SN-763869			US-PATENT-APPL-SN-577115			NASA-CASE-XNP-08897
		US-PATENT-CLASS-21-207			US-PATENT-CLASS-118-11			US-PATENT-APPL-SN-640450
		US-PATENT-3,529,928			US-PATENT-3,502,051			US-PATENT-CLASS-318-22
N71-16428*	c 32	NASA-CASE-XLA-03135	N71-17648*	c 15	NASA-CASE-MSC-12116-1	N71-17696*	c 15	US-PATENT-3,501,683
		US-PATENT-APPL-SN-582171			US-PATENT-APPL-SN-768336			NASA-CASE-XLA-05100
		US-PATENT-CLASS-73-71.4			US-PATENT-CLASS-251-358			US-PATENT-APPL-SN-724551
		US-PATENT-3,503,251			US-PATENT-3,508,739			US-PATENT-CLASS-73-103
N71-16894*	c 12	NASA-CASE-XLA-02079	N71-17649*	c 15	NASA-CASE-MFS-11132			US-PATENT-3,487,680
		US-PATENT-APPL-SN-435756			US-PATENT-APPL-SN-744910	N71-17701*	c 14	NASA-CASE-NPO-10144
		US-PATENT-CLASS-188-87			US-PATENT-CLASS-248-360			US-PATENT-APPL-SN-688805
		US-PATENT-3,310,138			US-PATENT-3,526,382			US-PATENT-CLASS-73-29
N71-17569*	c 12	NASA-CASE-MSC-12084-1	N71-17650*	c 15	NASA-CASE-XMF-05114			US-PATENT-3,534,585
		US-PATENT-APPL-SN-762438			US-PATENT-APPL-SN-637882	N71-17705*	c 06	NASA-CASE-XGS-05532
		US-PATENT-CLASS-73-204			US-PATENT-CLASS-29-517			US-PATENT-APPL-SN-570093
		US-PATENT-3,500,686			US-PATENT-3,507,034			US-PATENT-CLASS-195-99
N71-17573*	c 12	NASA-CASE-LAR-10323-1	N71-17651*	c 15	NASA-CASE-XLE-03803-2	N71-17729*	c 31	US-PATENT-3,423,290
		US-PATENT-APPL-SN-738314			US-PATENT-APPL-SN-669336			NASA-CASE-XAC-01591
		US-PATENT-CLASS-73-45.5			US-PATENT-CLASS-156-172			US-PATENT-APPL-SN-385527
		US-PATENT-3,516,284			US-PATENT-3,535,179			US-PATENT-CLASS-244-1
N71-17574*	c 14	NASA-CASE-XGS-04993	N71-17652*	c 15	NASA-CASE-XLE-05079			US-PATENT-3,282,532
		US-PATENT-APPL-SN-577775			US-PATENT-APPL-SN-601228	N71-17730*	c 31	NASA-CASE-XMF-01543
		US-PATENT-CLASS-96-49			US-PATENT-CLASS-310-93			US-PATENT-APPL-SN-402365
		US-PATENT-3,458,313			US-PATENT-3,493,797			US-PATENT-CLASS-102-49
N71-17575*	c 14	NASA-CASE-XMF-06531	N71-17653*	c 15	NASA-CASE-ARC-10140-1			US-PATENT-3,286,629
		US-PATENT-APPL-SN-732917			US-PATENT-APPL-SN-783379	N71-17788*	c 30	NASA-CASE-XGS-00783
		US-PATENT-CLASS-204-195			US-PATENT-CLASS-24-211			US-PATENT-APPL-SN-372438
		US-PATENT-3,509,034			US-PATENT-CLASS-85-3			US-PATENT-CLASS-73-432
N71-17578*	c 12	NASA-CASE-MFS-10412			US-PATENT-3,534,650			US-PATENT-3,286,531
		US-PATENT-APPL-SN-701635	N71-17654*	c 15	NASA-CASE-XNP-09702	N71-17802*	c 23	NASA-CASE-XLE-00454
		US-PATENT-CLASS-137-81.5			US-PATENT-APPL-SN-730734			US-PATENT-APPL-SN-295855
		US-PATENT-3,520,317			US-PATENT-CLASS-239-416			US-PATENT-CLASS-73-295
N71-17579*	c 12	NASA-CASE-XLA-07391			US-PATENT-3,534,909			US-PATENT-3,273,392
		US-PATENT-APPL-SN-726898	N71-17655*	c 14	NASA-CASE-NPO-10320	N71-17803*	c 15	NASA-CASE-XMS-05516
		US-PATENT-CLASS-137-81.5			US-PATENT-APPL-SN-718689			US-PATENT-APPL-SN-563648
		US-PATENT-3,493,004			US-PATENT-CLASS-356-106			US-PATENT-CLASS-264-92
N71-17584*	c 14	NASA-CASE-XNP-09462			US-PATENT-3,535,041			US-PATENT-3,488,414
		US-PATENT-APPL-SN-658957	N71-17656*	c 14	NASA-CASE-MFS-12827	N71-17805*	c 15	NASA-CASE-MFS-12805
		US-PATENT-CLASS-73-57			US-PATENT-APPL-SN-742816			US-PATENT-APPL-SN-758082
		US-PATENT-3,500,677			US-PATENT-CLASS-73-88.5			US-PATENT-CLASS-192-43.1
N71-17585*	c 14	NASA-CASE-XGS-05680			US-PATENT-3,534,592			US-PATENT-CLASS-81-63.1
		US-PATENT-APPL-SN-656953	N71-17657*	c 14	NASA-CASE-XNP-09205			US-PATENT-3,534,836
		US-PATENT-CLASS-318-138			US-PATENT-APPL-SN-768473	N71-17818*	c 26	NASA-CASE-XMF-01016
		US-PATENT-3,501,664			US-PATENT-CLASS-33-149			US-PATENT-APPL-SN-326299
N71-17586*	c 14	NASA-CASE-XLA-08646			US-PATENT-3,534,479			US-PATENT-CLASS-264-27
		US-PATENT-APPL-SN-677476	N71-17658*	c 14	NASA-CASE-XMF-04966			US-PATENT-3,274,304
		US-PATENT-CLASS-73-105			US-PATENT-APPL-SN-727480	N71-17822*	c 15	NASA-CASE-ARC-10009-1
		US-PATENT-3,534,596			US-PATENT-CLASS-33-174			US-PATENT-APPL-SN-714595
N71-17587*	c 14	NASA-CASE-XMF-05844			US-PATENT-3,534,480			US-PATENT-CLASS-324-58.5
		US-PATENT-APPL-SN-706564	N71-17659*	c 14	NASA-CASE-XMF-02964			US-PATENT-3,532,973
		US-PATENT-CLASS-73-382			US-PATENT-APPL-SN-493942	N71-17897*	c 33	NASA-CASE-XLA-00892
		US-PATENT-3,500,688			US-PATENT-CLASS-73-15.4			US-PATENT-APPL-SN-245941
N71-17588*	c 14	NASA-CASE-MFS-12806			US-PATENT-3,465,569			US-PATENT-CLASS-62-467
		US-PATENT-APPL-SN-686933	N71-17661*	c 12	NASA-CASE-NPO-10298			US-PATENT-3,273,355
		US-PATENT-CLASS-55-179			US-PATENT-APPL-SN-745852	N71-18064*	c 26	NASA-CASE-XNP-01328
		US-PATENT-3,490,205			US-PATENT-CLASS-137-341			US-PATENT-APPL-SN-296879
N71-17599*	c 05	NASA-CASE-MSC-12206-1			US-PATENT-3,534,765			US-PATENT-CLASS-317-234
		US-PATENT-APPL-SN-856258	N71-17662*	c 14	NASA-CASE-NPO-10300			US-PATENT-3,271,637
		US-PATENT-CLASS-128-142.5			US-PATENT-APPL-SN-718769	N71-18132*	c 15	NASA-CASE-MFS-13686
		US-PATENT-3,516,404			US-PATENT-CLASS-350-285			US-PATENT-APPL-SN-716183
N71-17600*	c 11	NASA-CASE-MFS-12915			US-PATENT-3,535,024			US-PATENT-CLASS-73-67.2
		US-PATENT-APPL-SN-694340	N71-17679*	c 31	NASA-CASE-XNP-02507			US-PATENT-3,531,982
		US-PATENT-CLASS-220-89			US-PATENT-APPL-SN-475299	N71-18465*	c 14	NASA-CASE-NPO-10174
		US-PATENT-3,469,734			US-PATENT-CLASS-244-1			US-PATENT-APPL-SN-690163
N71-17609*	c 32	NASA-CASE-XLA-02332			US-PATENT-3,310,256			US-PATENT-CLASS-95-11
		US-PATENT-APPL-SN-388024	N71-17680*	c 31	NASA-CASE-XLA-00117			US-PATENT-3,520,238
		US-PATENT-CLASS-212-11			US-PATENT-APPL-SN-835153	N71-18481*	c 14	NASA-CASE-XLA-02758
		US-PATENT-3,276,602			US-PATENT-CLASS-220-1			US-PATENT-APPL-SN-759665
N71-17610*	c 33	NASA-CASE-XLA-00377			US-PATENT-2,996,212			US-PATENT-CLASS-73-4

N71-18482*	c 14	US-PATENT-3,531,978	N71-18699*	c 14	US-PATENT-3,507,706	N71-19433*	c 07	US-PATENT-3,517,313
		NASA-CASE-XLA-07424			NASA-CASE-XLA-03273			NASA-CASE-MFS-1304
		US-PATENT-APPL-SN-635326			US-PATENT-APPL-SN-487352			US-PATENT-APPL-SN-67322
		US-PATENT-CLASS-313-7			US-PATENT-CLASS-250-83.3			US-PATENT-CLASS-178
N71-18483*	c 14	US-PATENT-3,466,484	N71-18701*	c 15	US-PATENT-3,458,702	N71-19435*	c 08	US-PATENT-3,532,810
		NASA-CASE-XER-09519			NASA-CASE-XMF-07587			NASA-CASE-XGS-0261
		US-PATENT-APPL-SN-676375			US-PATENT-APPL-SN-649359			US-PATENT-APPL-SN-50274
		US-PATENT-CLASS-55-208			US-PATENT-CLASS-317-122			US-PATENT-CLASS-340-33
N71-18578*	c 11	US-PATENT-3,469,375	N71-18720*	c 09	US-PATENT-3,448,346	N71-19436*	c 07	US-PATENT-3,509,570
		NASA-CASE-XAC-05902			NASA-CASE-MS-12101			NASA-CASE-XMF-0942
		US-PATENT-APPL-SN-662828			US-PATENT-APPL-SN-763705			US-PATENT-APPL-SN-78337
		US-PATENT-CLASS-89-8			US-PATENT-CLASS-343-718			US-PATENT-CLASS-174-3
N71-18579*	c 15	US-PATENT-3,465,638	N71-18721*	c 09	US-PATENT-3,509,570	N71-19437*	c 08	US-PATENT-3,517,101
		NASA-CASE-XGS-04175			NASA-CASE-XER-07894			NASA-CASE-XGS-0476
		US-PATENT-APPL-SN-606464			US-PATENT-APPL-SN-644444			US-PATENT-APPL-SN-59811
		US-PATENT-CLASS-72-364			US-PATENT-CLASS-331-107			US-PATENT-CLASS-235-11
N71-18580*	c 15	US-PATENT-3,465,567	N71-18722*	c 10	US-PATENT-3,509,491	N71-19438*	c 03	US-PATENT-3,508,030
		NASA-CASE-XNP-09698			NASA-CASE-ERC-10046			NASA-CASE-XGS-0543
		US-PATENT-APPL-SN-698592			US-PATENT-APPL-SN-793772			US-PATENT-APPL-SN-54986
		US-PATENT-CLASS-138-4			US-PATENT-CLASS-343-100			US-PATENT-CLASS-320-2
N71-18594*	c 08	US-PATENT-CLASS-138-45	N71-18723*	c 10	US-PATENT-3,501,764	N71-19439*	c 05	US-PATENT-3,426,261
		US-PATENT-CLASS-251-118			NASA-CASE-XNP-09450			NASA-CASE-XMS-0957
		US-PATENT-CLASS-251-121			US-PATENT-APPL-SN-640459			US-PATENT-APPL-SN-67670
		US-PATENT-3,532,128			US-PATENT-CLASS-307-273			US-PATENT-CLASS-165-4
N71-18594*	c 08	US-PATENT-3,501,649	N71-18724*	c 10	US-PATENT-3,501,649	N71-19440*	c 05	US-PATENT-3,425,461
		NASA-CASE-XAC-04031			NASA-CASE-XLA-09371			NASA-CASE-XMS-0117
		US-PATENT-APPL-SN-538905			US-PATENT-APPL-SN-568160			US-PATENT-APPL-SN-51611
		US-PATENT-CLASS-340-347			US-PATENT-CLASS-318-257			US-PATENT-CLASS-250-8
N71-18595*	c 08	US-PATENT-3,533,098	N71-18751*	c 08	US-PATENT-3,504,258	N71-19449*	c 09	US-PATENT-3,427,401
		NASA-CASE-XGS-03303			NASA-CASE-XLA-07732			NASA-CASE-XFR-0311
		US-PATENT-APPL-SN-520838			US-PATENT-APPL-SN-641441			US-PATENT-APPL-SN-50722
		US-PATENT-CLASS-340-174			US-PATENT-CLASS-307-216			US-PATENT-CLASS-178
N71-18598*	c 09	US-PATENT-3,501,752	N71-18752*	c 08	US-PATENT-3,512,009	N71-19466*	c 09	US-PATENT-3,458,610
		NASA-CASE-NPO-10066			NASA-CASE-XMF-00663			NASA-CASE-XGS-0288
		US-PATENT-APPL-SN-681693			US-PATENT-APPL-SN-205470			US-PATENT-APPL-SN-50277
		US-PATENT-CLASS-343-13			US-PATENT-CLASS-321-5			US-PATENT-CLASS-330-3
N71-18599*	c 09	US-PATENT-3,447,155	N71-18772*	c 10	US-PATENT-3,521,143	N71-19467*	c 10	US-PATENT-3,466,561
		NASA-CASE-LAR-10372			NASA-CASE-GSC-10366-1			NASA-CASE-XMF-0866
		US-PATENT-APPL-SN-730162			US-PATENT-APPL-SN-771523			US-PATENT-APPL-SN-58262
		US-PATENT-CLASS-102-70.2			US-PATENT-CLASS-318-138			US-PATENT-CLASS-325-6
N71-18600*	c 09	US-PATENT-3,500,747	N71-18773*	c 11	US-PATENT-3,532,948	N71-19468*	c 10	US-PATENT-3,470,471
		NASA-CASE-MS-12168-1			NASA-CASE-XMF-07488			NASA-CASE-XMS-05605
		US-PATENT-APPL-SN-640154			US-PATENT-APPL-SN-707495			US-PATENT-APPL-SN-76488
		US-PATENT-CLASS-312-296			US-PATENT-CLASS-35-12			US-PATENT-CLASS-178-69
N71-18602*	c 08	US-PATENT-3,447,850	N71-18830*	c 09	US-PATENT-3,534,485	N71-19469*	c 10	US-PATENT-3,532,811
		NASA-CASE-XGS-04766			NASA-CASE-XAC-10768			NASA-CASE-XNP-0077
		US-PATENT-APPL-SN-598120			US-PATENT-APPL-SN-711970			US-PATENT-APPL-SN-48657
		US-PATENT-CLASS-235-175			US-PATENT-CLASS-250-83			US-PATENT-CLASS-329-12
N71-18603*	c 12	US-PATENT-3,532,866	N71-18843*	c 09	US-PATENT-3,508,053	N71-19470*	c 09	US-PATENT-3,517,201
		NASA-CASE-ERC-10031			NASA-CASE-XNP-03263			NASA-CASE-XGS-0528
		US-PATENT-APPL-SN-741461			US-PATENT-APPL-SN-506908			US-PATENT-APPL-SN-63210
		US-PATENT-CLASS-40-28			US-PATENT-CLASS-340-146.1			US-PATENT-CLASS-331-1
N71-18611*	c 31	US-PATENT-3,516,185	N71-19121*	c 21	US-PATENT-3,501,743	N71-19471*	c 10	US-PATENT-3,470,471
		NASA-CASE-MFS-20400			NASA-CASE-MFS-20386			NASA-CASE-XLE-0386
		US-PATENT-APPL-SN-551694			US-PATENT-APPL-SN-818349			US-PATENT-APPL-SN-52666
		US-PATENT-CLASS-152-11			US-PATENT-CLASS-356-28			US-PATENT-CLASS-307-2
N71-18613*	c 15	US-PATENT-3,493,027	N71-191213*	c 15	US-PATENT-3,532,427	N71-19472*	c 10	US-PATENT-3,463,911
		NASA-CASE-XNP-02588			NASA-CASE-MFS-14259			NASA-CASE-XAC-0403
		US-PATENT-APPL-SN-563644			US-PATENT-APPL-SN-787410			US-PATENT-APPL-SN-52088
		US-PATENT-CLASS-219-91			US-PATENT-CLASS-138-43			US-PATENT-CLASS-328
N71-18614*	c 16	US-PATENT-3,466,418	N71-191214*	c 15	US-PATENT-3,536,103	N71-19479*	c 09	US-PATENT-3,464,010
		NASA-CASE-XGS-03644			NASA-CASE-MFS-20410			NASA-CASE-XMS-0438
		US-PATENT-APPL-SN-505320			US-PATENT-APPL-SN-819599			US-PATENT-APPL-SN-51611
		US-PATENT-CLASS-331-94.5			US-PATENT-CLASS-244-1			US-PATENT-CLASS-350-2
N71-18615*	c 12	US-PATENT-3,517,328	N71-191287*	c 02	US-PATENT-3,534,926	N71-19480*	c 09	US-PATENT-3,427,051
		NASA-CASE-XNP-09704			NASA-CASE-GSC-10087-1			NASA-CASE-XFR-0566
		US-PATENT-APPL-SN-730701			US-PATENT-APPL-SN-701679			US-PATENT-APPL-SN-48431
		US-PATENT-CLASS-137-594			US-PATENT-CLASS-343-112			US-PATENT-CLASS-235-19
N71-18616*	c 15	US-PATENT-CLASS-138-46	N71-19288*	c 08	US-PATENT-3,534,367	N71-19485*	c 15	US-PATENT-3,423,571
		US-PATENT-CLASS-251-127			NASA-CASE-NPO-10068			NASA-CASE-MS-1101
		US-PATENT-CLASS-251-333			US-PATENT-APPL-SN-668969			US-PATENT-APPL-SN-60509
		US-PATENT-CLASS-251-342			US-PATENT-CLASS-340-172.5			US-PATENT-CLASS-251-3
N71-18616*	c 15	US-PATENT-3,532,118	N71-191417*	c 10	US-PATENT-3,501,750	N71-19486*	c 15	US-PATENT-3,447,771
		NASA-CASE-XLA-07390			NASA-CASE-XMS-10984-1			NASA-CASE-XMF-0852
		US-PATENT-APPL-SN-665681			US-PATENT-APPL-SN-605095			US-PATENT-APPL-SN-64044
		US-PATENT-CLASS-72-53			US-PATENT-CLASS-340-213.1			US-PATENT-CLASS-219-12
N71-18625*	c 14	US-PATENT-3,531,964	N71-191418*	c 10	US-PATENT-3,533,093	N71-19489*	c 15	US-PATENT-3,474,231
		NASA-CASE-NPO-10175			NASA-CASE-GSC-10041-1			NASA-CASE-XMF-0438
		US-PATENT-APPL-SN-685787			US-PATENT-APPL-SN-684209			US-PATENT-APPL-SN-63404
		US-PATENT-CLASS-137-505.12			US-PATENT-CLASS-331-113			US-PATENT-CLASS-33-14
N71-18692*	c 08	US-PATENT-3,443,583	N71-19420*	c 08	US-PATENT-3,458,833	N71-19493*	c 07	US-PATENT-3,425,131
		NASA-CASE-MFS-14322			NASA-CASE-XNP-09453			NASA-CASE-XKS-0841
		US-PATENT-APPL-SN-646934			US-PATENT-APPL-SN-640448			US-PATENT-APPL-SN-64909
		US-PATENT-CLASS-328-134			US-PATENT-CLASS-226-190			US-PATENT-CLASS-343-8
N71-18693*	c 08	US-PATENT-3,501,701	N71-19421*	c 10	US-PATENT-3,507,436	N71-19494*	c 11	US-PATENT-3,509,551
		NASA-CASE-XGS-04765			NASA-CASE-XLA-08493			NASA-CASE-MFS-1019
		US-PATENT-APPL-SN-577545			US-PATENT-APPL-SN-749148			US-PATENT-APPL-SN-70099
		US-PATENT-CLASS-235-156			US-PATENT-CLASS-324-72			US-PATENT-CLASS-351-1
N71-18694*	c 08	US-PATENT-3,508,036	N71-19431*	c 14	US-PATENT-3,532,975	N71-19516*	c 09	US-PATENT-3,516,185
		NASA-CASE-NPO-10201			NASA-CASE-XGS-02439			NASA-CASE-XNP-0698
		US-PATENT-APPL-SN-691738			US-PATENT-APPL-SN-487341			US-PATENT-APPL-SN-64044
		US-PATENT-CLASS-340-174			US-PATENT-CLASS-324-120			US-PATENT-CLASS-330-3
N71-18698*	c 03	US-PATENT-3,509,551	N71-19432*	c 08	US-PATENT-3,422,352	N71-19544*	c 08	US-PATENT-3,501,701
		NASA-CASE-NPO-10373			NASA-CASE-XGS-02440			NASA-CASE-XGS-0121
		US-PATENT-APPL-SN-718752			US-PATENT-APPL-SN-655677			US-PATENT-APPL-SN-35641
		US-PATENT-CLASS-136-89			US-PATENT-CLASS-328-42			US-PATENT-CLASS-340-3

N71-19545*	c 03	US-PATENT-3,474,441 NASA-CASE-NPO-10821 US-PATENT-APPL-SN-670814 US-PATENT-CLASS-136-89 US-PATENT-3,466,198	N71-20439*	c 14	US-PATENT-3,461,721 NASA-CASE-XAC-04886-1 US-PATENT-APPL-SN-574290 US-PATENT-CLASS-73-142 US-PATENT-3,425,272	N71-20742*	c 18	US-PATENT-3,360,980 NASA-CASE-XMS-02952 US-PATENT-APPL-SN-519160 US-PATENT-CLASS-55-158 US-PATENT-3,355,861
N71-19547*	c 10	NASA-CASE-XGS-03058 US-PATENT-APPL-SN-568987 US-PATENT-CLASS-307-289 US-PATENT-3,517,221	N71-20440*	c 15	NASA-CASE-XNP-09770 US-PATENT-APPL-SN-700120 US-PATENT-CLASS-209-10 US-PATENT-3,472,372	N71-20743*	c 17	NASA-CASE-XMF-02786 US-PATENT-APPL-SN-468673 US-PATENT-CLASS-75-142 US-PATENT-3,347,665
N71-19568*	c 14	NASA-CASE-MSC-10966 US-PATENT-APPL-SN-665676 US-PATENT-CLASS-250-203 US-PATENT-3,421,004	N71-20441*	c 15	NASA-CASE-XMS-06329-1 US-PATENT-APPL-SN-688742 US-PATENT-CLASS-73-141 US-PATENT-3,472,069	N71-20747*	c 25	NASA-CASE-XLE-02578 US-PATENT-APPL-SN-469012 US-PATENT-CLASS-313-271 US-PATENT-3,356,885
N71-19569*	c 15	NASA-CASE-XLA-05749 US-PATENT-APPL-SN-621714 US-PATENT-CLASS-137-582 US-PATENT-3,426,791	N71-20442*	c 14	NASA-CASE-MFS-11537 US-PATENT-APPL-SN-636878 US-PATENT-CLASS-23-254 US-PATENT-3,472,629	N71-20782*	c 10	NASA-CASE-XGS-01784 US-PATENT-APPL-SN-396444 US-PATENT-CLASS-250-206 US-PATENT-3,348,053
N71-19570*	c 15	NASA-CASE-XLE-05130-2 US-PATENT-APPL-SN-700586 US-PATENT-CLASS-277-25 US-PATENT-3,466,052	N71-20443*	c 15	NASA-CASE-MFS-07369 US-PATENT-APPL-SN-640462 US-PATENT-CLASS-29-492 US-PATENT-3,473,216	N71-20791*	c 07	NASA-CASE-XNP-05254 US-PATENT-APPL-SN-472372 US-PATENT-CLASS-325-31 US-PATENT-3,350,643
N71-19610*	c 09	NASA-CASE-NPO-10037 US-PATENT-APPL-SN-700987 US-PATENT-CLASS-200-152 US-PATENT-3,470,342	N71-20445*	c 09	NASA-CASE-XNP-09775 US-PATENT-APPL-SN-668247 US-PATENT-CLASS-333-96 US-PATENT-3,474,357	N71-20813*	c 15	NASA-CASE-XMS-02184 US-PATENT-APPL-SN-608247 US-PATENT-CLASS-248-27 US-PATENT-3,361,400
N71-19687*	c 08	NASA-CASE-XNP-04780 US-PATENT-APPL-SN-455477 US-PATENT-CLASS-340-347 US-PATENT-3,430,227	N71-20446*	c 09	NASA-CASE-XLE-04250 US-PATENT-APPL-SN-621098 US-PATENT-CLASS-310-54 US-PATENT-3,447,003	N71-20814*	c 07	NASA-CASE-XNP-01306 US-PATENT-APPL-SN-343426 US-PATENT-CLASS-179-15 US-PATENT-3,364,311
N71-19763*	c 08	NASA-CASE-XAC-06302 US-PATENT-APPL-SN-574284 US-PATENT-CLASS-325-60 US-PATENT-3,456,193	N71-20447*	c 09	NASA-CASE-XLA-02850 US-PATENT-APPL-SN-556784 US-PATENT-CLASS-307-267 US-PATENT-3,473,050	N71-20815*	c 12	NASA-CASE-XMF-01779 US-PATENT-APPL-SN-521999 US-PATENT-CLASS-346-1 US-PATENT-3,357,024
N71-19773*	c 07	NASA-CASE-GSC-10373-1 US-PATENT-APPL-SN-712658 US-PATENT-CLASS-325-4 US-PATENT-3,532,985	N71-20448*	c 10	NASA-CASE-XNP-03744 US-PATENT-APPL-SN-547677 US-PATENT-CLASS-318-314 US-PATENT-3,424,966	N71-20816*	c 09	NASA-CASE-XAC-01677 US-PATENT-APPL-SN-596338 US-PATENT-CLASS-73-147 US-PATENT-3,360,988
N71-19854*	c 07	NASA-CASE-GSC-10553-1 US-PATENT-APPL-SN-820963 US-PATENT-CLASS-343-100 US-PATENT-3,534,365	N71-20461*	c 14	NASA-CASE-XNP-09763 US-PATENT-APPL-SN-600682 US-PATENT-CLASS-117-6 US-PATENT-3,433,662	N71-20834*	c 33	NASA-CASE-XMS-02009 US-PATENT-APPL-SN-455352 US-PATENT-CLASS-141-5 US-PATENT-3,349,814
N71-20268*	c 05	NASA-CASE-XLA-02898 US-PATENT-APPL-SN-429932 US-PATENT-CLASS-128-1 US-PATENT-3,461,855	N71-20491*	c 03	NASA-CASE-XGS-05434 US-PATENT-APPL-SN-667636 US-PATENT-CLASS-136-182 US-PATENT-3,463,673	N71-20841*	c 10	NASA-CASE-XGS-01222 US-PATENT-APPL-SN-354182 US-PATENT-CLASS-325-305 US-PATENT-3,348,152
N71-20273*	c 03	NASA-CASE-NPO-10188 US-PATENT-APPL-SN-681687 US-PATENT-CLASS-244-1 US-PATENT-3,473,758	N71-20492*	c 03	NASA-CASE-XLE-04787 US-PATENT-APPL-SN-551846 US-PATENT-CLASS-136-89 US-PATENT-3,434,885	N71-20842*	c 09	NASA-CASE-XNP-05381 US-PATENT-APPL-SN-568352 US-PATENT-CLASS-338-82 US-PATENT-3,350,671
N71-20330*	c 28	NASA-CASE-XLE-103477-1 US-PATENT-APPL-SN-466390 US-PATENT-CLASS-60-39.36 US-PATENT-3,433,015	N71-20518*	c 24	NASA-CASE-XNP-02592 US-PATENT-APPL-SN-484490 US-PATENT-CLASS-324-33 US-PATENT-3,430,131	N71-20851*	c 09	NASA-CASE-XNP-04732 US-PATENT-APPL-SN-557584 US-PATENT-CLASS-339-177 US-PATENT-3,358,264
N71-20393*	c 15	NASA-CASE-MFS-06074 US-PATENT-APPL-SN-688743 US-PATENT-CLASS-228-9 US-PATENT-3,458,104	N71-20563*	c 25	NASA-CASE-XLA-08232 US-PATENT-APPL-SN-612740 US-PATENT-CLASS-324-58.5 US-PATENT-3,473,116	N71-20852*	c 10	NASA-CASE-XGS-03501 US-PATENT-APPL-SN-584066 US-PATENT-CLASS-331-17 US-PATENT-3,361,985
N71-20395*	c 15	NASA-CASE-XMF-06065 US-PATENT-APPL-SN-665679 US-PATENT-CLASS-219-275 US-PATENT-3,466,424	N71-20569*	c 09	NASA-CASE-XMS-08589-1 US-PATENT-APPL-SN-544899 US-PATENT-CLASS-324-57 US-PATENT-3,434,050	N71-20864*	c 09	NASA-CASE-XGS-03501 US-PATENT-APPL-SN-576521 US-PATENT-CLASS-343-16 US-PATENT-3,359,555
N71-20396*	c 31	NASA-CASE-XMF-08523 US-PATENT-APPL-SN-645563 US-PATENT-CLASS-244-1 US-PATENT-3,465,986	N71-20570*	c 02	NASA-CASE-XAC-08972 US-PATENT-APPL-SN-700174 US-PATENT-CLASS-244-76 US-PATENT-3,472,470	N71-20895*	c 03	NASA-CASE-XNP-00826 US-PATENT-APPL-SN-327163 US-PATENT-CLASS-136-89 US-PATENT-3,346,419
N71-20400*	c 16	NASA-CASE-MFS-11279 US-PATENT-APPL-SN-628094 US-PATENT-CLASS-219-121 US-PATENT-3,472,998	N71-20571*	c 08	NASA-CASE-XGS-04987 US-PATENT-APPL-SN-619908 US-PATENT-CLASS-315-24 US-PATENT-3,437,874	N71-20896*	c 12	NASA-CASE-XNP-02251 US-PATENT-APPL-SN-432030 US-PATENT-CLASS-321-48 US-PATENT-3,337,790
N71-20407*	c 03	NASA-CASE-NPO-10194 US-PATENT-APPL-SN-668249 US-PATENT-CLASS-136-182 US-PATENT-3,460,995	N71-20658*	c 09	NASA-CASE-XMS-03454 US-PATENT-APPL-SN-425363 US-PATENT-CLASS-343-915 US-PATENT-3,360,798	N71-20904*	c 03	NASA-CASE-XLE-01645 US-PATENT-APPL-SN-342574 US-PATENT-CLASS-136-86 US-PATENT-3,357,862
N71-20427*	c 14	NASA-CASE-XMS-13052 US-PATENT-APPL-SN-561223 US-PATENT-CLASS-62-268 US-PATENT-3,455,121	N71-20705*	c 09	NASA-CASE-XMF-01599 US-PATENT-APPL-SN-381940 US-PATENT-CLASS-117-212 US-PATENT-3,359,132	N71-20905*	c 06	NASA-CASE-XMF-02584 US-PATENT-APPL-SN-506135 US-PATENT-CLASS-260-2 US-PATENT-3,346,515
N71-20428*	c 14	NASA-CASE-XGS-04879 US-PATENT-APPL-SN-541399 US-PATENT-CLASS-324-.5 US-PATENT-3,443,208	N71-20717*	c 06	NASA-CASE-XMF-04133 US-PATENT-APPL-SN-554949 US-PATENT-CLASS-260-2 US-PATENT-3,354,098	N71-20942*	c 28	NASA-CASE-XNP-04389 US-PATENT-APPL-SN-523511 US-PATENT-CLASS-60-265 US-PATENT-3,353,359
N71-20429*	c 14	NASA-CASE-XLE-05260 US-PATENT-APPL-SN-674355 US-PATENT-CLASS-73-117.4 US-PATENT-3,463,001	N71-20718*	c 05	NASA-CASE-XMS-04625 US-PATENT-APPL-SN-519161 US-PATENT-CLASS-244-122 US-PATENT-3,356,320	N71-21006*	c 14	NASA-CASE-XLA-01832 US-PATENT-APPL-SN-517858 US-PATENT-CLASS-346-50 US-PATENT-3,354,462
N71-20430*	c 14	NASA-CASE-XLA-03645 US-PATENT-APPL-SN-600266 US-PATENT-CLASS-250-83 US-PATENT-3,450,878	N71-20739*	c 15	NASA-CASE-XGS-02011 US-PATENT-APPL-SN-502693 US-PATENT-CLASS-308-9 US-PATENT-3,359,046	N71-21007*	c 14	NASA-CASE-XMS-06236 US-PATENT-APPL-SN-482670 US-PATENT-CLASS-73-290 US-PATENT-3,355,948
N71-20435*	c 14	NASA-CASE-XMS-06767-1 US-PATENT-APPL-SN-716795 US-PATENT-CLASS-73-422 US-PATENT-3,438,263	N71-20740*	c 15	NASA-CASE-XLA-01808 US-PATENT-APPL-SN-517159 US-PATENT-CLASS-340-471 US-PATENT-3,364,777	N71-21042*	c 08	NASA-CASE-XGS-01021 US-PATENT-APPL-SN-279646 US-PATENT-CLASS-340-174.1 US-PATENT-3,327,298
N71-20436*	c 12	NASA-CASE-LAR-11138 US-PATENT-APPL-SN-694317 US-PATENT-CLASS-73-147	N71-20741*	c 14	NASA-CASE-XMS-01618 US-PATENT-APPL-SN-418362 US-PATENT-CLASS-73-29	N71-21045*	c 32	NASA-CASE-XLA-01731 US-PATENT-APPL-SN-425365 US-PATENT-CLASS-52-2



N71-21060*	c 15	US-PATENT-3,364,631 NASA-CASE-XLA-03660 US-PATENT-APPL-SN-482307 US-PATENT-CLASS-95-53 US-PATENT-3,361,045	N71-21483*	c 10	US-PATENT-3,345,866 NASA-CASE-XGS-01155 US-PATENT-APPL-SN-557871 US-PATENT-CLASS-343-16 US-PATENT-3,344,425	N71-22706*	c 15	US-PATENT-3,341,977 NASA-CASE-XMS-09310 US-PATENT-APPL-SN-655724 US-PATENT-CLASS-137-496 US-PATENT-3,384,111
N71-21064*	c 31	NASA-CASE-XGS-02554 US-PATENT-APPL-SN-504266 US-PATENT-CLASS-244-1 US-PATENT-3,350,034	N71-21489*	c 15	NASA-CASE-XNP-06914 US-PATENT-APPL-SN-590147 US-PATENT-CLASS-85-33 US-PATENT-3,352,192	N71-22707*	c 08	NASA-CASE-XNP-04067 US-PATENT-APPL-SN-466875 US-PATENT-CLASS-340-172.5 US-PATENT-3,369,222
N71-21068*	c 18	NASA-CASE-XNP-02888 US-PATENT-APPL-SN-409126 US-PATENT-CLASS-239-265.11 US-PATENT-3,347,465	N71-21493*	c 28	NASA-CASE-XLA-10450 US-PATENT-APPL-SN-594587 US-PATENT-CLASS-239-265.19 US-PATENT-3,347,466	N71-22710*	c 08	NASA-CASE-XNP-02778 US-PATENT-APPL-SN-508170 US-PATENT-CLASS-340-172.5 US-PATENT-3,369,223
N71-21072*	c 14	NASA-CASE-XAC-02981 US-PATENT-APPL-SN-464879 US-PATENT-CLASS-73-398 US-PATENT-3,352,157	N71-21507*	c 33	NASA-CASE-XLE-04603 US-PATENT-APPL-SN-638194 US-PATENT-CLASS-60-243 US-PATENT-3,347,046	N71-22713*	c 15	NASA-CASE-XLA-03492 US-PATENT-APPL-SN-395346 US-PATENT-CLASS-156-6C US-PATENT-3,342,653
N71-21076*	c 15	NASA-CASE-XMS-03745 US-PATENT-APPL-SN-534295 US-PATENT-CLASS-24-263 US-PATENT-3,346,929	N71-21528*	c 15	NASA-CASE-XLA-01446 US-PATENT-APPL-SN-400613 US-PATENT-CLASS-53-102 US-PATENT-3,336,725	N71-22721*	c 15	NASA-CASE-XMF-03212 US-PATENT-APPL-SN-577549 US-PATENT-CLASS-55-418 US-PATENT-3,385,036
N71-21078*	c 15	NASA-CASE-XNP-03459 US-PATENT-APPL-SN-457879 US-PATENT-CLASS-29-495 US-PATENT-3,357,093	N71-21529*	c 15	NASA-CASE-XGS-02422 US-PATENT-APPL-SN-493943 US-PATENT-CLASS-74-126 US-PATENT-3,331,255	N71-22722*	c 15	NASA-CASE-XMS-04292 US-PATENT-APPL-SN-517157 US-PATENT-CLASS-82-14 US-PATENT-3,373,640
N71-21079*	c 14	NASA-CASE-XLA-03102 US-PATENT-APPL-SN-576195 US-PATENT-CLASS-33-31 US-PATENT-3,364,578	N71-21530*	c 15	NASA-CASE-XMS-03722 US-PATENT-APPL-SN-487934 US-PATENT-CLASS-267-64 US-PATENT-3,330,549	N71-22723*	c 15	NASA-CASE-XMF-01083 US-PATENT-APPL-SN-432028 US-PATENT-CLASS-72-83 US-PATENT-3,340,713
N71-21082*	c 14	NASA-CASE-XGS-02629 US-PATENT-APPL-SN-500435 US-PATENT-CLASS-244-1 US-PATENT-3,350,033	N71-21531*	c 15	NASA-CASE-XNP-02341 US-PATENT-APPL-SN-432025 US-PATENT-CLASS-52-127 US-PATENT-3,330,082	N71-22748*	c 05	NASA-CASE-XMS-04170 US-PATENT-APPL-SN-482311 US-PATENT-CLASS-9-312 US-PATENT-3,343,189
N71-21088*	c 14	NASA-CASE-XNP-06957 US-PATENT-APPL-SN-406097 US-PATENT-CLASS-250-83.3 US-PATENT-3,348,048	N71-21536*	c 15	NASA-CASE-XMS-06876 US-PATENT-APPL-SN-605100 US-PATENT-CLASS-72-34 US-PATENT-3,345,840	N71-22749*	c 08	NASA-CASE-XNP-02748 US-PATENT-APPL-SN-420245 US-PATENT-CLASS-340-146.1 US-PATENT-3,373,404
N71-21089*	c 12	NASA-CASE-XMS-01905 US-PATENT-APPL-SN-280580 US-PATENT-CLASS-141-91 US-PATENT-3,331,404	N71-21583*	c 09	NASA-CASE-XLE-02008 US-PATENT-APPL-SN-487342 US-PATENT-CLASS-338-64 US-PATENT-3,329,918	N71-22750*	c 07	NASA-CASE-XNP-01735 US-PATENT-APPL-SN-408438 US-PATENT-CLASS-343-786 US-PATENT-3,373,431
N71-21090*	c 14	NASA-CASE-XLE-00787 US-PATENT-APPL-SN-330210 US-PATENT-CLASS-324-33 US-PATENT-3,346,806	N71-21586*	c 33	NASA-CASE-XLA-01794 US-PATENT-APPL-SN-464880 US-PATENT-CLASS-73-86 US-PATENT-3,357,237	N71-22752*	c 14	NASA-CASE-XMF-01974 US-PATENT-APPL-SN-568354 US-PATENT-CLASS-73-419 US-PATENT-3,383,922
N71-21091*	c 14	NASA-CASE-XNP-02983 US-PATENT-APPL-SN-407599 US-PATENT-CLASS-73-88.5 US-PATENT-3,350,926	N71-21651*	c 18	NASA-CASE-XMF-01402 US-PATENT-APPL-SN-328140 US-PATENT-CLASS-161-68 US-PATENT-3,346,442	N71-22765*	c 14	NASA-CASE-XLA-00934 US-PATENT-APPL-SN-326298 US-PATENT-CLASS-73-84 US-PATENT-3,339,404
N71-21177*	c 15	NASA-CASE-XAC-06956 US-PATENT-APPL-SN-538166 US-PATENT-CLASS-259-71 US-PATENT-3,347,531	N71-21688*	c 21	NASA-CASE-XMF-00684 US-PATENT-APPL-SN-260087 US-PATENT-CLASS-235-150.25 US-PATENT-3,331,951	N71-22792*	c 33	NASA-CASE-XLA-01243 US-PATENT-APPL-SN-538911 US-PATENT-CLASS-244-1 US-PATENT-3,384,324
N71-21179*	c 15	NASA-CASE-XLA-01401 US-PATENT-APPL-SN-382976 US-PATENT-CLASS-235-61.6 US-PATENT-3,346,724	N71-21693*	c 25	NASA-CASE-XLA-03103 US-PATENT-APPL-SN-531642 US-PATENT-CLASS-315-111 US-PATENT-3,333,152	N71-22796*	c 09	NASA-CASE-XKS-03381 US-PATENT-APPL-SN-437611 US-PATENT-CLASS-317-9 US-PATENT-3,340,430
N71-21234*	c 15	NASA-CASE-XKS-02582 US-PATENT-APPL-SN-424153 US-PATENT-CLASS-251-172 US-PATENT-3,327,991	N71-21694*	c 25	NASA-CASE-XLE-02902 US-PATENT-APPL-SN-485957 US-PATENT-CLASS-60-202 US-PATENT-3,336,748	N71-22797*	c 15	NASA-CASE-XLE-01092 US-PATENT-APPL-SN-422098 US-PATENT-CLASS-72-253 US-PATENT-3,342,055
N71-21311*	c 15	NASA-CASE-XNP-03637 US-PATENT-APPL-SN-453232 US-PATENT-CLASS-310-9.1 US-PATENT-3,359,435	N71-21708*	c 21	NASA-CASE-XLA-02551 US-PATENT-APPL-SN-416940 US-PATENT-CLASS-244-1 US-PATENT-3,329,375	N71-22798*	c 15	NASA-CASE-XMS-04178 US-PATENT-APPL-SN-511299 US-PATENT-CLASS-83-467 US-PATENT-3,367,224
N71-21403*	c 15	NASA-CASE-XMF-03988 US-PATENT-APPL-SN-578923 US-PATENT-CLASS-252-26 US-PATENT-3,361,666	N71-21744*	c 15	NASA-CASE-XGS-04227 US-PATENT-APPL-SN-545805 US-PATENT-CLASS-74-409 US-PATENT-3,359,819	N71-22799*	c 15	NASA-CASE-XMF-03511 US-PATENT-APPL-SN-540414 US-PATENT-CLASS-90-12 US-PATENT-3,386,337
N71-21404*	c 15	NASA-CASE-XLA-01262 US-PATENT-APPL-SN-386800 US-PATENT-CLASS-156-3 US-PATENT-3,356,549	N71-21819*	c 27	NASA-CASE-XLE-03494 US-PATENT-APPL-SN-529593 US-PATENT-CLASS-60-251 US-PATENT-3,345,822	N71-22874*	c 15	NASA-CASE-XLA-00188 US-PATENT-APPL-SN-254847 US-PATENT-CLASS-102-49.5 US-PATENT-3,368,486
N71-21449*	c 09	NASA-CASE-XMS-01991 US-PATENT-APPL-SN-410326 US-PATENT-CLASS-323-22 US-PATENT-3,344,340	N71-21821*	c 23	NASA-CASE-XNP-01059 US-PATENT-APPL-SN-393464 US-PATENT-CLASS-250-232 US-PATENT-3,354,320	N71-22875*	c 11	NASA-CASE-XAC-05333 US-PATENT-APPL-SN-546148 US-PATENT-CLASS-119-15 US-PATENT-3,367,308
N71-21473*	c 10	NASA-CASE-XGS-08679 US-PATENT-APPL-SN-312443 US-PATENT-CLASS-343-113 US-PATENT-3,340,532	N71-21822*	c 28	NASA-CASE-XNP-04124 US-PATENT-APPL-SN-498168 US-PATENT-CLASS-60-202 US-PATENT-3,345,820	N71-22877*	c 15	NASA-CASE-XMF-10040 US-PATENT-APPL-SN-592680 US-PATENT-CLASS-188-1 US-PATENT-3,381,778
N71-21474*	c 11	NASA-CASE-XMS-04798 US-PATENT-APPL-SN-480210 US-PATENT-CLASS-35-12 US-PATENT-3,330,052	N71-21824*	c 26	NASA-CASE-XNP-05429 US-PATENT-APPL-SN-578928 US-PATENT-CLASS-103-1 US-PATENT-3,361,067	N71-22878*	c 15	NASA-CASE-XMS-04545 US-PATENT-APPL-SN-508601 US-PATENT-CLASS-73-144 US-PATENT-3,381,527
N71-21475*	c 11	NASA-CASE-XLA-05378 US-PATENT-APPL-SN-484156 US-PATENT-CLASS-73-343 US-PATENT-3,331,246	N71-21881*	c 31	NASA-CASE-XNP-02595 US-PATENT-APPL-SN-502709 US-PATENT-CLASS-244-1 US-PATENT-3,333,788	N71-22880*	c 21	NASA-CASE-XLA-00793 US-PATENT-APPL-SN-369334 US-PATENT-CLASS-88-1 US-PATENT-3,381,569
N71-21476*	c 07	NASA-CASE-XNP-00746 US-PATENT-APPL-SN-271824 US-PATENT-CLASS-235-181 US-PATENT-3,359,409	N71-21882*	c 23	NASA-CASE-XNP-03853 US-PATENT-APPL-SN-578931 US-PATENT-CLASS-88-24 US-PATENT-3,359,855	N71-22881*	c 23	NASA-CASE-XLE-04222 US-PATENT-APPL-SN-512559 US-PATENT-CLASS-220-9 US-PATENT-3,379,330
N71-21481*	c 11	NASA-CASE-XLA-01326 US-PATENT-APPL-SN-422097 US-PATENT-CLASS-73-147	N71-22705*	c 15	NASA-CASE-XGS-02884 US-PATENT-APPL-SN-432433 US-PATENT-CLASS-51-57	N71-22888*	c 09	NASA-CASE-XLA-03114 US-PATENT-APPL-SN-440039 US-PATENT-CLASS-343-708

N71-22890*	c 33	US-PATENT-3,373,430	N71-22993*	c 14	US-PATENT-3,377,845	N71-23037*	c 14	US-PATENT-3,383,903
		NASA-CASE-XLA-07728			NASA-CASE-XMS-05365			NASA-CASE-XAC-01662
		US-PATENT-APPL-SN-538908			US-PATENT-APPL-SN-515484			US-PATENT-APPL-SN-385520
N71-22894*	c 18	US-PATENT-CLASS-165-96	N71-22994*	c 15	US-PATENT-CLASS-310-8.5	N71-23039*	c 14	US-PATENT-CLASS-324-117
		US-PATENT-3,374,830			US-PATENT-3,387,149			US-PATENT-3,365,665
		NASA-CASE-XLE-03925			NASA-CASE-XFR-05421			NASA-CASE-XNP-01659
N71-22895*	c 16	US-PATENT-APPL-SN-514407	N71-22995*	c 14	US-PATENT-APPL-SN-567686	N71-23040*	c 14	US-PATENT-APPL-SN-410332
		US-PATENT-CLASS-75-204			US-PATENT-CLASS-24-126			US-PATENT-CLASS-136-230
		US-PATENT-3,337,337			US-PATENT-3,378,892			US-PATENT-3,377,208
N71-22896*	c 05	NASA-CASE-XMS-04269	N71-22996*	c 14	NASA-CASE-XNP-08680	N71-23041*	c 14	NASA-CASE-XNP-05535
		US-PATENT-APPL-SN-516793			US-PATENT-APPL-SN-562444			US-PATENT-APPL-SN-487939
		US-PATENT-CLASS-250-199			US-PATENT-CLASS-73-9			US-PATENT-CLASS-244-1
N71-22897*	c 08	US-PATENT-3,341,708	N71-22997*	c 15	US-PATENT-3,376,730	N71-23042*	c 11	US-PATENT-3,339,863
		NASA-CASE-XMS-02399			NASA-CASE-XGS-01331			NASA-CASE-XNP-01056
		US-PATENT-APPL-SN-492344			US-PATENT-APPL-SN-445807			US-PATENT-APPL-SN-377146
N71-22898*	c 05	US-PATENT-CLASS-128-2.06	N71-22998*	c 18	US-PATENT-CLASS-250-218	N71-23043*	c 26	US-PATENT-CLASS-250-41.9
		US-PATENT-3,384,075			US-PATENT-3,388,258			US-PATENT-3,340,395
		NASA-CASE-XNP-01753			NASA-CASE-XNP-01641			NASA-CASE-XMS-02930
N71-22899*	c 10	US-PATENT-APPL-SN-423412	N71-22999*	c 09	US-PATENT-APPL-SN-464885	N71-23044*	c 17	US-PATENT-APPL-SN-417253
		US-PATENT-CLASS-235-92			US-PATENT-CLASS-308-10			US-PATENT-CLASS-250-52
		US-PATENT-3,374,339			US-PATENT-3,378,315			US-PATENT-3,340,397
N71-22900*	c 10	NASA-CASE-XMS-02159	N71-23000*	c 07	NASA-CASE-XGS-02631	N71-23045*	c 15	NASA-CASE-XNP-03972
		US-PATENT-APPL-SN-534564			US-PATENT-APPL-SN-425972			US-PATENT-APPL-SN-502710
		US-PATENT-CLASS-323-56			US-PATENT-CLASS-106-40			US-PATENT-CLASS-184-1
N71-22901*	c 10	US-PATENT-3,365,657	N71-23001*	c 02	US-PATENT-3,382,082	N71-23046*	c 15	US-PATENT-3,396,057
		NASA-CASE-XGS-05441			NASA-CASE-XLA-00781			NASA-CASE-XNP-04338
		US-PATENT-APPL-SN-505321			US-PATENT-APPL-SN-307271			US-PATENT-APPL-SN-461765
N71-22902*	c 14	US-PATENT-CLASS-328-233	N71-23002*	c 07	US-PATENT-CLASS-88-14	N71-23047*	c 18	US-PATENT-CLASS-29-182.2
		US-PATENT-3,366,886			US-PATENT-3,364,813			US-PATENT-3,421,864
		NASA-CASE-XLE-02024			NASA-CASE-XGS-01812			NASA-CASE-XLA-01995
N71-22903*	c 14	US-PATENT-APPL-SN-422099	N71-23003*	c 03	US-PATENT-APPL-SN-392973	N71-23048*	c 15	US-PATENT-APPL-SN-411945
		US-PATENT-CLASS-73-15			US-PATENT-CLASS-340-174.1			US-PATENT-CLASS-148-6.16
		US-PATENT-3,365,930			US-PATENT-3,380,042			US-PATENT-3,395,053
N71-22904*	c 14	NASA-CASE-XGS-02319	N71-23006*	c 03	NASA-CASE-XGS-02631	N71-23049*	c 15	NASA-CASE-XNP-03972
		US-PATENT-APPL-SN-496205			US-PATENT-APPL-SN-425972			US-PATENT-APPL-SN-502710
		US-PATENT-CLASS-73-117			US-PATENT-CLASS-136-133			US-PATENT-CLASS-184-1
N71-22905*	c 31	US-PATENT-3,365,941	N71-23007*	c 02	US-PATENT-3,340,099	N71-23050*	c 15	US-PATENT-3,367,445
		NASA-CASE-XLA-02050			NASA-CASE-XMF-04163			NASA-CASE-XMF-01049
		US-PATENT-APPL-SN-568067			US-PATENT-APPL-SN-424156			US-PATENT-APPL-SN-506137
N71-22906*	c 31	US-PATENT-CLASS-244-1	N71-23008*	c 31	US-PATENT-CLASS-73-189	N71-23051*	c 15	US-PATENT-CLASS-339-5
		US-PATENT-3,386,685			US-PATENT-3,340,732			US-PATENT-3,375,479
		NASA-CASE-XLA-03132			NASA-CASE-XLA-04804			NASA-CASE-XMF-01730
N71-22907*	c 03	US-PATENT-APPL-SN-610728	N71-23009*	c 31	US-PATENT-APPL-SN-577546	N71-23052*	c 15	US-PATENT-APPL-SN-517869
		US-PATENT-CLASS-244-1			US-PATENT-CLASS-102-49.5			US-PATENT-CLASS-228-8
		US-PATENT-3,386,686			US-PATENT-3,384,016			US-PATENT-3,373,914
N71-22908*	c 06	NASA-CASE-XGS-02630	N71-23010*	c 09	NASA-CASE-XGS-02807	N71-23053*	c 15	NASA-CASE-XAC-01158
		US-PATENT-APPL-SN-494287			US-PATENT-APPL-SN-474531			US-PATENT-APPL-SN-420250
		US-PATENT-CLASS-136-132			US-PATENT-CLASS-244-1			US-PATENT-CLASS-137-625.5
N71-22909*	c 06	US-PATENT-3,382,107	N71-23015*	c 09	US-PATENT-3,341,151	N71-23052*	c 15	US-PATENT-3,369,564
		NASA-CASE-XNP-07659			NASA-CASE-XGS-02751			NASA-CASE-XLA-03497
		US-PATENT-APPL-SN-567806			US-PATENT-APPL-SN-491059			US-PATENT-APPL-SN-392992
N71-22910*	c 15	US-PATENT-CLASS-18-26	N71-23021*	c 09	US-PATENT-CLASS-307-288	N71-23080*	c 05	US-PATENT-CLASS-156-285
		US-PATENT-3,381,339			US-PATENT-3,374,366			US-PATENT-3,373,069
		NASA-CASE-XLA-02809			NASA-CASE-XAC-02807			NASA-CASE-XLE-02531
N71-22911*	c 15	US-PATENT-APPL-SN-554897	N71-23022*	c 15	US-PATENT-APPL-SN-456581	N71-23081*	c 28	US-PATENT-APPL-SN-425096
		US-PATENT-CLASS-308-176			US-PATENT-CLASS-324-120			US-PATENT-CLASS-312-1
		US-PATENT-3,397,932			US-PATENT-3,384,820			US-PATENT-3,337,279
N71-22912*	c 28	NASA-CASE-XMF-06926	N71-23022*	c 15	NASA-CASE-XMS-01625	N71-23081*	c 28	NASA-CASE-XNP-02923
		US-PATENT-APPL-SN-537615			US-PATENT-APPL-SN-418933			US-PATENT-APPL-SN-494280
		US-PATENT-CLASS-136-132			US-PATENT-CLASS-136-86			US-PATENT-CLASS-60-202
N71-22913*	c 07	US-PATENT-3,336,754	N71-23023*	c 15	US-PATENT-3,389,017	N71-23084*	c 10	US-PATENT-3,367,114
		NASA-CASE-XMS-04312			NASA-CASE-XMF-04042			NASA-CASE-XLA-01219
		US-PATENT-APPL-SN-521754			US-PATENT-APPL-SN-605518			US-PATENT-APPL-SN-402978
N71-22914*	c 09	US-PATENT-CLASS-343-708	N71-23024*	c 15	US-PATENT-CLASS-55-204	N71-23085*	c 33	US-PATENT-CLASS-332-1
		US-PATENT-3,384,895			US-PATENT-3,397,512			US-PATENT-3,366,894
		NASA-CASE-XMF-03934			NASA-CASE-XNP-01747			NASA-CASE-XFR-03802
N71-22915*	c 09	US-PATENT-APPL-SN-530958	N71-23025*	c 15	US-PATENT-APPL-SN-413661	N71-23086*	c 15	US-PATENT-APPL-SN-460877
		US-PATENT-CLASS-250-83.3			US-PATENT-CLASS-251-148			US-PATENT-CLASS-73-190
		US-PATENT-3,379,885			US-PATENT-3,341,169			US-PATENT-3,367,182
N71-22916*	c 10	NASA-CASE-XMF-01892	N71-23025*	c 15	NASA-CASE-XNP-08877	N71-23086*	c 15	NASA-CASE-XMS-04533
		US-PATENT-APPL-SN-464878			US-PATENT-APPL-SN-574282			US-PATENT-APPL-SN-557016
		US-PATENT-CLASS-328-167			US-PATENT-CLASS-62-6			US-PATENT-CLASS-202-234
N71-22917*	c 09	US-PATENT-3,375,451	N71-23026*	c 07	US-PATENT-3,367,121	N71-23087*	c 14	US-PATENT-3,397,117
		NASA-CASE-XLE-04788			NASA-CASE-XNP-02791			NASA-CASE-XNP-03918
		US-PATENT-APPL-SN-537617			US-PATENT-APPL-SN-390251			US-PATENT-APPL-SN-510475
N71-22918*	c 09	US-PATENT-CLASS-313-352	N71-23027*	c 09	US-PATENT-CLASS-178-6	N71-23088*	c 18	US-PATENT-CLASS-73-88.5
		US-PATENT-3,396,303			US-PATENT-3,383,461			US-PATENT-3,388,590
		NASA-CASE-XGS-03304			NASA-CASE-XNP-01960			NASA-CASE-XNP-00597
N71-22919*	c 14	US-PATENT-APPL-SN-483886	N71-23033*	c 10	US-PATENT-APPL-SN-438135	N71-23096*	c 05	US-PATENT-APPL-SN-410325
		US-PATENT-CLASS-73-1			US-PATENT-CLASS-29-572			US-PATENT-CLASS-65-7
		US-PATENT-3,381,517			US-PATENT-3,340,599			US-PATENT-3,337,315
N71-22920*	c 14	NASA-CASE-XLA-01551	N71-23029*	c 10	NASA-CASE-XGS-03427	N71-23092*	c 14	NASA-CASE-XLA-01530
		US-PATENT-APPL-SN-422092			US-PATENT-APPL-SN-500446			US-PATENT-APPL-SN-420466
		US-PATENT-CLASS-73-190			US-PATENT-CLASS-307-265			US-PATENT-CLASS-188-1
N71-22921*	c 14	US-PATENT-3,382,714	N71-23030*	c 11	US-PATENT-3,383,524	N71-23093*	c 14	US-PATENT-3,337,004
		NASA-CASE-XMS-04201			NASA-CASE-XNP-03578			NASA-CASE-XLE-03280
		US-PATENT-APPL-SN-507254			US-PATENT-APPL-SN-445292			US-PATENT-APPL-SN-517156
N71-22922*	c 14	US-PATENT-CLASS-324-70	N71-23033*	c 10	US-PATENT-CLASS-73-147	N71-23096*	c 05	US-PATENT-CLASS-73-400
		US-PATENT-3,379,974			US-PATENT-3,342,066			US-PATENT-3,379,064
		NASA-CASE-XLA-01791			NASA-CASE-XNP-01318			NASA-CASE-XMS-06064
N71-22923*	c 14	US-PATENT-APPL-SN-462763	N71-23036*	c 14	US-PATENT-APPL-SN-380965	N71-23097*	c 09	US-PATENT-APPL-SN-563646
		US-PATENT-CLASS-250-227			US-PATENT-CLASS-340-174			US-PATENT-CLASS-2-14
		US-PATENT-3,397,318			US-PATENT-3,388,387			US-PATENT-3,378,851
N71-22924*	c 14	NASA-CASE-XGS-01023	N71-23036*	c 14	NASA-CASE-XNP-01660	N71-23097*	c 09	NASA-CASE-XNP-02140
		US-PATENT-APPL-SN-446131			US-PATENT-APPL-SN-578916			US-PATENT-APPL-SN-440036
		US-PATENT-CLASS-73-65			US-PATENT-CLASS-73-4			US-PATENT-CLASS-330-61

N71-23098*	c 07	US-PATENT-3,337,812 NASA-CASE-XGS-00740 US-PATENT-APPL-SN-353644 US-PATENT-CLASS-325-305 US-PATENT-3,341,778	N71-23269*	c 14	US-PATENT-3,419,329 NASA-CASE-XLA-01584 US-PATENT-APPL-SN-416943 US-PATENT-CLASS-250-203 US-PATENT-3,389,260	N71-23544*	c 10	US-PATENT-3,393,347 NASA-CASE-XNP-05382 US-PATENT-APPL-SN-536217 US-PATENT-CLASS-332-19 US-PATENT-3,393,380
N71-23099*	c 10	NASA-CASE-XNP-08875 US-PATENT-APPL-SN-640455 US-PATENT-CLASS-343-6.5 US-PATENT-3,380,049	N71-23270*	c 09	NASA-CASE-XMS-04919 US-PATENT-APPL-SN-516155 US-PATENT-CLASS-307-263 US-PATENT-3,417,266	N71-23545*	c 09	NASA-CASE-XMF-04367 US-PATENT-APPL-SN-457874 US-PATENT-CLASS-307-235 US-PATENT-3,404,289
N71-23159*	c 05	NASA-CASE-XMF-06589 US-PATENT-APPL-SN-543206 US-PATENT-CLASS-5-82 US-PATENT-3,343,180	N71-23271*	c 10	NASA-CASE-XNP-00952 US-PATENT-APPL-SN-388967 US-PATENT-CLASS-317-148.5 US-PATENT-3,417,298	N71-23548*	c 09	NASA-CASE-XNP-06507 US-PATENT-APPL-SN-605099 US-PATENT-CLASS-333-98 US-PATENT-3,419,827
N71-23161*	c 05	NASA-CASE-XAC-07043 US-PATENT-APPL-SN-566397 US-PATENT-CLASS-2-2.1 US-PATENT-3,405,406	N71-23289*	c 21	NASA-CASE-XMF-01669 US-PATENT-APPL-SN-399419 US-PATENT-CLASS-74-5.47 US-PATENT-3,415,126	N71-23573*	c 09	NASA-CASE-XGS-01418 US-PATENT-APPL-SN-392969 US-PATENT-CLASS-333-73 US-PATENT-3,393,384
N71-23174*	c 14	NASA-CASE-XGS-02610 US-PATENT-APPL-SN-491054 US-PATENT-CLASS-321-60 US-PATENT-3,417,316	N71-23292*	c 26	NASA-CASE-XLE-10715 US-PATENT-APPL-SN-603397 US-PATENT-CLASS-252-62.3 US-PATENT-3,409,554	N71-23598*	c 09	NASA-CASE-XER-11019 US-PATENT-APPL-SN-711971 US-PATENT-CLASS-331-78 US-PATENT-3,470,489
N71-23175*	c 14	NASA-CASE-XKS-03509 US-PATENT-APPL-SN-566392 US-PATENT-CLASS-356-166 US-PATENT-3,414,358	N71-23293*	c 28	NASA-CASE-XNP-06942 US-PATENT-APPL-SN-563651 US-PATENT-CLASS-60-202 US-PATENT-3,412,559	N71-23599*	c 22	NASA-CASE-XLE-01903 US-PATENT-APPL-SN-466868 US-PATENT-CLASS-310-4 US-PATENT-3,393,330
N71-23185*	c 04	NASA-CASE-XAC-05422 US-PATENT-APPL-SN-483885 US-PATENT-CLASS-128-2.05 US-PATENT-3,412,729	N71-23295*	c 08	NASA-CASE-XNP-04819 US-PATENT-APPL-SN-502701 US-PATENT-CLASS-340-146.2 US-PATENT-3,390,378	N71-23654*	c 26	NASA-CASE-XLE-02798 US-PATENT-APPL-SN-660571 US-PATENT-CLASS-148-1.5 US-PATENT-3,390,020
N71-23187*	c 03	NASA-CASE-XGS-03390 US-PATENT-APPL-SN-551182 US-PATENT-CLASS-136-89 US-PATENT-3,419,433	N71-23311*	c 09	NASA-CASE-XGS-03632 US-PATENT-APPL-SN-502739 US-PATENT-CLASS-307-260 US-PATENT-3,390,282	N71-23658*	c 18	NASA-CASE-XLE-02647 US-PATENT-APPL-SN-430226 US-PATENT-CLASS-220-9 US-PATENT-3,392,864
N71-23188*	c 09	NASA-CASE-XMF-14301 US-PATENT-APPL-SN-697341 US-PATENT-CLASS-321-2 US-PATENT-3,470,446	N71-23315*	c 10	NASA-CASE-XLA-03356 US-PATENT-APPL-SN-536216 US-PATENT-CLASS-307-234 US-PATENT-3,448,290	N71-23662*	c 10	NASA-CASE-XGS-01118 US-PATENT-APPL-SN-408442 US-PATENT-CLASS-235-154 US-PATENT-3,399,299
N71-23189*	c 09	NASA-CASE-XNP-06028 US-PATENT-APPL-SN-649356 US-PATENT-CLASS-315-26 US-PATENT-3,431,460	N71-23316*	c 09	NASA-CASE-XMS-09352 US-PATENT-APPL-SN-564919 US-PATENT-CLASS-323-22 US-PATENT-3,417,321	N71-23663*	c 10	NASA-CASE-XKS-04631 US-PATENT-APPL-SN-663180 US-PATENT-CLASS-200-82 US-PATENT-3,433,909
N71-23190*	c 09	NASA-CASE-XLE-04501 US-PATENT-APPL-SN-522794 US-PATENT-CLASS-313-231 US-PATENT-3,413,510	N71-23317*	c 05	NASA-CASE-XMS-06061 US-PATENT-APPL-SN-605092 US-PATENT-CLASS-307-260 US-PATENT-3,467,837	N71-23669*	c 10	NASA-CASE-XAC-10607 US-PATENT-APPL-SN-694345 US-PATENT-CLASS-331-111 US-PATENT-3,470,495
N71-23191*	c 09	NASA-CASE-XMS-05890 US-PATENT-APPL-SN-650166 US-PATENT-CLASS-137-554 US-PATENT-3,414,012	N71-23336*	c 03	NASA-CASE-XGS-01513 US-PATENT-APPL-SN-502756 US-PATENT-CLASS-136-166 US-PATENT-3,390,017	N71-23698*	c 14	NASA-CASE-XGS-08259 US-PATENT-APPL-SN-666551 US-PATENT-CLASS-242-192 US-PATENT-3,460,781
N71-23225*	c 14	NASA-CASE-XNP-04817 US-PATENT-APPL-SN-516152 US-PATENT-CLASS-73-12 US-PATENT-3,412,598	N71-23354*	c 03	NASA-CASE-XLE-04535 US-PATENT-APPL-SN-588671 US-PATENT-CLASS-250-212 US-PATENT-3,437,818	N71-23699*	c 14	NASA-CASE-XMF-10289 US-PATENT-APPL-SN-674356 US-PATENT-CLASS-324-72 US-PATENT-3,470,466
N71-23226*	c 14	NASA-CASE-XNP-06509 US-PATENT-APPL-SN-570095 US-PATENT-CLASS-73-194 US-PATENT-3,411,356	N71-23365*	c 17	NASA-CASE-XNP-03063 US-PATENT-APPL-SN-521994 US-PATENT-CLASS-75-172 US-PATENT-3,413,115	N71-23710*	c 18	NASA-CASE-XLE-08511 US-PATENT-APPL-SN-635972 US-PATENT-CLASS-29-182.1 US-PATENT-3,419,363
N71-23227*	c 14	NASA-CASE-XMF-06515 US-PATENT-APPL-SN-548808 US-PATENT-CLASS-73-432 US-PATENT-3,408,870	N71-23401*	c 14	NASA-CASE-XGS-03230 US-PATENT-APPL-SN-517158 US-PATENT-CLASS-250-83 US-PATENT-3,419,992	N71-23723*	c 30	NASA-CASE-XNP-09832 US-PATENT-APPL-SN-632163 US-PATENT-CLASS-343-100 US-PATENT-3,417,399
N71-23230*	c 06	NASA-CASE-XMF-06409 US-PATENT-APPL-SN-575930 US-PATENT-CLASS-260-448.2 US-PATENT-3,433,818	N71-23405*	c 07	NASA-CASE-XGS-01537 US-PATENT-APPL-SN-432026 US-PATENT-CLASS-325-163 US-PATENT-3,417,332	N71-23725*	c 14	NASA-CASE-XGS-01013 US-PATENT-APPL-SN-665209 US-PATENT-CLASS-73-133 US-PATENT-3,460,381
N71-23239*	c 03	NASA-CASE-XMF-08217 US-PATENT-APPL-SN-688807 US-PATENT-CLASS-321-2 US-PATENT-3,470,443	N71-23443*	c 09	NASA-CASE-XLE-02823 US-PATENT-APPL-SN-491058 US-PATENT-CLASS-310-10 US-PATENT-3,393,332	N71-23726*	c 14	NASA-CASE-XMF-05224 US-PATENT-APPL-SN-660842 US-PATENT-CLASS-73-189 US-PATENT-3,465,584
N71-23240*	c 14	NASA-CASE-XLA-00941 US-PATENT-APPL-SN-508873 US-PATENT-CLASS-250-227 US-PATENT-3,407,304	N71-23449*	c 03	NASA-CASE-XLE-08569 US-PATENT-APPL-SN-641420 US-PATENT-CLASS-136-89 US-PATENT-3,472,698	N71-23755*	c 14	NASA-CASE-XMF-04134 US-PATENT-APPL-SN-610723 US-PATENT-CLASS-73-4 US-PATENT-3,472,059
N71-23248*	c 17	NASA-CASE-XLE-03629 US-PATENT-APPL-SN-554950 US-PATENT-CLASS-75-170 US-PATENT-3,415,643	N71-23497*	c 01	NASA-CASE-XLA-01486 US-PATENT-APPL-SN-484485 US-PATENT-CLASS-244-13 US-PATENT-3,392,936	N71-23790*	c 14	NASA-CASE-XAC-04885 US-PATENT-APPL-SN-673432 US-PATENT-CLASS-73-141 US-PATENT-3,415,116
N71-23254*	c 15	NASA-CASE-XFR-05302 US-PATENT-APPL-SN-685463 US-PATENT-CLASS-85-7 US-PATENT-3,443,472	N71-23499*	c 06	NASA-CASE-XNP-03835 US-PATENT-APPL-SN-456874 US-PATENT-CLASS-44-77 US-PATENT-3,393,059	N71-23797*	c 14	NASA-CASE-XNP-06510 US-PATENT-APPL-SN-562445 US-PATENT-CLASS-250-203 US-PATENT-3,417,247
N71-23255*	c 15	NASA-CASE-XMS-07487 US-PATENT-APPL-SN-580365 US-PATENT-CLASS-244-83 US-PATENT-3,409,252	N71-23500*	c 06	NASA-CASE-XNP-03250 US-PATENT-APPL-SN-485058 US-PATENT-CLASS-260-85.5 US-PATENT-3,419,537	N71-23798*	c 15	NASA-CASE-XMF-02330 US-PATENT-APPL-SN-608944 US-PATENT-CLASS-219-130 US-PATENT-3,469,069
N71-23256*	c 15	NASA-CASE-XMF-03290 US-PATENT-APPL-SN-479353 US-PATENT-CLASS-53-22 US-PATENT-3,415,032	N71-23525*	c 09	NASA-CASE-XGS-02317 US-PATENT-APPL-SN-576183 US-PATENT-CLASS-328-61 US-PATENT-3,464,018	N71-23809*	c 15	NASA-CASE-XAC-10019 US-PATENT-APPL-SN-686209 US-PATENT-CLASS-74-89.18 US-PATENT-3,472,086
N71-23267*	c 14	NASA-CASE-XLE-04026 US-PATENT-APPL-SN-617770 US-PATENT-CLASS-13-26 US-PATENT-3,470,304	N71-23527*	c 06	NASA-CASE-XLE-01997 US-PATENT-APPL-SN-427990 US-PATENT-CLASS-23-230 US-PATENT-3,472,625	N71-23810*	c 15	NASA-CASE-XLE-05033 US-PATENT-APPL-SN-510474 US-PATENT-CLASS-252-12 US-PATENT-3,466,243
N71-23268*	c 14	NASA-CASE-XLA-01907 US-PATENT-APPL-SN-335441 US-PATENT-CLASS-356-72	N71-23543*	c 10	NASA-CASE-XMS-00913 US-PATENT-APPL-SN-416945 US-PATENT-CLASS-317-31	N71-23811*	c 15	NASA-CASE-XNP-05297 US-PATENT-APPL-SN-640458 US-PATENT-CLASS-72-354

N71-23812*	c 15	US-PATENT-3,443,412 NASA-CASE-XMF-07808 US-PATENT-APPL-SN-684178 US-PATENT-CLASS-308-2 US-PATENT-3,463,563	N71-24232*	c 14	US-PATENT-3,434,855 NASA-CASE-XAC-04458 US-PATENT-APPL-SN-534975 US-PATENT-CLASS-73-400 US-PATENT-3,392,586	N71-24623*	c 05	US-PATENT-CLASS-324-77 US-PATENT-3,548,107 NASA-CASE-XMS-09635 US-PATENT-APPL-SN-586329 US-PATENT-CLASS-2-2.1 US-PATENT-3,516,091
N71-23815*	c 15	NASA-CASE-XMF-07069 US-PATENT-APPL-SN-672382 US-PATENT-CLASS-219-125 US-PATENT-3,469,068	N71-24233*	c 14	NASA-CASE-XGS-04478 US-PATENT-APPL-SN-566717 US-PATENT-CLASS-73-88.5 US-PATENT-3,460,378	N71-24624*	c 07	NASA-CASE-GSC-10131-1 US-PATENT-APPL-SN-754055 US-PATENT-CLASS-340-172.5 US-PATENT-3,546,684
N71-23816*	c 15	NASA-CASE-XLE-03803 US-PATENT-APPL-SN-505765 US-PATENT-CLASS-220-9 US-PATENT-3,392,865	N71-24234*	c 14	NASA-CASE-XMF-10968 US-PATENT-APPL-SN-644447 US-PATENT-CLASS-73-15.6 US-PATENT-3,469,437	N71-24625*	c 07	NASA-CASE-XMS-09610 US-PATENT-APPL-SN-766170 US-PATENT-CLASS-343-113 US-PATENT-3,540,054
N71-23817*	c 15	NASA-CASE-XLE-06773 US-PATENT-APPL-SN-646124 US-PATENT-CLASS-72-467 US-PATENT-3,469,436	N71-24276*	c 33	NASA-CASE-XLA-02059 US-PATENT-APPL-SN-576182 US-PATENT-CLASS-165-12 US-PATENT-3,406,742	N71-24633*	c 08	NASA-CASE-NPO-10567 US-PATENT-APPL-SN-679055 US-PATENT-CLASS-235-153 US-PATENT-3,517,171
N71-23828*	c 17	NASA-CASE-XMF-02303 US-PATENT-APPL-SN-453229 US-PATENT-CLASS-148-6.20 US-PATENT-3,416,975	N71-24285*	c 32	NASA-CASE-XMF-02392 US-PATENT-APPL-SN-596735 US-PATENT-CLASS-73-49.2 US-PATENT-3,399,574	N71-24650*	c 08	NASA-CASE-NPO-10150 US-PATENT-APPL-SN-660843 US-PATENT-CLASS-340-347 US-PATENT-3,537,103
N71-23912*	c 31	NASA-CASE-XMF-05941 US-PATENT-APPL-SN-653277 US-PATENT-CLASS-244-1 US-PATENT-3,443,773	N71-24315*	c 31	NASA-CASE-XLA-04901 US-PATENT-APPL-SN-586325 US-PATENT-CLASS-244-1 US-PATENT-3,405,887	N71-24679*	c 15	NASA-CASE-XNP-10475 US-PATENT-APPL-SN-763868 US-PATENT-CLASS-72-369 US-PATENT-3,546,917
N71-23968*	c 28	NASA-CASE-XLE-04857 US-PATENT-APPL-SN-621742 US-PATENT-CLASS-239-127.1 US-PATENT-3,460,759	N71-24321*	c 28	NASA-CASE-XNP-03692 US-PATENT-APPL-SN-640787 US-PATENT-CLASS-60-263 US-PATENT-3,443,384	N71-24681*	c 03	NASA-CASE-XLE-08569-2 US-PATENT-APPL-SN-829825 US-PATENT-CLASS-29-572 US-PATENT-3,541,679
N71-23971*	c 32	NASA-CASE-XAC-05632 US-PATENT-APPL-SN-568355 US-PATENT-CLASS-244-77 US-PATENT-3,412,961	N71-24583*	c 07	NASA-CASE-NPO-10096 US-PATENT-APPL-SN-730700 US-PATENT-CLASS-329-140 US-PATENT-3,533,001	N71-24692*	c 12	NASA-CASE-XFR-02007 US-PATENT-APPL-SN-378080 US-PATENT-CLASS-73-389 US-PATENT-3,273,399
N71-23976*	c 23	NASA-CASE-XLA-01987 US-PATENT-APPL-SN-542713 US-PATENT-CLASS-346-107 US-PATENT-3,392,403	N71-24595*	c 09	NASA-CASE-GSC-10021-1 US-PATENT-APPL-SN-790420 US-PATENT-CLASS-343-7.5 US-PATENT-3,540,045	N71-24693*	c 14	NASA-CASE-XMF-04415 US-PATENT-APPL-SN-644446 US-PATENT-CLASS-33-174 US-PATENT-3,360,864
N71-24035*	c 31	NASA-CASE-XLA-01027 US-PATENT-APPL-SN-494283 US-PATENT-CLASS-52-272 US-PATENT-3,416,274	N71-24596*	c 09	NASA-CASE-XNP-01306-2 US-PATENT-APPL-SN-684083 US-PATENT-CLASS-328-133 US-PATENT-3,509,475	N71-24694*	c 15	NASA-CASE-GSC-10306-1 US-PATENT-APPL-SN-789278 US-PATENT-CLASS-248-358 US-PATENT-3,537,672
N71-24042*	c 15	NASA-CASE-XNP-04731 US-PATENT-APPL-SN-534966 US-PATENT-CLASS-103-48 US-PATENT-3,367,271	N71-24597*	c 09	NASA-CASE-ARC-10132-1 US-PATENT-APPL-SN-759460 US-PATENT-CLASS-73-398 US-PATENT-3,545,275	N71-24695*	c 15	NASA-CASE-NPO-10613 US-PATENT-APPL-SN-796360 US-PATENT-CLASS-310-101 US-PATENT-3,535,570
N71-24043*	c 15	NASA-CASE-XKS-03338 US-PATENT-APPL-SN-547072 US-PATENT-CLASS-89-1.806 US-PATENT-3,415,156	N71-24599*	c 15	NASA-CASE-MSC-12052-1 US-PATENT-APPL-SN-770371 US-PATENT-CLASS-254-150 US-PATENT-CLASS-254-173 US-PATENT-CLASS-254-186 US-PATENT-3,545,725	N71-24696*	c 15	NASA-CASE-NPO-10173 US-PATENT-APPL-SN-796360 US-PATENT-CLASS-310-101 US-PATENT-3,535,570
N71-24044*	c 15	NASA-CASE-XMF-06888 US-PATENT-APPL-SN-591000 US-PATENT-CLASS-62-40 US-PATENT-3,415,069	N71-24600*	c 15	NASA-CASE-XGS-08718 US-PATENT-APPL-SN-785611 US-PATENT-CLASS-244-1 US-PATENT-CLASS-244-150 US-PATENT-CLASS-74-2 US-PATENT-CLASS-89-1.5 US-PATENT-CLASS-9-9 US-PATENT-3,540,676	N71-24717*	c 09	NASA-CASE-XMF-08804 US-PATENT-APPL-SN-683606 US-PATENT-CLASS-324-181 US-PATENT-3,543,159
N71-24045*	c 15	NASA-CASE-XGS-04548 US-PATENT-APPL-SN-672383 US-PATENT-CLASS-74-100 US-PATENT-3,460,397	N71-24605*	c 03	NASA-CASE-XNP-04758 US-PATENT-APPL-SN-557861 US-PATENT-CLASS-320-17 US-PATENT-3,413,536	N71-24718*	c 03	NASA-CASE-MSC-10960-1 US-PATENT-APPL-SN-751198 US-PATENT-CLASS-204-305 US-PATENT-3,547,801
N71-24046*	c 15	NASA-CASE-XLE-10337 US-PATENT-APPL-SN-594633 US-PATENT-CLASS-252-26 US-PATENT-3,391,080	N71-24606*	c 05	NASA-CASE-XKS-10804 US-PATENT-APPL-SN-691909 US-PATENT-CLASS-35-17 US-PATENT-3,508,347	N71-24719*	c 03	NASA-CASE-GSC-10487-1 US-PATENT-APPL-SN-828983 US-PATENT-CLASS-320-339 US-PATENT-3,541,422
N71-24047*	c 15	NASA-CASE-XGS-03120 US-PATENT-APPL-SN-485958 US-PATENT-CLASS-156-3 US-PATENT-3,470,043	N71-24607*	c 06	NASA-CASE-XNP-09699 US-PATENT-APPL-SN-711972 US-PATENT-CLASS-73-17 US-PATENT-3,546,920	N71-24725*	c 23	NASA-CASE-GSC-10188-1 US-PATENT-APPL-SN-791888 US-PATENT-CLASS-62-384 US-PATENT-3,545,226
N71-24074*	c 16	NASA-CASE-XLA-03375 US-PATENT-APPL-SN-512562 US-PATENT-CLASS-356-104 US-PATENT-3,446,558	N71-24612*	c 07	NASA-CASE-XMF-06092 US-PATENT-APPL-SN-550088 US-PATENT-CLASS-178-7.1 US-PATENT-3,470,318	N71-24728*	c 05	NASA-CASE-MSC-12243-1 US-PATENT-APPL-SN-857445 US-PATENT-CLASS-244-1 US-PATENT-3,537,668
N71-24142*	c 17	NASA-CASE-XLE-06969 US-PATENT-APPL-SN-655675 US-PATENT-CLASS-148-126 US-PATENT-3,463,679	N71-24613*	c 07	NASA-CASE-NPO-10851 US-PATENT-APPL-SN-805406 US-PATENT-CLASS-325-325 US-PATENT-3,551,816	N71-24729*	c 05	NASA-CASE-MSC-13282-1 US-PATENT-APPL-SN-8498 US-PATENT-CLASS-128-2.1 US-PATENT-3,548,812
N71-24145*	c 33	NASA-CASE-XLE-03432 US-PATENT-APPL-SN-559349 US-PATENT-CLASS-13-35 US-PATENT-3,409,730	N71-24614*	c 07	NASA-CASE-XKS-09340 US-PATENT-APPL-SN-666555 US-PATENT-CLASS-343-703 US-PATENT-3,540,056	N71-24730*	c 05	NASA-CASE-XMS-09637-1 US-PATENT-APPL-SN-785710 US-PATENT-CLASS-2-2.1 US-PATENT-3,537,107
N71-24147*	c 05	NASA-CASE-XMS-10269 US-PATENT-APPL-SN-590158 US-PATENT-CLASS-165-46 US-PATENT-3,425,486	N71-24618*	c 09	NASA-CASE-FRC-10029 US-PATENT-APPL-SN-760389 US-PATENT-CLASS-128-2.06 US-PATENT-3,547,105	N71-24736*	c 28	NASA-CASE-XLE-03157 US-PATENT-APPL-SN-591014 US-PATENT-CLASS-60-240 US-PATENT-3,408,816
N71-24164*	c 15	NASA-CASE-XLA-01494 US-PATENT-APPL-SN-499122 US-PATENT-CLASS-156-545 US-PATENT-3,416,988	N71-24621*	c 07	NASA-CASE-GSC-10118-1 US-PATENT-APPL-SN-783375 US-PATENT-CLASS-179-15 US-PATENT-CLASS-325-4 US-PATENT-CLASS-343-100 US-PATENT-3,546,386	N71-24738*	c 05	NASA-CASE-ARC-10100-1 US-PATENT-APPL-SN-797058 US-PATENT-CLASS-128-24 US-PATENT-CLASS-128-25 US-PATENT-3,550,585
N71-24170*	c 16	NASA-CASE-XLA-04295 US-PATENT-APPL-SN-546149 US-PATENT-CLASS-356-107 US-PATENT-3,468,609	N71-24622*	c 07	NASA-CASE-NPO-10388 US-PATENT-APPL-SN-725432 US-PATENT-CLASS-179-15	N71-24739*	c 06	NASA-CASE-ARC-10098-1 US-PATENT-APPL-SN-702967 US-PATENT-CLASS-260-2.5 US-PATENT-3,549,564
N71-24183*	c 18	NASA-CASE-XGS-04799 US-PATENT-APPL-SN-452944 US-PATENT-CLASS-106-84 US-PATENT-3,416,939				N71-24740*	c 06	NASA-CASE-XMF-03074 US-PATENT-APPL-SN-593595 US-PATENT-CLASS-260-72.5 US-PATENT-3,516,971
N71-24184*	c 18	NASA-CASE-XNP-02139 US-PATENT-APPL-SN-430777 US-PATENT-CLASS-106-84				N71-24741*	c 07	NASA-CASE-NPO-10118

		US-PATENT-APPL-SN-704465			US-PATENT-APPL-SN-698630	N71-24910*	c 15	NASA-CASE-ERC-10045
		US-PATENT-CLASS-235-152			US-PATENT-CLASS-333-83			US-PATENT-APPL-SN-763685
		US-PATENT-3,541,314			US-PATENT-3,541,479			US-PATENT-CLASS-73-40.7
N71-24742*	c 07	NASA-CASE-NPO-10140	N71-24842*	c 09	NASA-CASE-MSC-12209	N71-24911*	c 17	NASA-CASE-XLE-04946
		US-PATENT-APPL-SN-691737			US-PATENT-APPL-SN-881039			US-PATENT-APPL-SN-605093
		US-PATENT-CLASS-187-7.1			US-PATENT-CLASS-343-797			US-PATENT-CLASS-118-308
N71-24750*	c 31	US-PATENT-3,541,250	N71-24843*	c 09	US-PATENT-3,546,705			US-PATENT-3,472,202
		NASA-CASE-XGS-01654			NASA-CASE-XMF-06617	N71-24934*	c 18	US-PATENT-CLASS-118-308
		US-PATENT-APPL-SN-434148			US-PATENT-APPL-SN-656993			US-PATENT-APPL-SN-711898
		US-PATENT-CLASS-102-50			US-PATENT-CLASS-324-71			US-PATENT-CLASS-73-38
N71-24798*	c 10	US-PATENT-3,282,541	N71-24844*	c 10	US-PATENT-3,541,439			US-PATENT-3,548,633
		NASA-CASE-XLE-03061-1			NASA-CASE-NPO-10169	N71-24948*	c 21	NASA-CASE-ERC-10096
		US-PATENT-APPL-SN-632152			US-PATENT-APPL-SN-701733			US-PATENT-APPL-SN-811542
		US-PATENT-CLASS-340-412			US-PATENT-CLASS-328-171			US-PATENT-CLASS-343-112
N71-24799*	c 10	US-PATENT-3,546,694	N71-24857*	c 23	US-PATENT-3,541,459			US-PATENT-3,550,125
		NASA-CASE-XNP-06505			NASA-CASE-XMS-06056-1	N71-24964*	c 11	NASA-CASE-NPO-10141
		US-PATENT-APPL-SN-562933			US-PATENT-APPL-SN-532006			US-PATENT-APPL-SN-673227
		US-PATENT-CLASS-307-254			US-PATENT-CLASS-350-189			US-PATENT-CLASS-62-55.5
N71-24800*	c 09	US-PATENT-3,501,648	N71-24858*	c 33	US-PATENT-3,472,577	N71-24984*	c 15	US-PATENT-3,443,390
		NASA-CASE-ERC-10075			NASA-CASE-MFS-14253			NASA-CASE-MFS-14971
		US-PATENT-APPL-SN-775870			US-PATENT-APPL-SN-709622			US-PATENT-APPL-SN-827579
		US-PATENT-CLASS-321-45			US-PATENT-CLASS-161-69			US-PATENT-CLASS-74-468
N71-24803*	c 09	US-PATENT-3,539,905	N71-24861*	c 10	US-PATENT-3,551,266			US-PATENT-3,541,875
		NASA-CASE-NPO-10242			NASA-CASE-XMF-05195	N71-24985*	c 11	NASA-CASE-KSC-10126
		US-PATENT-APPL-SN-749181			US-PATENT-APPL-SN-785595			US-PATENT-APPL-SN-845973
		US-PATENT-CLASS-307-88			US-PATENT-CLASS-318-599			US-PATENT-CLASS-73-15
N71-24804*	c 09	US-PATENT-3,541,346	N71-24862*	c 10	US-PATENT-3,523,228			US-PATENT-3,545,252
		NASA-CASE-GSC-10299-1			NASA-CASE-FRC-10010	N71-25139*	c 10	NASA-CASE-MFS-10068
		US-PATENT-APPL-SN-836367			US-PATENT-APPL-SN-771937			US-PATENT-APPL-SN-700541
		US-PATENT-CLASS-343-100			US-PATENT-CLASS-307-235			US-PATENT-CLASS-321-9
N71-24805*	c 09	US-PATENT-3,540,050	N71-24863*	c 10	US-PATENT-3,543,050			US-PATENT-3,487,288
		NASA-CASE-XMF-06892			NASA-CASE-XMF-02966	N71-25213*	c 28	NASA-CASE-GSC-10709-1
		US-PATENT-APPL-SN-757875			US-PATENT-APPL-SN-560968			US-PATENT-APPL-SN-791288
		US-PATENT-CLASS-318-318			US-PATENT-CLASS-324-70			US-PATENT-CLASS-60-202
N71-24806*	c 09	US-PATENT-3,546,553	N71-24864*	c 14	US-PATENT-3,406,336			US-PATENT-3,545,208
		NASA-CASE-NPO-10198			NASA-CASE-XLE-04503	N71-25351*	c 33	NASA-CASE-MFS-14023
		US-PATENT-APPL-SN-723804			US-PATENT-APPL-SN-806463			US-PATENT-APPL-SN-795217
		US-PATENT-CLASS-328-165			US-PATENT-CLASS-250-225			US-PATENT-CLASS-161-161
N71-24807*	c 09	US-PATENT-3,550,023	N71-24865*	c 15	US-PATENT-3,546,471			US-PATENT-CLASS-220-9
		NASA-CASE-MFS-14114-2			NASA-CASE-XMF-05114-3			US-PATENT-CLASS-52-249
		US-PATENT-APPL-SN-854815			US-PATENT-APPL-SN-837378			US-PATENT-CLASS-52-404
		US-PATENT-CLASS-165-105			US-PATENT-CLASS-72-56			US-PATENT-CLASS-62-45
		US-PATENT-CLASS-165-107			US-PATENT-3,540,250			US-PATENT-3,540,615
		US-PATENT-CLASS-165-138	N71-24868*	c 23	NASA-CASE-ERC-10001	N71-25353*	c 33	NASA-CASE-MFS-20355
		US-PATENT-CLASS-310-4			US-PATENT-APPL-SN-712099			US-PATENT-APPL-SN-845974
N71-24808*	c 09	US-PATENT-3,537,515			US-PATENT-CLASS-350-310			US-PATENT-CLASS-165-104
		NASA-CASE-XNP-08880			US-PATENT-CLASS-350-310			US-PATENT-CLASS-165-105
		US-PATENT-APPL-SN-605094	N71-24875*	c 15	US-PATENT-3,540,802			US-PATENT-CLASS-165-133
		US-PATENT-CLASS-333-98			NASA-CASE-XLA-06199			US-PATENT-CLASS-219-378
		US-PATENT-3,416,106			US-PATENT-APPL-SN-702911			US-PATENT-CLASS-219-530
N71-24809*	c 14	NASA-CASE-XNP-08961			US-PATENT-CLASS-148-6.11			US-PATENT-CLASS-244-1
		US-PATENT-APPL-SN-661170	N71-24876*	c 33	US-PATENT-3,540,942			US-PATENT-CLASS-244-1
		US-PATENT-CLASS-250-84			NASA-CASE-XNP-05524			US-PATENT-3,548,930
		US-PATENT-3,487,216			US-PATENT-APPL-SN-250567	N71-25360*	c 32	NASA-CASE-XLA-08530
N71-24813*	c 31	US-PATENT-CLASS-165-2			US-PATENT-CLASS-165-2			US-PATENT-APPL-SN-808577
		NASA-CASE-XAC-06029-1			US-PATENT-3,270,802			US-PATENT-CLASS-73-90
		US-PATENT-APPL-SN-588651	N71-24890*	c 08	NASA-CASE-XKS-06187			US-PATENT-3,546,931
		US-PATENT-CLASS-343-100			US-PATENT-APPL-SN-649076	N71-25434*	c 31	NASA-CASE-MSC-13047-1
		US-PATENT-3,540,048			US-PATENT-CLASS-235-155			US-PATENT-APPL-SN-850586
N71-24828*	c 16	NASA-CASE-XAC-10770-1			US-PATENT-3,535,497			US-PATENT-CLASS-244-1
		US-PATENT-APPL-SN-690997	N71-24891*	c 08	US-PATENT-3,535,497			US-PATENT-CLASS-244-113
		US-PATENT-CLASS-356-28			NASA-CASE-XNP-09759			US-PATENT-CLASS-244-138
		US-PATENT-3,547,540			US-PATENT-APPL-SN-606462			US-PATENT-3,547,376
N71-24830*	c 17	US-PATENT-CLASS-235-92	N71-24892*	c 09	US-PATENT-CLASS-235-92	N71-25490*	c 26	NASA-CASE-ERC-10088
		NASA-CASE-XNP-04148			US-PATENT-3,541,312			US-PATENT-APPL-SN-760927
		US-PATENT-APPL-SN-536210			NASA-CASE-NPO-10716			US-PATENT-CLASS-73-141
		US-PATENT-CLASS-204-38			US-PATENT-APPL-SN-851394			US-PATENT-CLASS-73-141
N71-24831*	c 16	US-PATENT-3,472,742			US-PATENT-CLASS-307-104			US-PATENT-3,537,305
		NASA-CASE-NPO-10548			US-PATENT-CLASS-317-123	N71-25555*	c 24	NASA-CASE-XNP-09469
		US-PATENT-APPL-SN-775072			US-PATENT-CLASS-317-148.5			US-PATENT-APPL-SN-645573
		US-PATENT-CLASS-330-4			US-PATENT-3,549,955			US-PATENT-CLASS-204-168
N71-24832*	c 16	US-PATENT-3,486,123	N71-24893*	c 09	US-PATENT-3,549,955			US-PATENT-3,540,989
		NASA-CASE-ERC-10178			NASA-CASE-ERC-10125	N71-25865*	c 10	NASA-CASE-KSC-10002
		US-PATENT-APPL-SN-800973			US-PATENT-APPL-SN-773029			US-PATENT-APPL-SN-782956
		US-PATENT-CLASS-331-94.5			US-PATENT-CLASS-323-56			US-PATENT-CLASS-178-69.5
		US-PATENT-3,550,034			US-PATENT-3,541,428			US-PATENT-3,567,861
N71-24833*	c 15	US-PATENT-CLASS-317-148.5	N71-24895*	c 15	NASA-CASE-XLA-07473			US-PATENT-APPL-SN-10003-1
		NASA-CASE-XMF-03793			US-PATENT-APPL-SN-839935	N71-25866*	c 09	NASA-CASE-ARC-10003-1
		US-PATENT-APPL-SN-453225			US-PATENT-CLASS-318-265			US-PATENT-APPL-SN-717822
		US-PATENT-CLASS-72-56			US-PATENT-CLASS-318-265			US-PATENT-CLASS-178-66
N71-24834*	c 15	US-PATENT-3,360,972	N71-24896*	c 15	US-PATENT-3,546,552			US-PATENT-CLASS-179-100.2
		NASA-CASE-XNP-05634			NASA-CASE-ERC-10034			US-PATENT-3,549,799
		US-PATENT-APPL-SN-605096			US-PATENT-APPL-SN-763706	N71-25881*	c 18	NASA-CASE-XGS-05180
		US-PATENT-CLASS-73-95			US-PATENT-CLASS-250-43.5			US-PATENT-APPL-SN-721607
		US-PATENT-3,460,379			US-PATENT-3,549,882			US-PATENT-CLASS-260-37
N71-24835*	c 15	US-PATENT-CLASS-285-317	N71-24897*	c 15	NASA-CASE-XLA-03538			US-PATENT-CLASS-260-37
		NASA-CASE-NPO-10123			US-PATENT-APPL-SN-749149			US-PATENT-3,567,677
		US-PATENT-APPL-SN-731388			US-PATENT-CLASS-294-83	N71-25882*	c 10	NASA-CASE-GSC-10022-1
		US-PATENT-CLASS-128-272			US-PATENT-3,508,779			US-PATENT-APPL-SN-785546
		US-PATENT-CLASS-128-275			NASA-CASE-MFS-20395			US-PATENT-CLASS-331-113
N71-24836*	c 15	US-PATENT-3,540,449			US-PATENT-APPL-SN-830715			US-PATENT-3,559,096
		NASA-CASE-XLE-08917-2			US-PATENT-CLASS-285-314	N71-25892*	c 14	NASA-CASE-XLA-04555-1
		US-PATENT-APPL-SN-852131			US-PATENT-CLASS-285-317			US-PATENT-APPL-SN-594584
		US-PATENT-CLASS-72-60			US-PATENT-CLASS-285-38			US-PATENT-CLASS-148-13
		US-PATENT-3,541,825			US-PATENT-CLASS-285-406			US-PATENT-3,468,727
N71-24840*	c 07	US-PATENT-CLASS-285-406			US-PATENT-3,545,792	N71-25899*	c 10	NASA-CASE-LEW-10345-1
		NASA-CASE-NPO-10649	N71-24904*	c 09	NASA-CASE-MFS-20385			US-PATENT-APPL-SN-805298
		US-PATENT-APPL-SN-795182			US-PATENT-APPL-SN-853716			US-PATENT-CLASS-137-81.5
		US-PATENT-CLASS-325-113			US-PATENT-CLASS-310-10			US-PATENT-CLASS-235-201
		US-PATENT-3,541,450			US-PATENT-3,541,361			
N71-24841*	c 09	NASA-CASE-XNP-09771						

N71-25900*	c 10	US-PATENT-3,568,702 NASA-CASE-ERC-10032 US-PATENT-APPL-SN-757857 US-PATENT-CLASS-333-30 US-PATENT-CLASS-333-72	N71-26136*	c 14	US-PATENT-3,564,401 NASA-CASE-XLA-01782 US-PATENT-APPL-SN-576792 US-PATENT-CLASS-73-15.6 US-PATENT-3,472,060	N71-26293*	c 05	US-PATENT-3,553,586 NASA-CASE-XFR-07658-1 US-PATENT-APPL-SN-586324 US-PATENT-CLASS-128-2.06 US-PATENT-3,426,746
N71-25901*	c 14	US-PATENT-3,568,103 NASA-CASE-XLA-02810 US-PATENT-APPL-SN-764252 US-PATENT-CLASS-250-43.5 US-PATENT-CLASS-250-83.3 US-PATENT-CLASS-340-233 US-PATENT-CLASS-340-285 US-PATENT-3,569,710	N71-26137*	c 14	US-PATENT-3,562,631 NASA-CASE-LAR-10305 US-PATENT-APPL-SN-811037 US-PATENT-CLASS-324-0.5 US-PATENT-CLASS-324-58.5 US-PATENT-3,562,631	N71-26294*	c 15	US-PATENT-3,481,638 NASA-CASE-XNP-02862-1 US-PATENT-APPL-SN-556830 US-PATENT-CLASS-277-13 US-PATENT-3,468,548
N71-25903*	c 17	US-PATENT-3,569,710 NASA-CASE-XLA-08966-1 US-PATENT-APPL-SN-570678 US-PATENT-CLASS-204-33 US-PATENT-3,468,765	N71-26142*	c 10	US-PATENT-3,562,919 NASA-CASE-NPO-10302 US-PATENT-APPL-SN-848811 US-PATENT-CLASS-343-768 US-PATENT-3,553,704	N71-26312*	c 15	US-PATENT-3,481,638 NASA-CASE-XNP-01263-2 US-PATENT-APPL-SN-718279 US-PATENT-CLASS-287-189.365
N71-25914*	c 16	US-PATENT-3,469,087 NASA-CASE-XLA-03410 US-PATENT-APPL-SN-512561 US-PATENT-CLASS-250-199 US-PATENT-3,469,087	N71-26145*	c 15	US-PATENT-3,555,867 NASA-CASE-FRC-10005 US-PATENT-APPL-SN-756266 US-PATENT-CLASS-33-189 US-PATENT-3,562,919	N71-26326*	c 10	US-PATENT-3,481,638 NASA-CASE-NPO-10143 US-PATENT-APPL-SN-692331 US-PATENT-CLASS-58-24 US-PATENT-3,472,019
N71-25917*	c 10	US-PATENT-3,569,956 NASA-CASE-NPO-10595 US-PATENT-APPL-SN-771760 US-PATENT-CLASS-340-347 US-PATENT-3,569,956	N71-26148*	c 15	US-PATENT-3,576,127 NASA-CASE-XMF-05114-2 US-PATENT-APPL-SN-837377 US-PATENT-CLASS-72-56 US-PATENT-3,555,867	N71-26331*	c 10	US-PATENT-3,481,638 NASA-CASE-XNP-10854 US-PATENT-APPL-SN-668248 US-PATENT-CLASS-330-31 US-PATENT-3,482,179
N71-25929*	c 06	US-PATENT-3,569,956 NASA-CASE-NPO-10596 US-PATENT-APPL-SN-756381 US-PATENT-CLASS-260-2.5 US-PATENT-3,557,027	N71-26153*	c 18	US-PATENT-3,576,127 NASA-CASE-XLE-03940 US-PATENT-APPL-SN-539255 US-PATENT-CLASS-148-126 US-PATENT-3,472,709	N71-26333*	c 05	US-PATENT-3,481,638 NASA-CASE-XMS-09652-1 US-PATENT-APPL-SN-618969 US-PATENT-CLASS-2-6 US-PATENT-3,473,165
N71-25950*	c 10	US-PATENT-3,466,570 NASA-CASE-XGS-06226 US-PATENT-APPL-SN-676387 US-PATENT-CLASS-331-113 US-PATENT-3,466,570	N71-26154*	c 16	US-PATENT-3,576,127 NASA-CASE-ERC-10020 US-PATENT-APPL-SN-709399 US-PATENT-CLASS-350-3.5 US-PATENT-3,540,790	N71-26334*	c 10	US-PATENT-3,481,638 NASA-CASE-XLA-02619 US-PATENT-APPL-SN-796691 US-PATENT-CLASS-317-DIG.3 US-PATENT-CLASS-317-153 US-PATENT-CLASS-340-235 US-PATENT-3,575,641
N71-25975*	c 15	US-PATENT-3,469,289 NASA-CASE-XMS-10660-1 US-PATENT-APPL-SN-797056 US-PATENT-CLASS-24-205.17 US-PATENT-3,469,289	N71-26155*	c 18	US-PATENT-3,576,127 NASA-CASE-LAR-10373-1 US-PATENT-APPL-SN-761007 US-PATENT-CLASS-260-2.5 US-PATENT-3,481,887	N71-26339*	c 10	US-PATENT-3,481,638 NASA-CASE-NPO-10185 US-PATENT-APPL-SN-723805 US-PATENT-CLASS-73-432 US-PATENT-3,472,080
N71-25999*	c 09	US-PATENT-3,468,303 NASA-CASE-XGS-05290 US-PATENT-APPL-SN-754019 US-PATENT-CLASS-310-168 US-PATENT-CLASS-310-254 US-PATENT-CLASS-318-138 US-PATENT-CLASS-318-254 US-PATENT-3,569,804	N71-26161*	c 14	US-PATENT-3,576,127 NASA-CASE-MSC-15474-1 US-PATENT-APPL-SN-878731 US-PATENT-CLASS-24-263 US-PATENT-3,564,564	N71-26346*	c 15	US-PATENT-3,481,638 NASA-CASE-XLE-05641-1 US-PATENT-APPL-SN-605091 US-PATENT-CLASS-72-61 US-PATENT-3,461,700
N71-26000*	c 09	US-PATENT-3,569,804 NASA-CASE-XNP-08567 US-PATENT-APPL-SN-640783 US-PATENT-CLASS-307-88 US-PATENT-3,466,459	N71-26162*	c 15	US-PATENT-3,576,127 NASA-CASE-LEW-10689-1 US-PATENT-APPL-SN-830978 US-PATENT-CLASS-60-202 US-PATENT-3,552,125	N71-26374*	c 10	US-PATENT-3,481,638 NASA-CASE-GSC-11367 US-PATENT-APPL-SN-675238 US-PATENT-CLASS-331-18 US-PATENT-3,484,712
N71-26002*	c 09	US-PATENT-3,468,303 NASA-CASE-XMS-04213-1 US-PATENT-APPL-SN-607484 US-PATENT-CLASS-128-2.1 US-PATENT-3,468,303	N71-26181*	c 07	US-PATENT-3,555,192 NASA-CASE-NPO-10625 US-PATENT-APPL-SN-856415 US-PATENT-CLASS-313-236 US-PATENT-CLASS-313-237 US-PATENT-CLASS-60-23 US-PATENT-3,562,575	N71-26387*	c 12	US-PATENT-3,481,638 NASA-CASE-XLA-05541 US-PATENT-APPL-SN-700986 US-PATENT-CLASS-73-301 US-PATENT-3,473,379
N71-26084*	c 03	US-PATENT-3,554,806 NASA-CASE-LEW-11358 US-PATENT-APPL-SN-787906 US-PATENT-CLASS-136-6 US-PATENT-3,554,806	N71-26182*	c 09	US-PATENT-3,555,192 NASA-CASE-NPO-10625 US-PATENT-APPL-SN-856415 US-PATENT-CLASS-313-236 US-PATENT-CLASS-313-237 US-PATENT-CLASS-60-23 US-PATENT-3,562,575	N71-26414*	c 10	US-PATENT-3,481,638 NASA-CASE-XMF-04958-1 US-PATENT-APPL-SN-448365 US-PATENT-CLASS-321-69 US-PATENT-3,434,037
N71-26085*	c 10	US-PATENT-3,554,806 NASA-CASE-GSC-10735-1 US-PATENT-APPL-SN-863963 US-PATENT-CLASS-321-2 US-PATENT-3,559,031	N71-26185*	c 15	US-PATENT-3,555,192 NASA-CASE-MFS-14711 US-PATENT-APPL-SN-774266 US-PATENT-CLASS-55-75 US-PATENT-3,557,534	N71-26415*	c 10	US-PATENT-3,481,638 NASA-CASE-NPO-10003 US-PATENT-APPL-SN-638192 US-PATENT-CLASS-330-13 US-PATENT-3,461,393
N71-26092*	c 09	US-PATENT-3,501,684 NASA-CASE-XNP-07477 US-PATENT-APPL-SN-605098 US-PATENT-CLASS-318-258 US-PATENT-3,501,684	N71-26189*	c 15	US-PATENT-3,561,828 NASA-CASE-XLE-09527-2 US-PATENT-APPL-SN-840870 US-PATENT-CLASS-308-187 US-PATENT-3,561,828	N71-26418*	c 10	US-PATENT-3,481,638 NASA-CASE-XGS-04224 US-PATENT-APPL-SN-568364 US-PATENT-CLASS-340-174 US-PATENT-3,483,535
N71-26100*	c 18	US-PATENT-3,553,002 NASA-CASE-XLA-04251 US-PATENT-APPL-SN-657742 US-PATENT-CLASS-117-104 US-PATENT-3,553,002	N71-26199*	c 14	US-PATENT-3,566,676 NASA-CASE-XLE-09527-2 US-PATENT-APPL-SN-840870 US-PATENT-CLASS-308-187 US-PATENT-3,561,828	N71-26434*	c 10	US-PATENT-3,481,638 NASA-CASE-XNP-01466 US-PATENT-APPL-SN-487940 US-PATENT-CLASS-340-174 US-PATENT-3,461,437
N71-26101*	c 07	US-PATENT-3,534,376 NASA-CASE-NPO-10231 US-PATENT-APPL-SN-701767 US-PATENT-CLASS-343-786 US-PATENT-3,534,376	N71-26206*	c 23	US-PATENT-3,554,647 NASA-CASE-NPO-10691 US-PATENT-APPL-SN-816988 US-PATENT-CLASS-73-61 US-PATENT-3,566,676	N71-26474*	c 14	US-PATENT-3,481,638 NASA-CASE-XMF-03844-1 US-PATENT-APPL-SN-601229 US-PATENT-CLASS-95-44 US-PATENT-3,472,140
N71-26102*	c 07	US-PATENT-3,474,192 NASA-CASE-XNP-06611 US-PATENT-APPL-SN-593607 US-PATENT-CLASS-178-6.6 US-PATENT-3,474,192	N71-26208*	c 15	US-PATENT-3,554,647 NASA-CASE-XGS-08269 US-PATENT-APPL-SN-787393 US-PATENT-CLASS-356-76 US-PATENT-3,554,647	N71-26475*	c 14	US-PATENT-3,481,638 NASA-CASE-XNP-09701 US-PATENT-APPL-SN-584015 US-PATENT-CLASS-250-83.3 US-PATENT-3,461,290
N71-26103*	c 10	US-PATENT-3,474,192 NASA-CASE-XNP-04623 US-PATENT-APPL-SN-510150 US-PATENT-CLASS-340-146.1 US-PATENT-3,474,192	N71-26243*	c 15	US-PATENT-3,554,647 NASA-CASE-MSC-10959 US-PATENT-APPL-SN-725719 US-PATENT-CLASS-188-1 US-PATENT-3,420,338	N71-26531*	c 10	US-PATENT-3,481,638 NASA-CASE-GSC-10413 US-PATENT-APPL-SN-789043 US-PATENT-CLASS-317-20 US-PATENT-CLASS-317-33 US-PATENT-3,555,361
N71-26110*	c 02	US-PATENT-3,474,192 NASA-CASE-LAR-10249-1 US-PATENT-APPL-SN-835060 US-PATENT-CLASS-244-42 US-PATENT-3,576,301	N71-26244*	c 14	US-PATENT-3,554,647 NASA-CASE-XMS-06497 US-PATENT-APPL-SN-617778 US-PATENT-CLASS-324-115 US-PATENT-3,464,012	N71-26537*	c 31	US-PATENT-3,481,638 NASA-CASE-GSC-10556-1 NASA-CASE-GSC-10557-1 US-PATENT-APPL-SN-808193 US-PATENT-CLASS-244-1 US-PATENT-CLASS-308-1 US-PATENT-CLASS-74-5.12 US-PATENT-3,554,466
N71-26133*	c 09	US-PATENT-3,575,638 NASA-CASE-MFS-20075 US-PATENT-APPL-SN-835059 US-PATENT-CLASS-317-101 US-PATENT-CLASS-339-17 US-PATENT-3,575,638	N71-26266*	c 14	US-PATENT-3,554,647 NASA-CASE-XNP-09830 US-PATENT-APPL-SN-632165 US-PATENT-CLASS-324-0.5 US-PATENT-3,474,328	N71-26544*	c 10	US-PATENT-3,481,638 NASA-CASE-NPO-10344 US-PATENT-APPL-SN-732921 US-PATENT-CLASS-340-347 US-PATENT-3,566,396
N71-26134*	c 15	US-PATENT-3,575,638 NASA-CASE-XKS-07953 US-PATENT-APPL-SN-725405 US-PATENT-CLASS-51-170 US-PATENT-3,553,904	N71-26285*	c 18	US-PATENT-3,554,647 NASA-CASE-MSC-12109 US-PATENT-APPL-SN-889376 US-PATENT-CLASS-112-402 US-PATENT-CLASS-2-275 US-PATENT-CLASS-2-81 US-PATENT-3,563,198	N71-26546*	c 12	US-PATENT-3,481,638 NASA-CASE-FRC-10022 US-PATENT-APPL-SN-763729 US-PATENT-CLASS-73-194 US-PATENT-3,555,898
N71-26135*	c 14	US-PATENT-3,553,904 NASA-CASE-XAC-03740 US-PATENT-APPL-SN-480211 US-PATENT-CLASS-324-43	N71-26291*	c 07	US-PATENT-3,554,647 NASA-CASE-HQN-10541-1 US-PATENT-APPL-SN-494739 US-PATENT-CLASS-350-96 US-PATENT-3,556,634	N71-26577*	c 10	US-PATENT-3,481,638 NASA-CASE-NPO-10214 US-PATENT-APPL-SN-704299 US-PATENT-CLASS-325-41
			N71-26292*	c 07	US-PATENT-3,554,647 NASA-CASE-XKS-10543			



N71-26579*	c 07	US-PATENT-3,566,268	US-PATENT-APPL-SN-804172	N71-27094*	c 28	NASA-CASE-GSC-10710-1
		NASA-CASE-XMS-06740-1	US-PATENT-CLASS-313-63			US-PATENT-APPL-SN-828909
N71-26611*	c 15	US-PATENT-APPL-SN-554277	US-PATENT-CLASS-315-111	N71-27095*	c 28	US-PATENT-CLASS-73-117.4
		US-PATENT-CLASS-178-6	US-PATENT-CLASS-60-202			US-PATENT-3,572,104
N71-26611*	c 15	US-PATENT-3,470,313	US-PATENT-CLASS-60-202	N71-27126*	c 10	NASA-CASE-MFS-20325
		NASA-CASE-MSC-11817-1	US-PATENT-3,576,107			US-PATENT-APPL-SN-840176
N71-26626*	c 10	US-PATENT-APPL-SN-7668	NASA-CASE-XKS-05932	N71-27135*	c 15	US-PATENT-CLASS-244-1
		US-PATENT-CLASS-165-44	US-PATENT-APPL-SN-752729			US-PATENT-3,572,610
N71-26627*	c 14	US-PATENT-CLASS-165-86	US-PATENT-CLASS-240-11.2	N71-27136*	c 10	NASA-CASE-LEW-10233
		US-PATENT-CLASS-188-88	US-PATENT-CLASS-240-11.4			US-PATENT-APPL-SN-750787
N71-26635*	c 15	US-PATENT-CLASS-244-1	US-PATENT-CLASS-240-51.11	N71-27137*	c 10	US-PATENT-CLASS-307-253
		US-PATENT-CLASS-244-57	US-PATENT-CLASS-313-22			US-PATENT-CLASS-307-300
N71-26642*	c 28	US-PATENT-3,563,307	US-PATENT-3,564,234	N71-27146*	c 15	US-PATENT-3,566,158
		NASA-CASE-GSC-10891-1	NASA-CASE-MFS-20240			NASA-CASE-HQN-10541-2
N71-26654*	c 23	US-PATENT-APPL-SN-568620	US-PATENT-APPL-SN-825259	N71-27147*	c 15	US-PATENT-APPL-SN-822088
		US-PATENT-CLASS-307-53	US-PATENT-CLASS-356-203			US-PATENT-CLASS-219-121
N71-26672*	c 14	US-PATENT-3,480,789	US-PATENT-3,563,668	N71-27169*	c 15	US-PATENT-CLASS-331-94.5
		NASA-CASE-MFS-14017	NASA-CASE-XGS-11177			US-PATENT-3,571,555
N71-26673*	c 15	US-PATENT-APPL-SN-762956	US-PATENT-APPL-SN-828921	N71-27170*	c 18	NASA-CASE-GSC-10065-1
		US-PATENT-CLASS-248-183	US-PATENT-CLASS-317-33			US-PATENT-APPL-SN-808462
N71-26674*	c 19	US-PATENT-CLASS-308-9	US-PATENT-CLASS-317-9	N71-27183*	c 16	US-PATENT-CLASS-318-571
		US-PATENT-3,559,937	US-PATENT-3,571,656			US-PATENT-CLASS-318-653
N71-26678*	c 09	NASA-CASE-ERC-10022	NASA-CASE-MFS-20261	N71-27186*	c 14	US-PATENT-3,568,028
		US-PATENT-APPL-SN-874733	US-PATENT-APPL-SN-845990			NASA-CASE-XNP-06234
N71-26701*	c 09	US-PATENT-CLASS-74-424.8	US-PATENT-CLASS-141-258	N71-27188*	c 14	US-PATENT-APPL-SN-723827
		US-PATENT-CLASS-74-89.15	US-PATENT-CLASS-222-137			US-PATENT-CLASS-235-92
N71-26721*	c 15	US-PATENT-3,576,135	US-PATENT-CLASS-222-49	N71-27191*	c 07	US-PATENT-CLASS-328-49
		NASA-CASE-LEW-10106-1	US-PATENT-3,568,885			US-PATENT-3,567,913
N71-26722*	c 23	US-PATENT-APPL-SN-758390	NASA-CASE-LAR-10083-1	N71-27210*	c 08	NASA-CASE-LAR-10193-1
		US-PATENT-CLASS-60-202	US-PATENT-APPL-SN-837825			US-PATENT-APPL-SN-794968
N71-26726*	c 03	US-PATENT-3,552,124	US-PATENT-CLASS-73-147	N71-27214*	c 15	US-PATENT-CLASS-188-1
		NASA-CASE-NPO-10467	US-PATENT-3,572,112			US-PATENT-CLASS-188-103
N71-26754*	c 06	US-PATENT-APPL-SN-798277	NASA-CASE-GSC-11139	N71-27215*	c 14	US-PATENT-3,568,805
		US-PATENT-CLASS-62-514	US-PATENT-APPL-SN-756511			NASA-CASE-MSC-12121-1
N71-26772*	c 18	US-PATENT-3,564,866	US-PATENT-CLASS-307-234	N71-27221*	c 08	US-PATENT-APPL-SN-794968
		NASA-CASE-ERC-10033	US-PATENT-CLASS-307-246			US-PATENT-CLASS-188-1
N71-26777*	c 14	US-PATENT-APPL-SN-801660	US-PATENT-CLASS-307-273	N71-27232*	c 09	NASA-CASE-XMF-02221
		US-PATENT-CLASS-73-49.3	US-PATENT-CLASS-328-120			US-PATENT-APPL-SN-430192
N71-26779*	c 28	US-PATENT-3,559,460	US-PATENT-CLASS-330-30	N71-27218*	c 15	US-PATENT-CLASS-252-301.2
		NASA-CASE-XAC-09489-1	US-PATENT-3,569,744			US-PATENT-3,567,651
N71-26781*	c 28	US-PATENT-APPL-SN-694246	NASA-CASE-XNP-09770-3	N71-27219*	c 07	NASA-CASE-HQN-10541-4
		US-PATENT-CLASS-356-154	US-PATENT-APPL-SN-863967			US-PATENT-APPL-SN-822090
N71-26788*	c 14	US-PATENT-3,565,530	US-PATENT-CLASS-74-18.2	N71-27220*	c 08	US-PATENT-CLASS-250-199
		NASA-CASE-XGS-04173	US-PATENT-3,574,286			US-PATENT-3,575,602
N71-26788*	c 14	US-PATENT-CLASS-350-285	NASA-CASE-ERC-10113	N71-27221*	c 08	NASA-CASE-XNP-08124
		US-PATENT-3,560,081	US-PATENT-APPL-SN-865811			US-PATENT-APPL-SN-697075
N71-26788*	c 09	NASA-CASE-ERC-10013	US-PATENT-CLASS-323-48	N71-27221*	c 08	US-PATENT-CLASS-75-63
		US-PATENT-APPL-SN-802972	US-PATENT-CLASS-323-60			US-PATENT-3,563,727
N71-26788*	c 09	US-PATENT-CLASS-29-25.18	US-PATENT-3,571,699	N71-27221*	c 08	NASA-CASE-NPO-10556
		US-PATENT-3,562,881	NASA-CASE-MSC-12205-18			US-PATENT-APPL-SN-796405
N71-26788*	c 32	NASA-CASE-LAR-10098	US-PATENT-APPL-SN-882577	N71-27221*	c 08	US-PATENT-CLASS-73-71.6
		US-PATENT-APPL-SN-677475	US-PATENT-CLASS-325-16			US-PATENT-3,572,089
N71-26788*	c 09	US-PATENT-CLASS-73-71.4	US-PATENT-CLASS-325-23	N71-27221*	c 08	NASA-CASE-XMF-03968
		US-PATENT-3,564,906	US-PATENT-CLASS-343-100			US-PATENT-APPL-SN-719029
N71-26788*	c 09	NASA-CASE-NPO-10331	US-PATENT-CLASS-343-117	N71-27221*	c 08	US-PATENT-CLASS-174-110.3
		US-PATENT-APPL-SN-757625	US-PATENT-CLASS-343-176			US-PATENT-CLASS-324-65
N71-26788*	c 09	US-PATENT-CLASS-118-49.5	US-PATENT-3,568,197	N71-27221*	c 08	US-PATENT-CLASS-340-227
		US-PATENT-CLASS-204-298	NASA-CASE-XLA-07828			US-PATENT-CLASS-60-35.6
N71-26788*	c 15	US-PATENT-3,556,048	US-PATENT-APPL-SN-770209	N71-27221*	c 08	US-PATENT-3,569,828
		NASA-CASE-LAR-10121-1	US-PATENT-CLASS-318-20.105			NASA-CASE-MFS-20068
N71-26788*	c 15	US-PATENT-APPL-SN-766244	US-PATENT-CLASS-325-151.11	N71-27221*	c 08	US-PATENT-APPL-SN-797795
		US-PATENT-CLASS-18-6	US-PATENT-CLASS-340-347DA			US-PATENT-CLASS-174-28
N71-26788*	c 23	US-PATENT-3,562,857	US-PATENT-3,573,797	N71-27221*	c 08	US-PATENT-CLASS-333-95
		NASA-CASE-GSC-10216-1	NASA-CASE-MSC-13276-1			US-PATENT-CLASS-333-96
N71-26788*	c 23	US-PATENT-APPL-SN-756260	US-PATENT-APPL-SN-880272	N71-27221*	c 08	US-PATENT-CLASS-343-884
		US-PATENT-CLASS-331-94.5	US-PATENT-CLASS-219-505			US-PATENT-3,569,875
N71-26788*	c 03	US-PATENT-3,555,455	US-PATENT-3,575,585	N71-27221*	c 08	NASA-CASE-GSC-10097-1
		NASA-CASE-XNP-03413	NASA-CASE-XKS-07814			US-PATENT-APPL-SN-762957
N71-26788*	c 03	US-PATENT-APPL-SN-640456	US-PATENT-APPL-SN-672384	N71-27221*	c 08	US-PATENT-CLASS-179-100.2
		US-PATENT-CLASS-156-212	US-PATENT-CLASS-182-10			US-PATENT-CLASS-29-603
N71-26788*	c 06	US-PATENT-3,565,719	US-PATENT-CLASS-188-65.5	N71-27221*	c 08	US-PATENT-CLASS-340-174.1
		NASA-CASE-XNP-09451	US-PATENT-3,568,795			US-PATENT-3,566,045
N71-26788*	c 18	US-PATENT-APPL-SN-713162	NASA-CASE-NPO-10796	N71-27221*	c 08	NASA-CASE-XLA-08911
		US-PATENT-CLASS-23-253	US-PATENT-APPL-SN-815760			US-PATENT-APPL-SN-777764
N71-26788*	c 18	US-PATENT-3,560,161	US-PATENT-CLASS-220-46	N71-27221*	c 08	US-PATENT-CLASS-219-229
		NASA-CASE-XMF-07770-2	US-PATENT-3,568,874			US-PATENT-CLASS-228-53
N71-26788*	c 17	US-PATENT-APPL-SN-711903	NASA-CASE-NPO-10755	N71-27221*	c 08	US-PATENT-3,575,336
		US-PATENT-CLASS-106-296	US-PATENT-APPL-SN-816733			US-PATENT-APPL-SN-766245
N71-26788*	c 17	US-PATENT-3,576,656	US-PATENT-CLASS-417-50	N71-27221*	c 08	US-PATENT-CLASS-235-92
		NASA-CASE-XNP-04262-2	US-PATENT-3,567,339			US-PATENT-CLASS-356-106
N71-26788*	c 14	US-PATENT-APPL-SN-684894	NASA-CASE-XLA-08967	N71-27221*	c 08	US-PATENT-3,572,935
		US-PATENT-CLASS-75-66	US-PATENT-APPL-SN-837830			NASA-CASE-NPO-10607
N71-26788*	c 14	US-PATENT-3,565,607	US-PATENT-CLASS-244-90	N71-27221*	c 08	US-PATENT-APPL-SN-799353
		NASA-CASE-ERC-11020	US-PATENT-3,570,789			US-PATENT-CLASS-250-83
N71-26788*	c 14	US-PATENT-APPL-SN-686248	NASA-CASE-ERC-10044-1	N71-27221*	c 08	US-PATENT-CLASS-317-230
		US-PATENT-CLASS-325-363	US-PATENT-APPL-SN-811892			US-PATENT-CLASS-317-231
N71-26788*	c 28	US-PATENT-3,564,420	US-PATENT-CLASS-250-43.5F	N71-27221*	c 08	US-PATENT-CLASS-317-238
		NASA-CASE-XLA-04126	US-PATENT-CLASS-250-83.6F			US-PATENT-3,568,010
N71-26788*	c 28	US-PATENT-APPL-SN-467820	US-PATENT-CLASS-324-33	N71-27221*	c 08	
		US-PATENT-CLASS-102-101	US-PATENT-3,575,597			
N71-26788*	c 28	US-PATENT-CLASS-264-3	NASA-CASE-MFS-13929	N71-27221*	c 08	
		US-PATENT-CLASS-86-1	US-PATENT-APPL-SN-779847			
N71-26788*	c 28	US-PATENT-CLASS-86-20.2	US-PATENT-CLASS-152-225	N71-27221*	c 08	
		US-PATENT-3,570,364	US-PATENT-CLASS-152-250			
N71-26788*	c 28	NASA-CASE-LEW-10210-1	US-PATENT-3,568,748	N71-27221*	c 08	

N71-27233*	c 07	NASA-CASE-GSC-10220-1 US-PATENT-APPL-SN-759256 US-PATENT-CLASS-343-777 US-PATENT-CLASS-343-786 US-PATENT-CLASS-343-799 US-PATENT-CLASS-343-840 US-PATENT-CLASS-343-854 US-PATENT-3,569,976	N71-27407*	c 14	NASA-CASE-GSC-10378-1 US-PATENT-APPL-SN-806226 US-PATENT-CLASS-307-126 US-PATENT-CLASS-323-20 US-PATENT-3,566,143	N71-28729*	c 18	NASA-CASE-GSC-10378-1 US-PATENT-APPL-SN-785780 US-PATENT-CLASS-148-126 US-PATENT-3,579,390
N71-27234*	c 05	NASA-CASE-XFR-07172 US-PATENT-APPL-SN-720041 US-PATENT-CLASS-128-2.05 US-PATENT-3,563,232	N71-27432*	c 15	NASA-CASE-NPO-10808 US-PATENT-APPL-SN-808192 US-PATENT-CLASS-60-243 US-PATENT-3,568,447	N71-28739*	c 10	NASA-CASE-XNP-01068 US-PATENT-APPL-SN-375680 US-PATENT-CLASS-307-88.5 US-PATENT-3,271,594
N71-27254*	c 06	NASA-CASE-NPO-10768 US-PATENT-APPL-SN-770398 US-PATENT-CLASS-260-615 US-PATENT-3,574,770	N71-27585*	c 28	NASA-CASE-MFS-20130 US-PATENT-APPL-SN-809822 US-PATENT-CLASS-244-4 US-PATENT-3,570,785	N71-28740*	c 15	NASA-CASE-XLA-09346 US-PATENT-APPL-SN-820964 US-PATENT-CLASS-356-150 US-PATENT-CLASS-356-152 US-PATENT-CLASS-356-153 US-PATENT-CLASS-73-147 US-PATENT-3,583,815
N71-27255*	c 08	NASA-CASE-NPO-12107 US-PATENT-APPL-SN-555189 US-PATENT-CLASS-179-100.2 US-PATENT-CLASS-340-146.1 US-PATENT-CLASS-340-172.5 US-PATENT-3,571,801	N71-27754*	c 15	NASA-CASE-ARC-10131-1 US-PATENT-APPL-SN-808576 US-PATENT-CLASS-60-51 US-PATENT-CLASS-91-361 US-PATENT-CLASS-91-390 US-PATENT-CLASS-91-448 US-PATENT-3,568,572	N71-28741*	c 12	NASA-CASE-XLE-09341 US-PATENT-APPL-SN-780065 US-PATENT-CLASS-137-81.5 US-PATENT-3,583,419
N71-27271*	c 10	NASA-CASE-XLA-03893 US-PATENT-APPL-SN-779024 US-PATENT-CLASS-331-109 US-PATENT-CLASS-331-117 US-PATENT-CLASS-331-177 US-PATENT-CLASS-332-30 US-PATENT-3,569,866	N71-27862*	c 33	NASA-CASE-MFS-14114 US-PATENT-APPL-SN-706013 US-PATENT-CLASS-310-4 US-PATENT-3,535,562	N71-28747*	c 17	NASA-CASE-XNP-08881 US-PATENT-APPL-SN-732922 US-PATENT-CLASS-161-89 US-PATENT-3,579,412
N71-27272*	c 10	NASA-CASE-XLA-08799 US-PATENT-APPL-SN-668242 US-PATENT-CLASS-340-150 US-PATENT-CLASS-340-164 US-PATENT-CLASS-340-166 US-PATENT-CLASS-340-213 US-PATENT-CLASS-340-403 US-PATENT-3,571,800	N71-28421*	c 09	NASA-CASE-NPO-10412 US-PATENT-APPL-SN-768470 US-PATENT-CLASS-310-4 US-PATENT-3,578,992	N71-28759*	c 22	NASA-CASE-LEW-10250-1 US-PATENT-APPL-SN-732455 US-PATENT-CLASS-176-45 US-PATENT-3,574,057
N71-27323*	c 14	NASA-CASE-NPO-10810 US-PATENT-APPL-SN-805405 US-PATENT-CLASS-250-83.3 US-PATENT-CLASS-73-355 US-PATENT-3,566,122	N71-28429*	c 07	NASA-CASE-MSC-13201-1 US-PATENT-APPL-SN-789903 US-PATENT-CLASS-332-29 US-PATENT-CLASS-332-30 US-PATENT-3,579,147	N71-28779*	c 11	NASA-CASE-XNP-00250 US-PATENT-APPL-SN-212497 US-PATENT-CLASS-181-5 US-PATENT-3,260,326
N71-27324*	c 21	NASA-CASE-GSC-10555-1 US-PATENT-APPL-SN-785620 US-PATENT-CLASS-244-1 US-PATENT-3,567,155	N71-28430*	c 07	NASA-CASE-GSC-10668-1 US-PATENT-APPL-SN-743525 US-PATENT-CLASS-307-296 US-PATENT-CLASS-325-185 US-PATENT-CLASS-330-124 US-PATENT-CLASS-330-200 US-PATENT-CLASS-330-40 US-PATENT-3,577,092	N71-28783*	c 10	NASA-CASE-XMS-02182 US-PATENT-APPL-SN-516153 US-PATENT-CLASS-317-100 US-PATENT-3,317,797
N71-27325*	c 14	NASA-CASE-GSC-10441-1 US-PATENT-APPL-SN-782544 US-PATENT-CLASS-324-43 US-PATENT-3,571,700	N71-28465*	c 15	NASA-CASE-ERC-10097 US-PATENT-APPL-SN-797059 US-PATENT-CLASS-308-170 US-PATENT-3,583,777	N71-28807*	c 06	NASA-CASE-XMF-08674 US-PATENT-APPL-SN-617775 US-PATENT-CLASS-260-47 US-PATENT-3,370,039
N71-27332*	c 12	NASA-CASE-NPO-10416 US-PATENT-APPL-SN-754020 US-PATENT-CLASS-137-81.5 US-PATENT-3,570,513	N71-28467*	c 15	NASA-CASE-NPO-10646 US-PATENT-APPL-SN-813488 US-PATENT-CLASS-64-18 US-PATENT-3,574,277	N71-28808*	c 06	NASA-CASE-XNP-04023 US-PATENT-APPL-SN-470902 US-PATENT-CLASS-260-429 US-PATENT-3,396,184
N71-27334*	c 14	NASA-CASE-ERC-10087 US-PATENT-APPL-SN-738315 US-PATENT-CLASS-29-588 US-PATENT-3,566,459	N71-28468*	c 09	NASA-CASE-ARC-10137-1 US-PATENT-APPL-SN-799013 US-PATENT-CLASS-307-265 US-PATENT-CLASS-307-273 US-PATENT-CLASS-307-288 US-PATENT-CLASS-328-207 US-PATENT-3,584,311	N71-28809*	c 07	NASA-CASE-XGS-02290 US-PATENT-APPL-SN-544895 US-PATENT-CLASS-343-771 US-PATENT-3,417,400
N71-27338*	c 10	NASA-CASE-KSC-10020 US-PATENT-APPL-SN-817482 US-PATENT-CLASS-324-103 US-PATENT-CLASS-324-107 US-PATENT-CLASS-324-133 US-PATENT-CLASS-340-248 US-PATENT-3,571,707	N71-28554*	c 16	NASA-CASE-XGS-10518 US-PATENT-APPL-SN-764470 US-PATENT-CLASS-335-216 US-PATENT-3,541,486	N71-28810*	c 09	NASA-CASE-XNP-03916 US-PATENT-APPL-SN-535304 US-PATENT-CLASS-331-113 US-PATENT-3,325,749
N71-27341*	c 07	NASA-CASE-NPO-10343 US-PATENT-APPL-SN-750786 US-PATENT-CLASS-178-7.1 US-PATENT-CLASS-178-7.3 US-PATENT-3,566,027	N71-28579*	c 03	NASA-CASE-LEW-11359 US-PATENT-APPL-SN-787911 US-PATENT-CLASS-136-83 US-PATENT-3,573,986	N71-28849*	c 28	NASA-CASE-XMS-04826 US-PATENT-APPL-SN-521755 US-PATENT-CLASS-60-258 US-PATENT-3,318,096
N71-27363*	c 06	NASA-CASE-HQN-10364 US-PATENT-APPL-SN-713616 US-PATENT-CLASS-260-2 US-PATENT-3,563,918	N71-28582*	c 15	NASA-CASE-LEW-10278-1 US-PATENT-APPL-SN-760928 US-PATENT-CLASS-117-224 US-PATENT-3,573,977	N71-28850*	c 28	NASA-CASE-XNP-01954 US-PATENT-APPL-SN-372730 US-PATENT-CLASS-313-230 US-PATENT-3,328,624
N71-27364*	c 09	NASA-CASE-ERC-10065 US-PATENT-APPL-SN-777818 US-PATENT-CLASS-321-61 US-PATENT-CLASS-321-64 US-PATENT-CLASS-322-32 US-PATENT-3,571,693	N71-28618*	c 09	NASA-CASE-ERC-10098 US-PATENT-APPL-SN-779169 US-PATENT-CLASS-178-5.2R US-PATENT-CLASS-178-54CF US-PATENT-CLASS-178-54PE US-PATENT-3,582,960	N71-28851*	c 31	NASA-CASE-XMS-06162 US-PATENT-APPL-SN-610724 US-PATENT-CLASS-244-138 US-PATENT-3,330,510
N71-27365*	c 10	NASA-CASE-NPO-10251 US-PATENT-APPL-SN-774265 US-PATENT-CLASS-35-19 US-PATENT-3,570,143	N71-28619*	c 05	NASA-CASE-ARC-10153 US-PATENT-APPL-SN-783377 US-PATENT-CLASS-104-1 US-PATENT-CLASS-104-139 US-PATENT-CLASS-119-96 US-PATENT-CLASS-238-1 US-PATENT-CLASS-248-361 US-PATENT-CLASS-272-70 US-PATENT-CLASS-35-29 US-PATENT-3,583,322	N71-28852*	c 33	NASA-CASE-XNP-01310 US-PATENT-APPL-SN-379771 US-PATENT-CLASS-60-266 US-PATENT-3,279,193
N71-27366*	c 10	NASA-CASE-GSC-10114-1 US-PATENT-APPL-SN-796370 US-PATENT-CLASS-317-33 US-PATENT-CLASS-321-12 US-PATENT-3,571,662	N71-28620*	c 06	NASA-CASE-NPO-10701 US-PATENT-APPL-SN-763355 US-PATENT-CLASS-260-47 US-PATENT-3,576,786	N71-28859*	c 10	NASA-CASE-XNP-01107 US-PATENT-APPL-SN-384010 US-PATENT-CLASS-330-51 US-PATENT-3,389,346
N71-27372*	c 15	NASA-CASE-NPO-10070 US-PATENT-APPL-SN-780064 US-PATENT-CLASS-23-259 US-PATENT-3,565,584	N71-28629*	c 11	NASA-CASE-KSC-10198 US-PATENT-APPL-SN-845971 US-PATENT-CLASS-73-15 US-PATENT-CLASS-73-432 US-PATENT-3,578,756	N71-28860*	c 10	NASA-CASE-MSC-13492-1 US-PATENT-APPL-SN-53156 US-PATENT-CLASS-307-215 US-PATENT-CLASS-307-265 US-PATENT-CLASS-307-273 US-PATENT-CLASS-328-207 US-PATENT-CLASS-328-92 US-PATENT-3,577,014
N71-27397*	c 18	NASA-CASE-XNP-02500 US-PATENT-APPL-SN-508169 US-PATENT-CLASS-324-58.5	N71-28691*	c 09	NASA-CASE-MFS-13687	N71-28863*	c 14	NASA-CASE-ERC-10014 US-PATENT-APPL-SN-815367 US-PATENT-CLASS-250-41.9 US-PATENT-CLASS-250-49.5 US-PATENT-3,567,927
						N71-28866*	c 09	NASA-CASE-MFS-14610 US-PATENT-APPL-SN-885571 US-PATENT-CLASS-318-317 US-PATENT-CLASS-318-331 US-PATENT-CLASS-318-345 US-PATENT-CLASS-318-504 US-PATENT-3,573,583
						N71-28892*	c 33	NASA-CASE-XMF-05046 US-PATENT-APPL-SN-559350

		US-PATENT-CLASS-62-45	N71-28994*	c 14	NASA-CASE-XER-11203	N71-29129*	c 03	NASA-CASE-XGS-01674
N71-28900*	c 07	US-PATENT-3,365,897			US-PATENT-APPL-SN-815366			US-PATENT-APPL-SN-248985
		NASA-CASE-XNP-02389			US-PATENT-CLASS-250-218			US-PATENT-CLASS-320-13
		US-PATENT-APPL-SN-516162			US-PATENT-CLASS-356-103			US-PATENT-3,118,100
		US-PATENT-CLASS-343-100			US-PATENT-3,578,867	N71-29131*	c 16	NASA-CASE-ERC-10151
N71-28903*	c 33	US-PATENT-3,331,071	N71-29008*	c 09	NASA-CASE-MS-C-11277			US-PATENT-APPL-SN-853856
		NASA-CASE-XLA-01745			US-PATENT-APPL-SN-771759			US-PATENT-CLASS-350-3.5
		US-PATENT-APPL-SN-538907			US-PATENT-CLASS-317-155.5			US-PATENT-3,578,838
		US-PATENT-CLASS-244-1			US-PATENT-CLASS-317-33	N71-29132*	c 15	NASA-CASE-NPO-10431
N71-28915*	c 28	US-PATENT-3,409,247			US-PATENT-CLASS-317-54			US-PATENT-APPL-SN-865329
		NASA-CASE-LEW-10286-1			US-PATENT-CLASS-317-60			US-PATENT-CLASS-73-49.8
		US-PATENT-APPL-SN-839994			US-PATENT-3,579,041			US-PATENT-3,583,239
		US-PATENT-CLASS-431-352	N71-29018*	c 15	NASA-CASE-XLA-08916	N71-29133*	c 15	NASA-CASE-MFS-20453
		US-PATENT-CLASS-60-39.36			US-PATENT-APPL-SN-777765			US-PATENT-APPL-SN-885584
		US-PATENT-CLASS-60-39.65			US-PATENT-CLASS-29-421			US-PATENT-CLASS-29-278R
N71-28925*	c 08	US-PATENT-3,581,492			US-PATENT-3,583,058			US-PATENT-CLASS-294-15
		NASA-CASE-XNP-01012	N71-29032*	c 15	NASA-CASE-XMF-05999			US-PATENT-CLASS-339-17R
		US-PATENT-APPL-SN-369338			US-PATENT-APPL-SN-752946			US-PATENT-CLASS-81-3R
		US-PATENT-CLASS-340-174			US-PATENT-CLASS-117-212			US-PATENT-3,583,744
		US-PATENT-3,394,359			US-PATENT-3,576,669	N71-29134*	c 14	NASA-CASE-MFS-11204
N71-28926*	c 09	NASA-CASE-XMS-03542			NASA-CASE-GSC-10554-1			US-PATENT-APPL-SN-845991
		US-PATENT-APPL-SN-482952	N71-29033*	c 08	US-PATENT-APPL-SN-828984			US-PATENT-CLASS-73-1R
		US-PATENT-CLASS-307-263			US-PATENT-CLASS-235-150.1			US-PATENT-CLASS-73-304C
		US-PATENT-3,364,366			US-PATENT-CLASS-235-150.2			US-PATENT-3,578,755
N71-28928*	c 28	NASA-CASE-XNP-00816			US-PATENT-CLASS-235-150.27	N71-29135*	c 10	NASA-CASE-GSC-10564
		US-PATENT-APPL-SN-235588			US-PATENT-CLASS-235-151.1			US-PATENT-APPL-SN-292596
		US-PATENT-CLASS-253-77			US-PATENT-3,578,957			US-PATENT-CLASS-340-174
		US-PATENT-3,202,398	N71-29034*	c 08	NASA-CASE-NPO-11088			US-PATENT-3,348,218
N71-28929*	c 27	NASA-CASE-XNP-00650			US-PATENT-APPL-SN-887701	N71-29136*	c 15	NASA-CASE-XLA-00013
		US-PATENT-APPL-SN-271823			US-PATENT-CLASS-307-207			US-PATENT-APPL-SN-579121
		US-PATENT-CLASS-60-39.48			US-PATENT-CLASS-307-222			US-PATENT-CLASS-308-177
		US-PATENT-3,170,295			US-PATENT-CLASS-328-167			US-PATENT-2,903,307
N71-28933*	c 14	NASA-CASE-XLA-08913			US-PATENT-CLASS-328-44	N71-29137*	c 17	NASA-CASE-XNP-04339
		US-PATENT-APPL-SN-865109			US-PATENT-3,579,122			US-PATENT-APPL-SN-451596
		US-PATENT-CLASS-204-263	N71-29035*	c 09	NASA-CASE-LEW-10155-1			US-PATENT-CLASS-264-111
		US-PATENT-3,574,084			US-PATENT-APPL-SN-889387			US-PATENT-3,413,393
N71-28935*	c 14	NASA-CASE-LAR-10686			US-PATENT-CLASS-337-114	N71-29138*	c 08	NASA-CASE-ERC-10041
		US-PATENT-APPL-SN-280362			US-PATENT-CLASS-337-121			US-PATENT-APPL-SN-889478
		US-PATENT-CLASS-226-58			US-PATENT-3,579,168			US-PATENT-CLASS-307-234
		US-PATENT-3,298,582	N71-29040*	c 18	NASA-CASE-XLE-10910			US-PATENT-CLASS-307-265
N71-28936*	c 15	NASA-CASE-XMS-10993			US-PATENT-APPL-SN-751061			US-PATENT-CLASS-324-106
		US-PATENT-APPL-SN-660573			US-PATENT-CLASS-148-6			US-PATENT-CLASS-328-58
		US-PATENT-CLASS-244-1			US-PATENT-3,573,996			US-PATENT-CLASS-332-10
		US-PATENT-3,389,877	N71-29041*	c 14	NASA-CASE-XLA-10402			US-PATENT-CLASS-332-9R
N71-28937*	c 15	NASA-CASE-XNP-01855			US-PATENT-APPL-SN-762935			US-PATENT-3,579,146
		US-PATENT-APPL-SN-408435			US-PATENT-CLASS-356-76	N71-29139*	c 09	NASA-CASE-XLA-07788
		US-PATENT-CLASS-285-45			US-PATENT-3,574,462			US-PATENT-APPL-SN-874732
		US-PATENT-3,219,365	N71-29044*	c 03	NASA-CASE-XMS-02063			US-PATENT-CLASS-307-215
N71-28951*	c 15	NASA-CASE-XNP-02278			US-PATENT-APPL-SN-422096			US-PATENT-CLASS-307-247
		US-PATENT-APPL-SN-11853			US-PATENT-CLASS-136-86			US-PATENT-CLASS-307-265
		US-PATENT-CLASS-60-35.55			US-PATENT-3,382,105			US-PATENT-CLASS-307-273
		US-PATENT-3,132,479	N71-29046*	c 33	NASA-CASE-XHO-03673			US-PATENT-CLASS-307-294
N71-28952*	c 15	NASA-CASE-XAC-00001			US-PATENT-APPL-SN-559055			US-PATENT-CLASS-328-207
		US-PATENT-APPL-SN-612568			US-PATENT-CLASS-165-86			US-PATENT-3,578,888
		US-PATENT-CLASS-318-31			US-PATENT-3,347,309	N71-29151*	c 33	NASA-CASE-XLE-00035
		US-PATENT-2,837,706	N71-29049*	c 23	NASA-CASE-XNP-06503			US-PATENT-APPL-SN-575291
N71-28958*	c 14	NASA-CASE-XNP-02792			US-PATENT-APPL-SN-370989			US-PATENT-CLASS-204-37
		US-PATENT-APPL-SN-262596			US-PATENT-CLASS-335-216			US-PATENT-2,926,123
		US-PATENT-CLASS-219-413			US-PATENT-3,273,094	N71-29152*	c 33	NASA-CASE-XLE-00027
		US-PATENT-3,197,616	N71-29050*	c 31	NASA-CASE-HQN-00936			US-PATENT-APPL-SN-529594
N71-28959*	c 15	NASA-CASE-XNP-01848			US-PATENT-APPL-SN-862921			US-PATENT-CLASS-253-39.1
		US-PATENT-APPL-SN-359532			US-PATENT-CLASS-244-1			US-PATENT-2,956,772
		US-PATENT-CLASS-64-27			US-PATENT-3,396,920	N71-29153*	c 28	NASA-CASE-MFS-20831
		US-PATENT-3,236,066	N71-29051*	c 33	NASA-CASE-XMF-04208			US-PATENT-APPL-SN-238421
N71-28960*	c 10	NASA-CASE-XNP-00745			US-PATENT-APPL-SN-428887			US-PATENT-CLASS-60-35.54
		US-PATENT-APPL-SN-314570			US-PATENT-CLASS-73-190			US-PATENT-3,212,259
		US-PATENT-CLASS-328-67			US-PATENT-3,372,588	N71-29154*	c 28	NASA-CASE-XLE-00155
		US-PATENT-3,252,100	N71-29052*	c 33	NASA-CASE-MS-C-12389			US-PATENT-APPL-SN-348600
N71-28965* #	c 07	NASA-CASE-GSC-10949-1			US-PATENT-APPL-SN-229286			US-PATENT-CLASS-253-77
		US-PATENT-APPL-SN-94369			US-PATENT-CLASS-165-47			US-PATENT-2,997,274
N71-28979*	c 07	NASA-CASE-HQN-00937			US-PATENT-3,212,564	N71-29155*	c 27	NASA-CASE-MS-C-12390
		US-PATENT-APPL-SN-343760	N71-29053*	c 33	NASA-CASE-HQN-00938			US-PATENT-APPL-SN-231520
		US-PATENT-CLASS-343-823			US-PATENT-APPL-SN-300957			US-PATENT-CLASS-222-61
		US-PATENT-3,299,431			US-PATENT-CLASS-60-267			US-PATENT-3,286,882
N71-28980*	c 07	NASA-CASE-XLA-10772			US-PATENT-3,298,175	N71-29156*	c 26	NASA-CASE-XNP-01961
		US-PATENT-APPL-SN-887700			NASA-CASE-ERC-10011			US-PATENT-APPL-SN-442835
		US-PATENT-CLASS-343-708	N71-29065*	c 07	US-PATENT-APPL-SN-802818			US-PATENT-CLASS-148-174
		US-PATENT-CLASS-343-784			US-PATENT-CLASS-333-81			US-PATENT-3,397,094
		US-PATENT-CLASS-343-872			US-PATENT-CLASS-350-1	N71-29184*	c 25	NASA-CASE-XLA-00327
		US-PATENT-3,579,242			US-PATENT-CLASS-350-286			US-PATENT-APPL-SN-199199
N71-28991*	c 14	NASA-CASE-XLA-06713			US-PATENT-3,574,438			US-PATENT-CLASS-315-111
		US-PATENT-APPL-SN-863913	N71-29123*	c 23	NASA-CASE-XNP-08907			US-PATENT-3,238,413
		US-PATENT-CLASS-324-5			US-PATENT-APPL-SN-824042	N71-30026*	c 14	NASA-CASE-MFS-20096
		US-PATENT-CLASS-324-73			US-PATENT-CLASS-350-102			US-PATENT-APPL-SN-435433
		US-PATENT-CLASS-340-347AD			US-PATENT-CLASS-350-288			US-PATENT-CLASS-73-432
		US-PATENT-3,579,103			US-PATENT-CLASS-350-310			US-PATENT-3,396,584
N71-28992*	c 14	NASA-CASE-ERC-10150			US-PATENT-3,574,448	N71-30027*	c 23	NASA-CASE-GSC-10700
		US-PATENT-APPL-SN-822519			NASA-CASE-NPO-11087			US-PATENT-APPL-SN-311387
		US-PATENT-CLASS-250-41.95	N71-29125*	c 23	US-PATENT-APPL-SN-840359			US-PATENT-CLASS-350-2
		US-PATENT-CLASS-73-40.7			US-PATENT-CLASS-331-94.5			US-PATENT-3,394,975
		US-PATENT-3,578,758			US-PATENT-CLASS-356-153	N71-30028*	c 15	NASA-CASE-MFS-20830
N71-28993*	c 14	NASA-CASE-MFS-20044			US-PATENT-3,574,467			US-PATENT-APPL-SN-286620
		US-PATENT-APPL-SN-838630	N71-29128*	c 02	NASA-CASE-XAC-00048			US-PATENT-3,262,395
		US-PATENT-CLASS-250-219			US-PATENT-APPL-SN-765264	N71-30265*	c 14	NASA-CASE-HQN-10780
		US-PATENT-CLASS-356-209			US-PATENT-CLASS-121-38			US-PATENT-APPL-SN-247136
		US-PATENT-3,574,470			US-PATENT-2,898,889			US-PATENT-CLASS-73-49R

N71-30292*	c 23	US-PATENT-3,270,565	N71-34044* #	c 03	US-PATENT-CLASS-329-145	N72-11365*	c 14	US-PATENT-CLASS-73-95
		NASA-CASE-HQN-10781			US-PATENT-3,588,705			US-PATENT-3,592,545
N71-33108*	c 07	US-PATENT-APPL-SN-86018	N71-34212* #	c 09	NASA-CASE-NPO-11190	N72-11385*	c 15	NASA-CASE-MFS-20485
		US-PATENT-3,239,660			US-PATENT-APPL-SN-115944			US-PATENT-APPL-SN-22320
N71-33109*	c 09	NASA-CASE-KSC-10164	N71-34389* #	c 14	NASA-CASE-MFS-20935	N72-11386*	c 15	US-PATENT-CLASS-250-43.5FC
		US-PATENT-APPL-SN-782955			US-PATENT-APPL-SN-136007			US-PATENT-CLASS-73-194F
N71-33110*	c 08	US-PATENT-CLASS-179-1R	N72-10138* #	c 06	NASA-CASE-HQN-10683	N72-11387*	c 15	US-PATENT-3,599,489
		US-PATENT-CLASS-179-1VC			US-PATENT-APPL-SN-146217			NASA-CASE-MFS-18495
N71-33129*	c 10	US-PATENT-3,588,359	N72-10375* #	c 14	NASA-CASE-HQN-10537-1	N72-11388*	c 15	US-PATENT-APPL-SN-38814
		NASA-CASE-ARC-10101-1			US-PATENT-APPL-SN-112366			US-PATENT-CLASS-24-211N
N71-33160*	c 31	US-PATENT-APPL-SN-793823	N72-11018*	c 02	NASA-CASE-GSC-11095-1	N72-11390*	c 15	US-PATENT-CLASS-85-5B
		US-PATENT-CLASS-307-251			US-PATENT-APPL-SN-147940			US-PATENT-3,596,554
N71-33229*	c 23	US-PATENT-CLASS-307-261	N72-11062*	c 03	NASA-CASE-LAR-10557	N72-11391*	c 15	NASA-CASE-MFS-20249
		US-PATENT-CLASS-321-47			US-PATENT-APPL-SN-853746			US-PATENT-APPL-SN-794530
N71-33407*	c 10	US-PATENT-3,588,671	N72-11084*	c 05	US-PATENT-CLASS-416-115	N72-11392*	c 15	US-PATENT-CLASS-248-183
		NASA-CASE-GSC-10186			US-PATENT-APPL-SN-853746			US-PATENT-CLASS-248-278
N71-33408*	c 17	US-PATENT-APPL-SN-713188	N72-11148*	c 07	US-PATENT-CLASS-416-121	N72-11568* #	c 23	US-PATENT-CLASS-248-487
		US-PATENT-CLASS-235-164			US-PATENT-CLASS-416-127			US-PATENT-CLASS-33-72
N71-33409*	c 03	US-PATENT-CLASS-235-175	N72-11149*	c 07	US-PATENT-CLASS-416-130	N72-11569*	c 24	US-PATENT-CLASS-350-285
		US-PATENT-3,588,483			US-PATENT-CLASS-416-149			US-PATENT-CLASS-350-287
N71-33410*	c 16	US-PATENT-3,588,483	N72-11150*	c 07	US-PATENT-CLASS-416-200	N72-11708*	c 28	US-PATENT-3,596,863
		NASA-CASE-GSC-10667-1			US-PATENT-3,592,559			NASA-CASE-XMF-09902
N71-33518*	c 15	US-PATENT-APPL-SN-749548	N72-11151*	c 08	NASA-CASE-XGS-04047-2	N72-12080*	c 07	US-PATENT-APPL-SN-769665
		US-PATENT-CLASS-330-11			US-PATENT-APPL-SN-843251			US-PATENT-CLASS-75-20F
N71-33519*	c 09	US-PATENT-CLASS-330-16	N72-11171*	c 08	US-PATENT-CLASS-136-206	N72-12081*	c 07	US-PATENT-3,592,628
		US-PATENT-CLASS-330-24			US-PATENT-3,597,281			NASA-CASE-MFS-20423
N71-33612*	c 11	US-PATENT-3,585,514	N72-11224*	c 09	NASA-CASE-NPO-10677	N72-12082*	c 07	US-PATENT-APPL-SN-865298
		NASA-CASE-XLA-04063			US-PATENT-APPL-SN-868530			US-PATENT-CLASS-212-134
N71-33613*	c 07	US-PATENT-APPL-SN-802948	N72-11225*	c 09	US-PATENT-CLASS-62-467	N72-12083*	c 07	US-PATENT-CLASS-308-5
		US-PATENT-CLASS-179-1			US-PATENT-CLASS-62-56			US-PATENT-3,600,046
N71-33696*	c 07	US-PATENT-CLASS-244-1	N72-11226*	c 10	US-PATENT-CLASS-62-56	N72-12084*	c 07	NASA-CASE-XLA-05056
		US-PATENT-CLASS-244-83			US-PATENT-CLASS-62-56			US-PATENT-APPL-SN-596733
		US-PATENT-3,586,261			US-PATENT-3,599,443			US-PATENT-CLASS-210-445
		NASA-CASE-NPO-10468			NASA-CASE-MS-13140			US-PATENT-3,592,768
		US-PATENT-APPL-SN-787846			US-PATENT-APPL-SN-796358			NASA-CASE-MFS-18100
		US-PATENT-CLASS-350-310			US-PATENT-CLASS-285-410			US-PATENT-APPL-SN-784055
		US-PATENT-CLASS-350-55			US-PATENT-CLASS-297-232			US-PATENT-CLASS-15-143
		US-PATENT-3,588,220			US-PATENT-CLASS-297-68			US-PATENT-CLASS-15-210
		NASA-CASE-NPO-10342			US-PATENT-CLASS-5-69			US-PATENT-3,591,885
		US-PATENT-APPL-SN-704446			US-PATENT-3,592,505			NASA-CASE-NPO-11012
		US-PATENT-CLASS-178-69.5			NASA-CASE-NPO-10301			US-PATENT-APPL-SN-845807
		US-PATENT-CLASS-179-15BS			US-PATENT-APPL-SN-848810			US-PATENT-CLASS-248-18
		US-PATENT-CLASS-340-347DD			US-PATENT-CLASS-343-771			US-PATENT-CLASS-248-20
		US-PATENT-3,588,883			US-PATENT-CLASS-343-853			US-PATENT-3,592,422
		NASA-CASE-LEW-10327			US-PATENT-3,599,216			NASA-CASE-MFS-20299
		US-PATENT-APPL-SN-772006			NASA-CASE-GSC-10390-1			US-PATENT-APPL-SN-889437
		US-PATENT-CLASS-148-6.3			US-PATENT-APPL-SN-749121			US-PATENT-CLASS-156-320
		US-PATENT-3,591,426			US-PATENT-CLASS-325-39			US-PATENT-CLASS-156-66
		NASA-CASE-ARC-10050			US-PATENT-CLASS-325-58			US-PATENT-CLASS-219-221
		US-PATENT-APPL-SN-797219			US-PATENT-CLASS-343-179			US-PATENT-CLASS-219-243
		US-PATENT-CLASS-136-89			US-PATENT-CLASS-343-5DP			US-PATENT-3,593,001
		US-PATENT-3,591,420			US-PATENT-CLASS-343-7.5			NASA-CASE-GSC-11133-1
		NASA-CASE-NPO-10417			US-PATENT-3,593,138			US-PATENT-APPL-SN-121328
		US-PATENT-APPL-SN-753974			NASA-CASE-NPO-11064			NASA-CASE-MFS-20095
		US-PATENT-CLASS-331-94.5			US-PATENT-APPL-SN-880248			US-PATENT-APPL-SN-855004
		US-PATENT-CLASS-352-84			US-PATENT-CLASS-331-10			US-PATENT-CLASS-250-49.5B
		US-PATENT-CLASS-95-11			US-PATENT-CLASS-331-34			US-PATENT-CLASS-250-49.5TE
		US-PATENT-3,587,424			US-PATENT-CLASS-331-66			US-PATENT-CLASS-250-52
		NASA-CASE-XLA-03661			US-PATENT-CLASS-331-7			US-PATENT-3,593,024
		US-PATENT-APPL-SN-751266			US-PATENT-3,593,180			NASA-CASE-MFS-20619
		US-PATENT-CLASS-408-137			NASA-CASE-NPO-10769			US-PATENT-APPL-SN-18982
		US-PATENT-CLASS-90-11			US-PATENT-APPL-SN-813494			US-PATENT-CLASS-139-425R
		US-PATENT-3,585,882			US-PATENT-CLASS-179-15.55R			US-PATENT-CLASS-239-265.19
		NASA-CASE-ERC-10100			US-PATENT-3,598,921			US-PATENT-CLASS-239-265.43
		US-PATENT-APPL-SN-766697			NASA-CASE-GSC-10880-1			US-PATENT-CLASS-60-271
		US-PATENT-CLASS-313-109.5			US-PATENT-APPL-SN-831118			US-PATENT-3,596,465
		US-PATENT-CLASS-313-231			US-PATENT-CLASS-235-61NV			NASA-CASE-NPO-10737
		US-PATENT-CLASS-315-108			US-PATENT-CLASS-33-15A			US-PATENT-APPL-SN-760114
		US-PATENT-CLASS-315-111			US-PATENT-CLASS-33-204C			US-PATENT-CLASS-60-202
		US-PATENT-CLASS-340-324			US-PATENT-3,599,335			US-PATENT-CLASS-60-39-48
		US-PATENT-CLASS-340-336			NASA-CASE-GSC-10614-1			US-PATENT-3,591,967
		US-PATENT-3,588,874			US-PATENT-APPL-SN-822534			NASA-CASE-GSC-10087-3
		NASA-CASE-NPO-11031			US-PATENT-CLASS-179-100-2CA			US-PATENT-APPL-SN-880885
		US-PATENT-APPL-SN-864097			US-PATENT-CLASS-179-100-2MD			US-PATENT-CLASS-325-4
		US-PATENT-CLASS-333-21A			US-PATENT-CLASS-274-4R			US-PATENT-CLASS-343-6.5R
		US-PATENT-CLASS-333-6			US-PATENT-3,592,478			US-PATENT-CLASS-343-6.8R
		US-PATENT-CLASS-333-7			NASA-CASE-KSC-10162			US-PATENT-3,594,790
		US-PATENT-3,588,751			US-PATENT-APPL-SN-817481			NASA-CASE-GSC-10185-1
		NASA-CASE-XLA-09480			US-PATENT-CLASS-324-102			US-PATENT-APPL-SN-733039
		US-PATENT-APPL-SN-874435			US-PATENT-CLASS-324-119			US-PATENT-CLASS-178-DIG.12
		US-PATENT-CLASS-73-147			US-PATENT-CLASS-324-123R			US-PATENT-CLASS-178-6
		US-PATENT-3,587,306			US-PATENT-3,593,132			US-PATENT-CLASS-178-7.3
		NASA-CASE-NPO-10700			NASA-CASE-ARC-10042-2			US-PATENT-CLASS-325-10
		US-PATENT-APPL-SN-840308			US-PATENT-APPL-SN-33159			US-PATENT-3,588,331
		US-PATENT-CLASS-318-227			US-PATENT-CLASS-330-107			NASA-CASE-XER-09521
		US-PATENT-CLASS-318-230			US-PATENT-CLASS-330-109			US-PATENT-APPL-SN-771530
		US-PATENT-3,588,648			US-PATENT-3,593,175			US-PATENT-CLASS-136-202
		NASA-CASE-MS-12165-1			NASA-CASE-MS-11847-1			US-PATENT-CLASS-136-206
		US-PATENT-APPL-SN-875849			US-PATENT-APPL-SN-8497			US-PATENT-CLASS-136-227
		US-PATENT-CLASS-325-347			US-PATENT-CLASS-73-149			US-PATENT-CLASS-343-DIG.3
		US-PATENT-CLASS-325-348			US-PATENT-CLASS-73-290B			US-PATENT-CLASS-343-720
		US-PATENT-CLASS-325-473			US-PATENT-3,596,510			US-PATENT-CLASS-343-840
		US-PATENT-CLASS-325-478			NASA-CASE-NPO-10778			US-PATENT-3,594,803
		US-PATENT-CLASS-325-480			US-PATENT-APPL-SN-865909			NASA-CASE-XLA-05966
		US-PATENT-CLASS-325-482			US-PATENT-CLASS-250-235			
		US-PATENT-CLASS-328-164			US-PATENT-CLASS-33-125			
		US-PATENT-CLASS-328-165			US-PATENT-CLASS-356-167			
					US-PATENT-CLASS-356-32			

		US-PATENT-APPL-SN-784544			US-PATENT-APPL-SN-887698	N72-17451*	c 15	NASA-CASE-WLP-10002
		US-PATENT-CLASS-140-105			US-PATENT-CLASS-128-2.1A			US-PATENT-APPL-SN-47062
		US-PATENT-CLASS-72-307			US-PATENT-CLASS-307-252F			US-PATENT-CLASS-180-125
		US-PATENT-3,584,660			US-PATENT-CLASS-307-252J			US-PATENT-CLASS-180-127
N72-12409*	c 15	NASA-CASE-NPO-10637			US-PATENT-CLASS-325-492			US-PATENT-CLASS-308-DIG.1
		US-PATENT-APPL-SN-851298			US-PATENT-CLASS-340-177			US-PATENT-CLASS-308-5
		US-PATENT-CLASS-236-68			US-PATENT-3,603,946			US-PATENT-CLASS-308-9
		US-PATENT-CLASS-337-354	N72-17154*	c 09	NASA-CASE-ERC-10139	N72-17452*	c 15	US-PATENT-3,610,365
		US-PATENT-CLASS-337-359			US-PATENT-APPL-SN-889555			NASA-CASE-XLA-10322
		US-PATENT-CLASS-337-75			US-PATENT-CLASS-321-10			US-PATENT-APPL-SN-887699
		US-PATENT-CLASS-60-23			US-PATENT-CLASS-336-178			US-PATENT-CLASS-73-88.5R
		US-PATENT-3,591,960			US-PATENT-3,603,864			US-PATENT-3,608,365
N72-12440*	c 16	NASA-CASE-MFS-20180	N72-17155*	c 09	NASA-CASE-NPO-11023	N72-17453*	c 15	NASA-CASE-NPO-11177
		US-PATENT-APPL-SN-863276			US-PATENT-APPL-SN-865274			US-PATENT-APPL-SN-20966
		US-PATENT-CLASS-331-94.5			US-PATENT-CLASS-330-18			US-PATENT-CLASS-62-51
		US-PATENT-CLASS-350-1			US-PATENT-CLASS-330-40			US-PATENT-3,605,424
		US-PATENT-CLASS-350-312			US-PATENT-3,603,892	N72-17454*	c 15	NASA-CASE-NPO-11059
		US-PATENT-3,593,194	N72-17156*	c 09	NASA-CASE-NPO-10199			US-PATENT-APPL-SN-864020
N72-13437*	c 16	NASA-CASE-MFS-20125			US-PATENT-APPL-SN-739391			US-PATENT-CLASS-248-14
		US-PATENT-APPL-SN-830366			US-PATENT-CLASS-178-7.1			US-PATENT-3,606,979
		US-PATENT-CLASS-178-DIG.21			US-PATENT-CLASS-330-11	N72-17455*	c 15	NASA-CASE-NPO-11140
		US-PATENT-CLASS-178-6			US-PATENT-CLASS-330-35			US-PATENT-APPL-SN-15019
		US-PATENT-CLASS-250-203X			US-PATENT-3,609,230			US-PATENT-CLASS-174-84
		US-PATENT-CLASS-356-152			NASA-CASE-NPO-11253			US-PATENT-CLASS-200-64
		US-PATENT-3,603,686	N72-17157*	c 09	US-PATENT-APPL-SN-21906			US-PATENT-CLASS-339-176M
N72-15098* #	c 05	NASA-CASE-MS-13917-1			US-PATENT-CLASS-307-223			US-PATENT-CLASS-339-278M
		US-PATENT-APPL-SN-198355			US-PATENT-CLASS-307-227			US-PATENT-CLASS-339-46
N72-15986*	c 03	NASA-CASE-XGS-10010			US-PATENT-CLASS-307-81			US-PATENT-CLASS-89-1.811
		US-PATENT-APPL-SN-729299			US-PATENT-CLASS-328-186			US-PATENT-3,611,274
		US-PATENT-CLASS-136-133			US-PATENT-3,609,387	N72-17532*	c 18	NASA-CASE-MFS-13532
		US-PATENT-CLASS-136-135	N72-17171*	c 10	NASA-CASE-XAC-05462-2			US-PATENT-APPL-SN-720546
		US-PATENT-CLASS-136-6			US-PATENT-APPL-SN-28235			US-PATENT-CLASS-106-292
		US-PATENT-3,607,401			US-PATENT-CLASS-307-295			US-PATENT-CLASS-106-299
N72-16015*	c 05	NASA-CASE-KSC-10278			US-PATENT-CLASS-328-167			US-PATENT-3,607,338
		US-PATENT-APPL-SN-856327			US-PATENT-CLASS-330-109	N72-17747*	c 23	NASA-CASE-ERC-10089
		US-PATENT-CLASS-324-66			US-PATENT-CLASS-330-176			US-PATENT-APPL-SN-791267
		US-PATENT-CLASS-340-279			US-PATENT-CLASS-333-70CR			US-PATENT-CLASS-340-174AG
		US-PATENT-CLASS-35-8			US-PATENT-3,609,567			US-PATENT-CLASS-340-174CT
		US-PATENT-3,609,740	N72-17172*	c 10	NASA-CASE-ARC-10020			US-PATENT-CLASS-340-174GA
N72-16172*	c 10	NASA-CASE-ARC-10269-1			US-PATENT-APPL-SN-31885			US-PATENT-CLASS-340-174SC
		US-PATENT-APPL-SN-56791			US-PATENT-CLASS-330-107			US-PATENT-3,611,330
		US-PATENT-CLASS-307-230			US-PATENT-CLASS-330-109	N72-17820*	c 26	NASA-CASE-XER-08476-1
		US-PATENT-CLASS-307-262			US-PATENT-CLASS-330-26			US-PATENT-APPL-SN-672386
		US-PATENT-CLASS-328-155			US-PATENT-CLASS-330-31			US-PATENT-CLASS-148-187
		US-PATENT-3,614,475			US-PATENT-CLASS-330-94			US-PATENT-CLASS-29-589
N72-16282*	c 14	NASA-CASE-LAR-10913			US-PATENT-3,605,032			US-PATENT-3,602,984
		US-PATENT-APPL-SN-779160	N72-17173*	c 10	NASA-CASE-MFS-13130	N72-17843*	c 28	NASA-CASE-NPO-10046
		US-PATENT-CLASS-73-12			US-PATENT-APPL-SN-7868			US-PATENT-APPL-SN-860635
		US-PATENT-3,605,482			US-PATENT-CLASS-250-209			US-PATENT-CLASS-60-258
N72-16283*	c 14	NASA-CASE-GSC-10780-1			US-PATENT-CLASS-250-83.3UV			US-PATENT-CLASS-60-39.74
		US-PATENT-APPL-SN-860493			US-PATENT-CLASS-340-228.2			US-PATENT-3,603,092
		US-PATENT-CLASS-82-24R			US-PATENT-3,609,364	N72-17873*	c 30	NASA-CASE-ARC-10134
		US-PATENT-3,608,409	N72-17183*	c 11	NASA-CASE-MFS-20509			US-PATENT-APPL-SN-819898
N72-16329*	c 15	NASA-CASE-XLA-07829			US-PATENT-APPL-SN-889557			US-PATENT-CLASS-244-3.21
		US-PATENT-APPL-SN-763684			US-PATENT-CLASS-73-147			US-PATENT-3,603,532
		US-PATENT-CLASS-264-DIG.44			US-PATENT-3,602,920	N72-17947*	c 33	NASA-CASE-MS-12143-1
		US-PATENT-CLASS-264-221			NASA-CASE-ERC-10248			US-PATENT-APPL-SN-791268
		US-PATENT-CLASS-264-225			US-PATENT-APPL-SN-868445			US-PATENT-CLASS-102-105
		US-PATENT-CLASS-264-227			US-PATENT-CLASS-350-162			US-PATENT-CLASS-161-67
		US-PATENT-3,608,046			US-PATENT-CLASS-356-113			US-PATENT-CLASS-244-117
N72-16330*	c 15	NASA-CASE-LAR-10203-1			US-PATENT-CLASS-356-209	N72-17948*	c 33	NASA-CASE-NPO-10828
		US-PATENT-APPL-SN-769592			US-PATENT-CLASS-356-244			US-PATENT-APPL-SN-873260
		US-PATENT-CLASS-156-84			US-PATENT-3,603,690			US-PATENT-CLASS-165-105
		US-PATENT-CLASS-156-86	N72-17324*	c 14	NASA-CASE-MFS-20596			US-PATENT-3,603,382
		US-PATENT-3,607,495			US-PATENT-APPL-SN-7867	N72-18184*	c 08	NASA-CASE-NPO-10629
N72-17093*	c 06	NASA-CASE-LEW-10794-1			US-PATENT-CLASS-350-3.5			US-PATENT-APPL-SN-860751
		US-PATENT-APPL-SN-33535			US-PATENT-3,605,519			US-PATENT-CLASS-178-50
		US-PATENT-CLASS-23-55	N72-17325*	c 14	NASA-CASE-MS-15158-1			US-PATENT-CLASS-178-66
		US-PATENT-CLASS-23-88			US-PATENT-APPL-SN-889479			US-PATENT-CLASS-179-15
		US-PATENT-CLASS-23-97			US-PATENT-CLASS-324-52			US-PATENT-CLASS-235-154
		US-PATENT-3,607,015			US-PATENT-3,609,535			US-PATENT-CLASS-340-347DD
N72-17094*	c 06	NASA-CASE-NPO-10234	N72-17326*	c 14	NASA-CASE-XMS-01994-1			US-PATENT-3,603,976
		US-PATENT-APPL-SN-800204			US-PATENT-APPL-SN-814212	N72-18411*	c 14	NASA-CASE-KSC-10294
		US-PATENT-CLASS-23-230R			US-PATENT-CLASS-356-4			US-PATENT-APPL-SN-889556
		US-PATENT-CLASS-23-232C			US-PATENT-3,603,683			US-PATENT-CLASS-307-311
		US-PATENT-CLASS-23-253PC	N72-17327*	c 14	NASA-CASE-LEW-10281-1			US-PATENT-CLASS-346-107A
		US-PATENT-CLASS-73-23.1			US-PATENT-APPL-SN-861649			US-PATENT-CLASS-346-23
		US-PATENT-3,607,076			US-PATENT-CLASS-73-198			US-PATENT-CLASS-352-84
N72-17095*	c 06	NASA-CASE-NPO-10774			US-PATENT-3,605,495			US-PATENT-CLASS-95-1.1
		US-PATENT-APPL-SN-848805	N72-17328*	c 14	NASA-CASE-XLA-07813			US-PATENT-3,603,974
		US-PATENT-CLASS-23-201			US-PATENT-APPL-SN-791364			NASA-CASE-GSC-10566-1
		US-PATENT-CLASS-23-230			US-PATENT-CLASS-250-207	N72-18477*	c 15	US-PATENT-APPL-SN-889438
		US-PATENT-CLASS-23-253			US-PATENT-CLASS-250-41.9			US-PATENT-CLASS-242-54
		US-PATENT-CLASS-73-76			US-PATENT-CLASS-250-49.5			US-PATENT-CLASS-52-108
		US-PATENT-3,607,080			US-PATENT-CLASS-250-71.5			US-PATENT-3,608,844
N72-17109*	c 07	NASA-CASE-MS-12146-1			US-PATENT-CLASS-250-83.3			NASA-CASE-GSC-10640-1
		US-PATENT-APPL-SN-50206			US-PATENT-3,609,353	N72-18766*	c 28	US-PATENT-APPL-SN-17101
		US-PATENT-CLASS-178-5.2R	N72-17329*	c 14	NASA-CASE-FRC-10012			US-PATENT-CLASS-23-281
		US-PATENT-CLASS-178-5.4			US-PATENT-APPL-SN-771216			US-PATENT-CLASS-23-288
		US-PATENT-CLASS-178-6.7			US-PATENT-CLASS-73-194A			US-PATENT-CLASS-60-260
		US-PATENT-3,603,722			US-PATENT-3,611,801			US-PATENT-3,603,093
N72-17152*	c 09	NASA-CASE-ARC-10178-1	N72-17450*	c 15	NASA-CASE-MS-12279	N72-18859*	c 31	NASA-CASE-MS-13281
		US-PATENT-APPL-SN-47443			US-PATENT-APPL-SN-24154			US-PATENT-APPL-SN-7669
		US-PATENT-CLASS-250-211J			US-PATENT-CLASS-188-1C			US-PATENT-CLASS-244-15.5
		US-PATENT-3,603,798			US-PATENT-CLASS-188-129			
N72-17153*	c 09	NASA-CASE-ARC-10105			US-PATENT-3,603,433			

N72-20031*	c 03	US-PATENT-3,606,212 NASA-CASE-GSC-10669-1 US-PATENT-APPL-SN-90595 US-PATENT-CLASS-136-89 US-PATENT-CLASS-244-155 US-PATENT-CLASS-340-210 US-PATENT-3,636,539	N72-20222*	c 10	US-PATENT-CLASS-307-313 US-PATENT-CLASS-328-207 US-PATENT-CLASS-330-30D US-PATENT-3,633,048 NASA-CASE-XLA-11189 US-PATENT-APPL-SN-889375 US-PATENT-CLASS-324-115 US-PATENT-CLASS-324-132 US-PATENT-3,638,114	N72-21094*	c 06	US-PATENT-APPL-SN-10161 US-PATENT-CLASS-122-32 US-PATENT-CLASS-165-133 US-PATENT-CLASS-165-155 US-PATENT-CLASS-165-158 US-PATENT-CLASS-165-161 US-PATENT-CLASS-165-174 US-PATENT-3,630,276 NASA-CASE-ERC-10108 US-PATENT-APPL-SN-833049 US-PATENT-CLASS-156-3 US-PATENT-CLASS-96-36.2 US-PATENT-3,615,465
N72-20032*	c 03	NASA-CASE-NPO-11021 US-PATENT-APPL-SN-880250 US-PATENT-CLASS-136-166 US-PATENT-CLASS-136-79 US-PATENT-CLASS-136-81 US-PATENT-3,625,766	N72-20223*	c 10	NASA-CASE-NPO-11133 US-PATENT-APPL-SN-887685 US-PATENT-CLASS-307-295 US-PATENT-CLASS-328-16 US-PATENT-CLASS-328-166 US-PATENT-CLASS-328-20 US-PATENT-CLASS-328-38 US-PATENT-3,626,308	N72-21105* #	c 06	NASA-CASE-GSC-11304-1 US-PATENT-APPL-SN-137912 NASA-CASE-XLA-11154 US-PATENT-APPL-SN-23532 US-PATENT-CLASS-343-706 US-PATENT-CLASS-343-912 US-PATENT-3,623,107
N72-20033*	c 03	NASA-CASE-NPO-10401 US-PATENT-APPL-SN-15025 US-PATENT-CLASS-210-212 US-PATENT-CLASS-356-222 US-PATENT-3,630,627	N72-20224*	c 10	NASA-CASE-NPO-11203 US-PATENT-APPL-SN-3696 US-PATENT-CLASS-324-83A US-PATENT-CLASS-324-85 US-PATENT-CLASS-328-133 US-PATENT-CLASS-343-12 US-PATENT-3,631,351	N72-21117*	c 07	US-PATENT-APPL-SN-856279 US-PATENT-CLASS-343-1005T US-PATENT-CLASS-343-5CM US-PATENT-CLASS-343-6.5F US-PATENT-3,624,650
N72-20034*	c 03	NASA-CASE-LEW-11359-2 US-PATENT-APPL-SN-57399 US-PATENT-CLASS-136-100R US-PATENT-CLASS-136-175 US-PATENT-CLASS-136-83R US-PATENT-3,635,765	N72-20225*	c 10	NASA-CASE-MS-13407-1 US-PATENT-APPL-SN-65840 US-PATENT-CLASS-315-22 US-PATENT-CLASS-315-25 US-PATENT-3,638,066	N72-21119*	c 07	NASA-CASE-ERC-10112 US-PATENT-APPL-SN-796690 US-PATENT-CLASS-179-100.2K US-PATENT-3,614,343
N72-20096*	c 05	NASA-CASE-MS-12411-1 US-PATENT-APPL-SN-701244 US-PATENT-CLASS-128-142.5 US-PATENT-CLASS-128-402 US-PATENT-CLASS-2-2.1 US-PATENT-3,635,216	N72-20244*	c 11	NASA-CASE-NPO-11210 US-PATENT-APPL-SN-880831 US-PATENT-CLASS-123-102 US-PATENT-CLASS-180-105E US-PATENT-CLASS-318-308 US-PATENT-CLASS-318-327 US-PATENT-CLASS-318-376 US-PATENT-3,630,304	N72-21197*	c 08	NASA-CASE-KSC-10326 US-PATENT-APPL-SN-25487 US-PATENT-CLASS-235-155 US-PATENT-CLASS-340-347DD US-PATENT-3,638,002
N72-20097*	c 05	NASA-CASE-MFS-20332 US-PATENT-APPL-SN-869260 US-PATENT-CLASS-137-469 US-PATENT-CLASS-137-81 US-PATENT-3,636,966	N72-20379*	c 14	NASA-CASE-GSC-10514-1 US-PATENT-APPL-SN-873045 US-PATENT-CLASS-250-208 US-PATENT-CLASS-356-138 US-PATENT-CLASS-356-152 US-PATENT-3,637,312	N72-21198*	c 08	NASA-CASE-ERC-10307 US-PATENT-APPL-SN-39755 US-PATENT-CLASS-307-299 US-PATENT-CLASS-307-303 US-PATENT-CLASS-307-311 US-PATENT-CLASS-340-173.2 US-PATENT-CLASS-340-173LS US-PATENT-3,623,030
N72-20098*	c 05	NASA-CASE-MS-12398 US-PATENT-APPL-SN-785615 US-PATENT-CLASS-2-2.1 US-PATENT-3,624,839	N72-20380*	c 14	NASA-CASE-LAR-10176-1 US-PATENT-APPL-SN-811038 US-PATENT-CLASS-95-18 US-PATENT-3,626,828	N72-21199*	c 08	NASA-CASE-NPO-10743 US-PATENT-APPL-SN-850587 US-PATENT-CLASS-340-174CS US-PATENT-CLASS-340-174LC US-PATENT-CLASS-340-174M US-PATENT-CLASS-340-174SR US-PATENT-3,613,110
N72-20121*	c 06	NASA-CASE-NPO-10765 US-PATENT-APPL-SN-770425 US-PATENT-CLASS-260-544F US-PATENT-3,637,842	N72-20381*	c 14	NASA-CASE-GSC-10503-1 US-PATENT-APPL-SN-789044 US-PATENT-CLASS-250-83.6R US-PATENT-3,626,189	N72-21200*	c 08	NASA-CASE-NPO-11018 US-PATENT-APPL-SN-873259 US-PATENT-CLASS-340-347AD US-PATENT-3,613,111
N72-20140*	c 07	NASA-CASE-NPO-10844 US-PATENT-APPL-SN-839934 US-PATENT-CLASS-178-69.5R US-PATENT-CLASS-179-15BS US-PATENT-CLASS-325-321 US-PATENT-CLASS-325-38 US-PATENT-CLASS-325-4 US-PATENT-CLASS-325-58 US-PATENT-3,626,298	N72-20442*	c 15	NASA-CASE-GSC-10607-1 US-PATENT-APPL-SN-27340 US-PATENT-CLASS-251-129 US-PATENT-CLASS-251-333 US-PATENT-3,632,081	N72-21243*	c 09	NASA-CASE-LEW-11005-1 US-PATENT-APPL-SN-86548 US-PATENT-CLASS-323-DIG.1 US-PATENT-CLASS-323-22T US-PATENT-CLASS-323-38 US-PATENT-3,638,103
N72-20141*	c 07	NASA-CASE-ERC-10179 US-PATENT-APPL-SN-50207 US-PATENT-CLASS-325-445 US-PATENT-CLASS-329-161 US-PATENT-CLASS-329-162 US-PATENT-CLASS-332-51W US-PATENT-CLASS-333-73W US-PATENT-CLASS-343-772 US-PATENT-CLASS-343-773 US-PATENT-CLASS-343-786 US-PATENT-3,633,110	N72-20443*	c 15	NASA-CASE-NPO-10671 US-PATENT-APPL-SN-857967 US-PATENT-CLASS-188-1B US-PATENT-CLASS-188-1C US-PATENT-CLASS-188-268 US-PATENT-3,637,051	N72-21244*	c 09	NASA-CASE-LAR-10545-1 US-PATENT-APPL-SN-31703 US-PATENT-CLASS-343-771 US-PATENT-CLASS-343-893 US-PATENT-3,638,224
N72-20154* #	c 07	NASA-CASE-NPO-11243 US-PATENT-APPL-SN-17753 NASA-CASE-NPO-11130 US-PATENT-APPL-SN-21508 US-PATENT-CLASS-235-152 US-PATENT-CLASS-235-92CC US-PATENT-CLASS-235-92DE US-PATENT-CLASS-235-92DM US-PATENT-CLASS-235-92LG US-PATENT-CLASS-235-92R US-PATENT-CLASS-340-347DA US-PATENT-CLASS-340-347DD US-PATENT-3,632,996	N72-20444*	c 15	NASA-CASE-FRC-10038 US-PATENT-APPL-SN-889554 US-PATENT-CLASS-29-412 US-PATENT-CLASS-29-426 US-PATENT-CLASS-29-527.2 US-PATENT-CLASS-29-624 US-PATENT-CLASS-51-216 US-PATENT-CLASS-51-320 US-PATENT-CLASS-51-323 US-PATENT-3,636,623	N72-21245*	c 09	NASA-CASE-ARC-10192 US-PATENT-APPL-SN-15024 US-PATENT-CLASS-307-230 US-PATENT-CLASS-307-295 US-PATENT-CLASS-328-142 US-PATENT-CLASS-328-167 US-PATENT-CLASS-330-70R US-PATENT-CLASS-330-85 US-PATENT-CLASS-333-80 US-PATENT-3,621,407
N72-20177*	c 08	US-PATENT-3,632,996 NASA-CASE-NPO-10748 US-PATENT-APPL-SN-63383 US-PATENT-CLASS-324-77G US-PATENT-3,631,339	N72-20445*	c 15	NASA-CASE-NPO-10704 US-PATENT-APPL-SN-59895 US-PATENT-CLASS-138-178 US-PATENT-CLASS-285-18 US-PATENT-CLASS-285-345 US-PATENT-3,632,140	N72-21246*	c 09	NASA-CASE-NPO-11134 US-PATENT-APPL-SN-883524 US-PATENT-CLASS-318-576 US-PATENT-CLASS-324-71R US-PATENT-CLASS-346-1 US-PATENT-CLASS-346-29 US-PATENT-3,624,659
N72-20199*	c 09	NASA-CASE-NPO-10722 US-PATENT-APPL-SN-860492 US-PATENT-CLASS-200-81.9M US-PATENT-CLASS-335-205 US-PATENT-3,632,923	N72-20446*	c 15	NASA-CASE-MFS-20698 US-PATENT-APPL-SN-3418 US-PATENT-CLASS-100-299 US-PATENT-CLASS-23-209.1 US-PATENT-CLASS-264-22 US-PATENT-CLASS-425-77 US-PATENT-3,632,242	N72-21247*	c 09	NASA-CASE-KSC-10393 US-PATENT-APPL-SN-71047 US-PATENT-CLASS-307-257 US-PATENT-CLASS-307-259 US-PATENT-CLASS-331-111 US-PATENT-CLASS-331-14 US-PATENT-CLASS-331-23 US-PATENT-CLASS-331-30 US-PATENT-3,614,648
N72-20200*	c 09	NASA-CASE-NPO-10694 US-PATENT-APPL-SN-24224 US-PATENT-CLASS-339-275T US-PATENT-CLASS-339-276T US-PATENT-3,631,382	N72-20597*	c 22	NASA-CASE-XLE-04599 US-PATENT-APPL-SN-751215 US-PATENT-CLASS-176-86G US-PATENT-3,629,068	N72-21248* #	c 09	NASA-CASE-LAR-10503-1 US-PATENT-APPL-SN-229143 NASA-CASE-MFS-20829 US-PATENT-APPL-SN-61894 US-PATENT-CLASS-169-28
N72-20206* #	c 09	NASA-CASE-ERC-10468 US-PATENT-APPL-SN-144958	N72-20758*	c 28	NASA-CASE-XNP-03282 US-PATENT-APPL-SN-745337 US-PATENT-CLASS-60-254 US-PATENT-3,636,711	N72-21310*	c 12	
N72-20221*	c 10	NASA-CASE-GSC-10082-1 US-PATENT-APPL-SN-41430 US-PATENT-CLASS-307-273 US-PATENT-CLASS-307-288	N72-20840* #	c 31	NASA-CASE-MFS-20922 US-PATENT-APPL-SN-220274			
			N72-20915*	c 33	NASA-CASE-NPO-10831			



N72-21405*	c 14	US-PATENT-CLASS-169-36				US-PATENT-APPL-SN-78065			US-PATENT-CLASS-325-29
		US-PATENT-3,613,794				US-PATENT-CLASS-178-52			US-PATENT-CLASS-325-492
		NASA-CASE-NPO-10832				US-PATENT-CLASS-179-15A			US-PATENT-CLASS-340-171
		US-PATENT-APPL-SN-22265				US-PATENT-CLASS-179-15BL			US-PATENT-CLASS-340-203
N72-21407*	c 14	US-PATENT-CLASS-73-141A				US-PATENT-CLASS-307-243			US-PATENT-3,621,290
		US-PATENT-3,623,360				US-PATENT-CLASS-307-251	N72-22203*	c 09	NASA-CASE-XER-11046
		NASA-CASE-MFS-20642				US-PATENT-CLASS-328-104			US-PATENT-APPL-SN-810579
		US-PATENT-APPL-SN-873793				US-PATENT-CLASS-328-154			US-PATENT-CLASS-321-15
N72-21408*	c 14	US-PATENT-CLASS-73-147				US-PATENT-3,614,327			US-PATENT-CLASS-321-18
		US-PATENT-3,623,361	N72-22163*	c 08	NASA-CASE-MSC-13110-1			US-PATENT-CLASS-321-2	
		NASA-CASE-MSC-13332-1			US-PATENT-APPL-SN-23132			US-PATENT-CLASS-321-45	
		US-PATENT-APPL-SN-77169			US-PATENT-CLASS-340-347AD			US-PATENT-CLASS-331-117	
N72-21409*	c 14	US-PATENT-CLASS-250-43.5R				US-PATENT-3,614,772	N72-22204*	c 09	US-PATENT-3,621,362
		US-PATENT-CLASS-250-83.3H	N72-22164*	c 08	NASA-CASE-NPO-10745			NASA-CASE-LAR-10137-1	
		US-PATENT-3,614,431			US-PATENT-APPL-SN-878730			US-PATENT-APPL-SN-881041	
		NASA-CASE-MSC-12105-1			US-PATENT-CLASS-178-DIG.28			US-PATENT-CLASS-200-81R	
N72-21462*	c 15	US-PATENT-APPL-SN-763743				US-PATENT-CLASS-178-DIG.36			US-PATENT-CLASS-200-82C
		US-PATENT-CLASS-356-17				US-PATENT-CLASS-178-6.8			US-PATENT-3,609,271
		US-PATENT-CLASS-356-18				US-PATENT-CLASS-178-7.2R	N72-22235*	c 10	NASA-CASE-GSC-10064-1
		US-PATENT-3,614,228			US-PATENT-3,621,130			US-PATENT-APPL-SN-802812	
N72-21463*	c 15	NASA-CASE-NPO-10679	N72-22165*	c 08	NASA-CASE-NPO-11104			US-PATENT-CLASS-343-16M	
		US-PATENT-APPL-SN-848282			US-PATENT-APPL-SN-860750			US-PATENT-CLASS-343-7.4	
		US-PATENT-CLASS-74-89.15			US-PATENT-CLASS-235-150.52			US-PATENT-CLASS-343-7.7R	
		US-PATENT-3,614,898			US-PATENT-CLASS-235-150.53			US-PATENT-CLASS-343-786	
N72-21464*	c 15	NASA-CASE-MFS-20413				US-PATENT-CLASS-235-183	N72-22236*	c 10	US-PATENT-3,623,094
		US-PATENT-APPL-SN-69209				US-PATENT-CLASS-235-194			NASA-CASE-GSC-10878-1
		US-PATENT-CLASS-74-469				US-PATENT-CLASS-235-197			US-PATENT-APPL-SN-889423
		US-PATENT-3,620,095			US-PATENT-CLASS-340-347R			US-PATENT-CLASS-307-206	
N72-21465*	c 15	NASA-CASE-ARC-10176-1	N72-22166*	c 08	US-PATENT-3,621,228			US-PATENT-CLASS-307-215	
		US-PATENT-APPL-SN-889583			NASA-CASE-NPO-10560			US-PATENT-CLASS-307-322	
		US-PATENT-CLASS-324-57R			US-PATENT-APPL-SN-856282			US-PATENT-CLASS-307-323	
		US-PATENT-CLASS-324-64			US-PATENT-CLASS-235-153			US-PATENT-3,621,277	
N72-21466*	c 15	US-PATENT-CLASS-324-71R			US-PATENT-CLASS-324-73AT			NASA-CASE-NPO-12109	
		US-PATENT-3,624,496			US-PATENT-CLASS-340-347AD			US-PATENT-APPL-SN-690172	
		NASA-CASE-GSC-10218-1	N72-22167*	c 08	US-PATENT-3,603,772			US-PATENT-CLASS-230-54	
		US-PATENT-APPL-SN-15022			NASA-CASE-NPO-11082			US-PATENT-3,612,391	
N72-21467*	c 15	US-PATENT-CLASS-141-23			US-PATENT-APPL-SN-868529			NASA-CASE-XLA-07430	
		US-PATENT-CLASS-195-127			US-PATENT-CLASS-235-152			US-PATENT-APPL-SN-867841	
		US-PATENT-CLASS-222-135			US-PATENT-CLASS-340-146.1			US-PATENT-CLASS-73-147	
		US-PATENT-CLASS-222-309			US-PATENT-CLASS-340-348			US-PATENT-3,620,076	
N72-21468*	c 15	US-PATENT-CLASS-222-71			US-PATENT-3,609,327			NASA-CASE-NPO-11013	
		US-PATENT-CLASS-23-253R	N72-22195*	c 09	NASA-CASE-MFS-14710			US-PATENT-APPL-SN-858695	
		US-PATENT-CLASS-23-259			US-PATENT-APPL-SN-852843	N72-22247*	c 11	US-PATENT-CLASS-42-1F	
		US-PATENT-CLASS-73-425.6			US-PATENT-CLASS-74-105			US-PATENT-3,619,924	
N72-21469*	c 15	US-PATENT-3,615,241			US-PATENT-3,614,899			NASA-CASE-LAR-10496-1	
		NASA-CASE-NPO-10440	N72-22196*	c 09	NASA-CASE-ERC-10075-2			US-PATENT-APPL-SN-12661	
		US-PATENT-APPL-SN-756834			US-PATENT-APPL-SN-775870			US-PATENT-CLASS-73-141A	
		US-PATENT-CLASS-204-130			US-PATENT-CLASS-321-14			US-PATENT-3,611,798	
N72-21489* #	c 15	US-PATENT-CLASS-204-59			US-PATENT-CLASS-321-19			NASA-CASE-ARC-10263-1	
		US-PATENT-3,616,338			US-PATENT-CLASS-321-2			US-PATENT-APPL-SN-882122	
		NASA-CASE-XLA-10470			US-PATENT-CLASS-321-25			US-PATENT-CLASS-73-398C	
		US-PATENT-APPL-SN-219436			US-PATENT-CLASS-323-56			US-PATENT-3,620,083	
N72-21624*	c 21	NASA-CASE-HON-10439			US-PATENT-CLASS-323-89C			NASA-CASE-MFS-20890	
		US-PATENT-APPL-SN-889551			US-PATENT-3,614,587	N72-22439*	c 14	US-PATENT-APPL-SN-103229	
		US-PATENT-CLASS-244-15A	N72-22197*	c 09	NASA-CASE-LEW-10433-1			US-PATENT-CLASS-264-22	
		US-PATENT-3,637,170			US-PATENT-APPL-SN-849106			US-PATENT-CLASS-29-421	
N72-21701*	c 26	NASA-CASE-ERC-10119			US-PATENT-CLASS-307-262			US-PATENT-CLASS-310-11	
		US-PATENT-APPL-SN-825258			US-PATENT-CLASS-307-88MP			US-PATENT-CLASS-310-42	
		US-PATENT-CLASS-307-299			US-PATENT-3,612,895			US-PATENT-3,626,218	
		US-PATENT-CLASS-317-234V	N72-22198*	c 09	NASA-CASE-MFS-13687-2			NASA-CASE-ARC-10154-1	
N72-21893* #	c 31	US-PATENT-CLASS-317-235R			US-PATENT-APPL-SN-80369			US-PATENT-APPL-SN-793771	
		US-PATENT-CLASS-331-107			US-PATENT-CLASS-174-106R	N72-22440*	c 14	US-PATENT-CLASS-73-67.2	
		US-PATENT-CLASS-332-31			US-PATENT-CLASS-174-117FF			US-PATENT-3,620,069	
		US-PATENT-3,614,557			US-PATENT-CLASS-174-36			NASA-CASE-NPO-11002	
N72-22041*	c 03	NASA-CASE-KSC-10622-1			US-PATENT-3,612,743			US-PATENT-APPL-SN-856328	
		US-PATENT-APPL-SN-149983	N72-22199*	c 09	NASA-CASE-ERC-10222			US-PATENT-CLASS-350-19	
		NASA-CASE-NPO-10591			US-PATENT-APPL-SN-832603			US-PATENT-CLASS-350-23	
		US-PATENT-APPL-SN-776185			US-PATENT-CLASS-29-590			US-PATENT-CLASS-350-26	
N72-22042*	c 03	US-PATENT-CLASS-29-572			US-PATENT-3,621,565			US-PATENT-CLASS-350-35	
		US-PATENT-3,616,528	N72-22200*	c 09	NASA-CASE-FRC-10036			US-PATENT-CLASS-350-36	
		NASA-CASE-NPO-10747			US-PATENT-APPL-SN-872602			US-PATENT-CLASS-350-49	
		US-PATENT-APPL-SN-6616			US-PATENT-CLASS-307-237			US-PATENT-CLASS-350-52	
N72-22092*	c 05	US-PATENT-CLASS-136-89			US-PATENT-CLASS-307-254			US-PATENT-3,612,645	
		US-PATENT-3,615,853			US-PATENT-CLASS-307-317			NASA-CASE-MFS-21629	
		NASA-CASE-ARC-10275-1			US-PATENT-CLASS-328-1	N72-22442*	c 14	US-PATENT-APPL-SN-612265	
		US-PATENT-APPL-SN-21644			US-PATENT-CLASS-328-151			US-PATENT-CLASS-324-61	
N72-22093*	c 05	US-PATENT-CLASS-2-2.1A			US-PATENT-CLASS-73-88.5			US-PATENT-CLASS-73-304	
		US-PATENT-3,636,564			US-PATENT-3,621,285			US-PATENT-3,639,835	
		NASA-CASE-MSC-12324-1	N72-22201*	c 09	NASA-CASE-LEW-10387			NASA-CASE-XGS-03736	
		US-PATENT-APPL-SN-63384			US-PATENT-APPL-SN-76899	N72-22443*	c 14	US-PATENT-APPL-SN-749320	
N72-22107*	c 06	US-PATENT-CLASS-128-295			US-PATENT-CLASS-307-223B			US-PATENT-CLASS-252-300	
		US-PATENT-CLASS-4-110			US-PATENT-CLASS-307-241			US-PATENT-CLASS-96-90PC	
		US-PATENT-CLASS-4-99			US-PATENT-CLASS-307-252J			US-PATENT-3,639,250	
		US-PATENT-3,602,923			US-PATENT-CLASS-307-252K			NASA-CASE-LAR-10523-1	
N72-22127*	c 07	NASA-CASE-NPO-10862			US-PATENT-CLASS-307-284			US-PATENT-APPL-SN-32665	
		US-PATENT-APPL-SN-810815			US-PATENT-CLASS-307-304	N72-22444*	c 14	US-PATENT-CLASS-250-203	
		US-PATENT-CLASS-260-877			US-PATENT-CLASS-307-317			US-PATENT-CLASS-350-16	
		US-PATENT-3,639,510			US-PATENT-CLASS-328-106			US-PATENT-CLASS-350-52	
N72-22162*	c 08	NASA-CASE-NPO-10303			US-PATENT-3,621,287			US-PATENT-CLASS-356-248	
		US-PATENT-APPL-SN-848776	N72-22202*	c 09	NASA-CASE-ARC-10136-1			US-PATENT-3,647,276	
		US-PATENT-CLASS-343-771			US-PATENT-APPL-SN-865106			NASA-CASE-LAR-10184	
		US-PATENT-CLASS-343-797			US-PATENT-CLASS-128-2.1A	N72-22445*	c 14	US-PATENT-APPL-SN-16808	
N72-22163*	c 08	US-PATENT-CLASS-343-853			US-PATENT-CLASS-128-2R			US-PATENT-CLASS-33-174S	
		US-PATENT-CLASS-343-912			US-PATENT-CLASS-307-231			US-PATENT-CLASS-350-86	
		US-PATENT-3,623,114			US-PATENT-CLASS-307-247			US-PATENT-3,620,595	
		NASA-CASE-NPO-11333			US-PATENT-CLASS-307-288				

N72-22482*	c 15	NASA-CASE-XLA-04897 US-PATENT-APPL-SN-880249 US-PATENT-CLASS-73-133 US-PATENT-CLASS-3,613,457	N72-22772*	c 28	NASA-CASE-NPO-12072 US-PATENT-APPL-SN-82647 US-PATENT-CLASS-123-122AB US-PATENT-CLASS-137-81.5 US-PATENT-CLASS-261-145 US-PATENT-CLASS-3,640,256	US-PATENT-CLASS-313-224 US-PATENT-CLASS-313-231 US-PATENT-CLASS-315-111 US-PATENT-CLASS-315-326 US-PATENT-CLASS-315-358 US-PATENT-CLASS-331-94.5 US-PATENT-CLASS-3,617,804		
N72-22483*	c 15	NASA-CASE-XNP-09770-2 US-PATENT-APPL-SN-864039 US-PATENT-CLASS-209-349 US-PATENT-CLASS-3,615,021	N72-22874*	c 31	NASA-CASE-NPO-10883 US-PATENT-APPL-SN-26573 US-PATENT-CLASS-136-89 US-PATENT-CLASS-312-257 US-PATENT-CLASS-3,620,846	N72-25019*	c 03	NASA-CASE-NPO-10575 US-PATENT-APPL-SN-6615 US-PATENT-CLASS-156-250 US-PATENT-CLASS-156-510 US-PATENT-CLASS-3,654,036
N72-22484*	c 15	NASA-CASE-LAR-10031 US-PATENT-APPL-SN-867851 US-PATENT-CLASS-62-55.5 US-PATENT-CLASS-3,625,018	N72-23048*	c 03	NASA-CASE-NPO-11388 US-PATENT-APPL-SN-119282 US-PATENT-CLASS-310-2 US-PATENT-CLASS-321-2 US-PATENT-CLASS-322-2 US-PATENT-CLASS-3,648,152	N72-25020*	c 03	NASA-CASE-GSC-11211-1 US-PATENT-APPL-SN-139528 US-PATENT-CLASS-235-92T US-PATENT-CLASS-307-141.8 US-PATENT-CLASS-320-48 US-PATENT-CLASS-324-29.5 US-PATENT-CLASS-3,663,938
N72-22485*	c 15	NASA-CASE-MS-13512-1 US-PATENT-APPL-SN-73932 US-PATENT-CLASS-74-501R US-PATENT-CLASS-3,625,084	N72-23085*	c 05	NASA-CASE-LAR-10102-1 US-PATENT-APPL-SN-13266 US-PATENT-CLASS-224-25A US-PATENT-CLASS-3,649,921	N72-25021*	c 03	NASA-CASE-NPO-11118 US-PATENT-APPL-SN-8650 US-PATENT-CLASS-214-90R US-PATENT-CLASS-3,666,120
N72-22486*	c 15	NASA-CASE-KSC-10031 US-PATENT-APPL-SN-98773 US-PATENT-CLASS-220-5R US-PATENT-CLASS-317-101DH US-PATENT-CLASS-317-117 US-PATENT-CLASS-317-120 US-PATENT-CLASS-3,639,809	N72-23171*	c 09	NASA-CASE-GSC-10221-1 US-PATENT-APPL-SN-779025 US-PATENT-CLASS-307-252N US-PATENT-CLASS-307-252R US-PATENT-CLASS-307-259 US-PATENT-CLASS-307-305 US-PATENT-CLASS-3,621,294	N72-25119*	c 05	NASA-CASE-MS-12397-1 US-PATENT-APPL-SN-785613 US-PATENT-CLASS-2-115 US-PATENT-CLASS-2-2.1 US-PATENT-CLASS-3,660,851
N72-22487*	c 15	NASA-CASE-GSC-10303 US-PATENT-APPL-SN-802813 US-PATENT-CLASS-29-473.1 US-PATENT-CLASS-3,619,896	N72-23172*	c 09	NASA-CASE-LAR-10320-1 US-PATENT-APPL-SN-18427 US-PATENT-CLASS-324-20R US-PATENT-CLASS-3,649,907	N72-25120*	c 05	NASA-CASE-MS-90153-2 US-PATENT-APPL-SN-844225 US-PATENT-CLASS-106-209 US-PATENT-CLASS-128-2.1 US-PATENT-CLASS-128-417 US-PATENT-CLASS-252-514 US-PATENT-CLASS-264-104 US-PATENT-CLASS-3,665,064
N72-22488*	c 15	NASA-CASE-MS-11849-1 US-PATENT-APPL-SN-6617 US-PATENT-CLASS-85-1 US-PATENT-CLASS-3,623,394	N72-23173*	c 09	NASA-CASE-ERC-10267 US-PATENT-APPL-SN-41348 US-PATENT-CLASS-235-197 US-PATENT-CLASS-307-229 US-PATENT-CLASS-328-145 US-PATENT-CLASS-3,648,043	N72-25121*	c 05	NASA-CASE-FRC-10029-2 US-PATENT-APPL-SN-78704 US-PATENT-CLASS-156-264 US-PATENT-CLASS-156-308 US-PATENT-CLASS-29-25.14 US-PATENT-CLASS-29-25.18 US-PATENT-CLASS-29-482 US-PATENT-CLASS-29-630A US-PATENT-CLASS-3,662,441
N72-22489*	c 15	NASA-CASE-GSC-10518-1 US-PATENT-APPL-SN-789045 US-PATENT-CLASS-417-152 US-PATENT-CLASS-55-446 US-PATENT-CLASS-55-464 US-PATENT-CLASS-3,623,828	N72-23215*	c 11	NASA-CASE-MFS-20710 US-PATENT-APPL-SN-114848 US-PATENT-CLASS-13-20 US-PATENT-CLASS-13-31 US-PATENT-CLASS-3,647,924	N72-25122*	c 05	NASA-CASE-MS-13609-1 US-PATENT-APPL-SN-94347 US-PATENT-CLASS-128-2N US-PATENT-CLASS-3,662,744
N72-22490*	c 15	NASA-CASE-LEW-10856-1 US-PATENT-APPL-SN-3417 US-PATENT-CLASS-308-195 US-PATENT-CLASS-3,620,585	N72-23457*	c 14	NASA-CASE-MS-12297 US-PATENT-APPL-SN-792623 US-PATENT-CLASS-55-493 US-PATENT-CLASS-55-498 US-PATENT-CLASS-55-502 US-PATENT-CLASS-55-521 US-PATENT-CLASS-3,650,095	N72-25146*	c 06	NASA-CASE-NPO-11322 US-PATENT-APPL-SN-87550 US-PATENT-CLASS-250-43.5R US-PATENT-CLASS-73-23.1 US-PATENT-CLASS-3,666,942
N72-22491*	c 15	NASA-CASE-GSC-10913 US-PATENT-APPL-SN-889558 US-PATENT-CLASS-219-158 US-PATENT-CLASS-219-234 US-PATENT-CLASS-219-85 US-PATENT-CLASS-228-57 US-PATENT-CLASS-29-628 US-PATENT-CLASS-3,621,194	N72-23497*	c 15	NASA-CASE-KSC-10242 US-PATENT-APPL-SN-73834 US-PATENT-CLASS-219-109 US-PATENT-CLASS-219-234 US-PATENT-CLASS-219-85 US-PATENT-CLASS-324-65R US-PATENT-CLASS-3,621,193	N72-25147*	c 06	NASA-CASE-ARC-10325 US-PATENT-APPL-SN-63610 US-PATENT-CLASS-260-2.5FP US-PATENT-CLASS-3,663,464
N72-22520* #	c 16	NASA-CASE-LAR-10815-1 US-PATENT-APPL-SN-233587 US-PATENT-CLASS-3,623,861	N72-23581*	c 18	NASA-CASE-GSC-10361-1 US-PATENT-APPL-SN-700040 US-PATENT-CLASS-106-84 US-PATENT-CLASS-3,620,784	N72-25148*	c 06	NASA-CASE-MFS-13994-2 US-PATENT-APPL-SN-870689 US-PATENT-CLASS-260-348SC US-PATENT-CLASS-3,660,434
N72-22530*	c 17	NASA-CASE-XLE-06461 US-PATENT-APPL-SN-853855 US-PATENT-CLASS-75-5B US-PATENT-CLASS-3,623,861	N72-23695*	c 23	NASA-CASE-HQN-10541-3 US-PATENT-APPL-SN-822089 US-PATENT-CLASS-350-171 US-PATENT-CLASS-3,606,522	N72-25149*	c 06	NASA-CASE-GSC-10565-1 US-PATENT-APPL-SN-822039 US-PATENT-CLASS-195-103.5R US-PATENT-CLASS-195-28N US-PATENT-CLASS-260-211.5 US-PATENT-CLASS-3,660,240
N72-22535*	c 17	NASA-CASE-LEW-10874-1 US-PATENT-APPL-SN-68024 US-PATENT-CLASS-148-32.5 US-PATENT-CLASS-75-170 US-PATENT-CLASS-3,620,718	N72-23809*	c 28	NASA-CASE-XNP-09461 US-PATENT-APPL-SN-670829 US-PATENT-CLASS-239-418 US-PATENT-CLASS-239-433 US-PATENT-CLASS-239-543 US-PATENT-CLASS-3,650,474	N72-25150*	c 06	NASA-CASE-XLE-06774-2 US-PATENT-APPL-SN-5114 US-PATENT-CLASS-117-132 US-PATENT-CLASS-117-161 US-PATENT-CLASS-260-2.5 US-PATENT-CLASS-260-92.1 US-PATENT-CLASS-3,666,741
N72-22566*	c 18	NASA-CASE-MFS-20011 US-PATENT-APPL-SN-813338 US-PATENT-CLASS-106-286 US-PATENT-CLASS-106-288B US-PATENT-CLASS-106-84 US-PATENT-CLASS-3,620,791	N72-23810*	c 28	NASA-CASE-NPO-11458 US-PATENT-APPL-SN-38926 US-PATENT-CLASS-60-266 US-PATENT-CLASS-60-271 US-PATENT-CLASS-3,648,461	N72-25151*	c 06	NASA-CASE-MFS-20979 US-PATENT-APPL-SN-100774 US-PATENT-CLASS-260-18S US-PATENT-CLASS-260-448.2D US-PATENT-CLASS-260-46.5E US-PATENT-CLASS-260-46.5G US-PATENT-CLASS-260-46.5P US-PATENT-CLASS-3,666,718
N72-22567*	c 18	NASA-CASE-NPO-11091 US-PATENT-APPL-SN-860781 US-PATENT-CLASS-260-2.1E US-PATENT-CLASS-3,629,161	N72-24037*	c 03	NASA-CASE-GSC-11514-1 US-PATENT-APPL-SN-820453 US-PATENT-CLASS-117-201 US-PATENT-CLASS-136-89 US-PATENT-CLASS-3,653,970	N72-25152*	c 06	NASA-CASE-NPO-10863-2 US-PATENT-APPL-SN-145026 US-PATENT-CLASS-260-92.1 US-PATENT-CLASS-3,663,521
N72-22619*	c 21	NASA-CASE-ARC-10179-1 US-PATENT-APPL-SN-835058 US-PATENT-CLASS-244-114 US-PATENT-CLASS-340-26 US-PATENT-CLASS-3,624,598	N72-24477*	c 14	NASA-CASE-ARC-10138-1 US-PATENT-APPL-SN-774733 US-PATENT-CLASS-250-83.3H US-PATENT-CLASS-317-247 US-PATENT-CLASS-324-61R US-PATENT-CLASS-73-355R US-PATENT-CLASS-3,657,644	N72-25170*	c 07	NASA-CASE-LAR-10513-1 US-PATENT-APPL-SN-64723 US-PATENT-CLASS-333-7 US-PATENT-CLASS-333-81R US-PATENT-CLASS-333-98P US-PATENT-CLASS-333-98R US-PATENT-CLASS-333-98S US-PATENT-CLASS-3,649,935
N72-22673*	c 23	NASA-CASE-XER-07896-2 US-PATENT-APPL-SN-36819 US-PATENT-CLASS-350-310 US-PATENT-CLASS-3,620,606	N72-24522*	c 15	NASA-CASE-NPO-11036 US-PATENT-APPL-SN-41346 US-PATENT-CLASS-264-92 US-PATENT-CLASS-3,658,974	N72-25171*	c 07	NASA-CASE-MFS-21042
N72-22769*	c 28	NASA-CASE-ARC-10106-1 US-PATENT-APPL-SN-812998 US-PATENT-CLASS-244-3.22 US-PATENT-CLASS-3,612,442	N72-24753*	c 25	NASA-CASE-XNP-04167-2 US-PATENT-APPL-SN-866442 US-PATENT-CLASS-313-186 US-PATENT-CLASS-313-212			
N72-22770*	c 28	NASA-CASE-LEW-10770-1 US-PATENT-APPL-SN-880246 US-PATENT-CLASS-60-202 US-PATENT-CLASS-3,613,370						
N72-22771*	c 28	NASA-CASE-LEW-10835-1 US-PATENT-APPL-SN-67815 US-PATENT-CLASS-60-202 US-PATENT-CLASS-3,620,018						

			US-PATENT-APPL-SN-86417				US-PATENT-CLASS-321-18				US-PATENT-CLASS-250-209
			US-PATENT-CLASS-102-34.4				US-PATENT-CLASS-321-19				US-PATENT-CLASS-250-226
			US-PATENT-CLASS-325-114				US-PATENT-CLASS-321-2				US-PATENT-CLASS-250-83.3UV
			US-PATENT-CLASS-325-4				US-PATENT-CLASS-321-45ER				US-PATENT-CLASS-350-203
			US-PATENT-CLASS-343-6.5R				US-PATENT-CLASS-321-45R				US-PATENT-3,657,549
			US-PATENT-3,667,044				US-PATENT-3,663,940		N72-25410*	c 14	NASA-CASE-ERC-10292
N72-25172*	c 07		NASA-CASE-NPO-11358	N72-25253*	c 09		NASA-CASE-GSC-11126-1				NASA-CASE-ERC-10292
			US-PATENT-APPL-SN-116786				US-PATENT-APPL-SN-98640				US-PATENT-CLASS-350-160R
			US-PATENT-CLASS-179-15BV				US-PATENT-CLASS-321-2				US-PATENT-CLASS-73-515
			US-PATENT-CLASS-340-172.5				US-PATENT-CLASS-321-47				US-PATENT-CLASS-73-521
			US-PATENT-3,665,417				US-PATENT-CLASS-331-113A				US-PATENT-3,657,928
N72-25173*	c 07		NASA-CASE-ERC-10324	N72-25254*	c 09		US-PATENT-3,663,941		N72-25411*	c 14	NASA-CASE-MS-15626-1
			US-PATENT-APPL-SN-54270				NASA-CASE-NPO-10760				US-PATENT-APPL-SN-94374
			US-PATENT-CLASS-178-69.5				US-PATENT-CLASS-321-2				US-PATENT-CLASS-116-114AH
			US-PATENT-CLASS-325-141				US-PATENT-CLASS-321-45R				US-PATENT-CLASS-73-12
			US-PATENT-CLASS-325-302				US-PATENT-CLASS-331-113A				US-PATENT-CLASS-73-492
			US-PATENT-CLASS-325-325				US-PATENT-3,663,944		N72-25412*	c 14	NASA-CASE-MFS-15063
			US-PATENT-CLASS-325-38	N72-25255*	c 09		NASA-CASE-LAR-10620-1				US-PATENT-APPL-SN-51477
			US-PATENT-CLASS-325-51				US-PATENT-APPL-SN-125979				US-PATENT-CLASS-178-DIG.8
			US-PATENT-CLASS-325-55				US-PATENT-CLASS-310-10				US-PATENT-CLASS-178-6.8
			US-PATENT-CLASS-325-58				US-PATENT-CLASS-310-15				US-PATENT-CLASS-340-227R
			US-PATENT-CLASS-325-64				US-PATENT-3,663,843		N72-25413*	c 14	US-PATENT-3,659,043
			US-PATENT-CLASS-340-167	N72-25256*	c 09		NASA-CASE-XLA-02609				NASA-CASE-GSC-10879-1
			US-PATENT-3,665,313				US-PATENT-APPL-SN-41347				US-PATENT-APPL-SN-889420
N72-25174*	c 07		NASA-CASE-NPO-11264				US-PATENT-CLASS-333-79				US-PATENT-CLASS-195-127
			US-PATENT-APPL-SN-36531				US-PATENT-CLASS-339-143R				US-PATENT-3,666,631
			US-PATENT-CLASS-343-762				US-PATENT-CLASS-339-147R		N72-25414*	c 14	NASA-CASE-NPO-11311
			US-PATENT-CLASS-343-777				US-PATENT-3,663,929				US-PATENT-APPL-SN-57252
			US-PATENT-CLASS-343-779	N72-25257*	c 09		NASA-CASE-MS-12395				US-PATENT-CLASS-178-7.32
			US-PATENT-CLASS-343-786				US-PATENT-APPL-SN-134573				US-PATENT-CLASS-350-175FS
			US-PATENT-CLASS-343-853				US-PATENT-CLASS-307-233				US-PATENT-3,663,753
			US-PATENT-3,665,481				US-PATENT-CLASS-324-186		N72-25428* #	c 14	NASA-CASE-HON-10756-1
N72-25206*	c 08		NASA-CASE-KSC-10397				US-PATENT-CLASS-324-78D				US-PATENT-APPL-SN-236052
			US-PATENT-APPL-SN-25488				US-PATENT-CLASS-328-136		N72-25447*	c 15	NASA-CASE-LEW-10489-1
			US-PATENT-CLASS-235-154				US-PATENT-CLASS-328-140				US-PATENT-APPL-SN-889682
			US-PATENT-CLASS-340-347DA				US-PATENT-3,663,885				US-PATENT-CLASS-117-107
			US-PATENT-3,648,275	N72-25258*	c 09		NASA-CASE-LAR-10253-1				US-PATENT-CLASS-117-211
N72-25207*	c 08		NASA-CASE-NPO-11161				US-PATENT-APPL-SN-99175				US-PATENT-CLASS-117-217
			US-PATENT-APPL-SN-889374				US-PATENT-CLASS-307-88.3				US-PATENT-CLASS-117-62
			US-PATENT-CLASS-340-146.1				US-PATENT-CLASS-330-4.5				US-PATENT-CLASS-117-93.16D
			US-PATENT-CLASS-340-172.5				US-PATENT-3,663,886				US-PATENT-CLASS-29-599
			US-PATENT-3,648,256	N72-25259*	c 09		NASA-CASE-GSC-10695-1		N72-25448*	c 15	US-PATENT-3,649,356
N72-25208*	c 08		NASA-CASE-NPO-11338				US-PATENT-APPL-SN-889422				NASA-CASE-LEW-10450-1
			US-PATENT-APPL-SN-89212				US-PATENT-CLASS-117-200				US-PATENT-APPL-SN-880271
			US-PATENT-CLASS-178-50				US-PATENT-CLASS-136-89				US-PATENT-CLASS-75-0.58B
			US-PATENT-CLASS-179-15BC				US-PATENT-CLASS-29-198				US-PATENT-CLASS-75-206
			US-PATENT-CLASS-179-15FD				US-PATENT-CLASS-29-198				US-PATENT-CLASS-75-213
			US-PATENT-CLASS-325-62				US-PATENT-3,664,874		N72-25450*	c 15	US-PATENT-3,649,242
			US-PATENT-CLASS-332-21	N72-25260*	c 09		NASA-CASE-NPO-11283				NASA-CASE-NPO-11202
			US-PATENT-3,659,053				US-PATENT-APPL-SN-118270				US-PATENT-APPL-SN-66004
N72-25209*	c 08		NASA-CASE-NPO-11194				US-PATENT-CLASS-310-4				US-PATENT-CLASS-285-DIG.21
			US-PATENT-APPL-SN-63532				US-PATENT-3,663,839				US-PATENT-CLASS-285-3
			US-PATENT-CLASS-343-12R	N72-25261*	c 09		NASA-CASE-ERC-10224				US-PATENT-CLASS-285-316
			US-PATENT-CLASS-343-14				US-PATENT-APPL-SN-868775				US-PATENT-CLASS-285-33
			US-PATENT-CLASS-343-6.5R				US-PATENT-CLASS-29-492				US-PATENT-CLASS-339-45M
			US-PATENT-3,659,292				US-PATENT-CLASS-29-498				US-PATENT-CLASS-339-91E
N72-25210*	c 08		NASA-CASE-NPO-10636				US-PATENT-CLASS-29-502				US-PATENT-3,656,78
			US-PATENT-APPL-SN-77221				US-PATENT-CLASS-29-589		N72-25451*	c 15	NASA-CASE-NPO-10606
			US-PATENT-CLASS-235-152				US-PATENT-CLASS-29-628				US-PATENT-APPL-SN-8636
			US-PATENT-CLASS-340-146.1AL				US-PATENT-3,665,589				US-PATENT-CLASS-251-36C
			US-PATENT-3,662,337	N72-25262*	c 09		NASA-CASE-NPO-11078		N72-25452*	c 15	US-PATENT-3,658,295
N72-25247*	c 09		NASA-CASE-LAR-10163-1				US-PATENT-APPL-SN-82280				NASA-CASE-LEW-10965-1
			US-PATENT-APPL-SN-73310				US-PATENT-CLASS-307-103				US-PATENT-APPL-SN-876588
			US-PATENT-CLASS-343-708				US-PATENT-CLASS-307-83				US-PATENT-CLASS-117-124C
			US-PATENT-CLASS-343-771				US-PATENT-CLASS-323-48				US-PATENT-CLASS-117-151
			US-PATENT-CLASS-343-873				US-PATENT-CLASS-323-82				US-PATENT-CLASS-117-16F
			US-PATENT-3,653,052				US-PATENT-3,663,828				US-PATENT-CLASS-117-31
N72-25248*	c 09		NASA-CASE-NPO-11342	N72-25284*	c 11		NASA-CASE-LAR-10507-1				US-PATENT-CLASS-117-47F
			US-PATENT-APPL-SN-89209				US-PATENT-APPL-SN-874177				US-PATENT-CLASS-117-61
			US-PATENT-CLASS-340-172.5				US-PATENT-CLASS-195-127				US-PATENT-CLASS-117-93.3
			US-PATENT-CLASS-340-324A				US-PATENT-3,649,462				US-PATENT-CLASS-204-157.18AC
			US-PATENT-3,648,250	N72-25287*	c 11		NASA-CASE-LAR-10546-1				US-PATENT-CLASS-204-41
N72-25249*	c 09		NASA-CASE-GSC-10656-1				US-PATENT-APPL-SN-32664				US-PATENT-CLASS-250-65U
			US-PATENT-APPL-SN-59969				US-PATENT-CLASS-287-54A				US-PATENT-CLASS-96-36.7
			US-PATENT-CLASS-321-2				US-PATENT-CLASS-52-648				US-PATENT-3,658,565
			US-PATENT-CLASS-323-17				US-PATENT-CLASS-52-655		N72-25453*	c 15	NASA-CASE-KSC-10511
			US-PATENT-CLASS-323-22T				US-PATENT-3,665,670				US-PATENT-APPL-SN-61533
			US-PATENT-3,621,372	N72-25288*	c 11		NASA-CASE-MFS-20434				US-PATENT-CLASS-187-7
N72-25250*	c 09		NASA-CASE-KSC-10565				US-PATENT-APPL-SN-55534				US-PATENT-CLASS-187-2U
			US-PATENT-APPL-SN-98517				US-PATENT-CLASS-187-9				US-PATENT-CLASS-187-9
			US-PATENT-CLASS-315-135				US-PATENT-CLASS-73-161				US-PATENT-CLASS-254-19R
			US-PATENT-CLASS-315-349				US-PATENT-3,665,758				US-PATENT-3,666,05
			US-PATENT-CLASS-330-2	N72-25292*	c 12		NASA-CASE-NPO-11556		N72-25454*	c 15	NASA-CASE-MS-12233
			US-PATENT-CLASS-330-59				US-PATENT-APPL-SN-82648				US-PATENT-APPL-SN-7342
			US-PATENT-CLASS-340-332				US-PATENT-CLASS-210-188				US-PATENT-CLASS-52-16
			US-PATENT-3,659,148				US-PATENT-CLASS-310-11				US-PATENT-CLASS-52-17
N72-25251*	c 09		NASA-CASE-ERC-10048				US-PATENT-3,648,083				US-PATENT-CLASS-52-59
			US-PATENT-APPL-SN-10329	N72-25323*	c 13		NASA-CASE-NPO-11373				US-PATENT-3,665,66
			US-PATENT-CLASS-307-261				US-PATENT-APPL-SN-81095		N72-25455*	c 15	NASA-CASE-NPO-1109
			US-PATENT-CLASS-321-18				US-PATENT-CLASS-73-421.5R				US-PATENT-APPL-SN-1958
			US-PATENT-CLASS-321-2				US-PATENT-CLASS-73-422GC				US-PATENT-CLASS-239-42
			US-PATENT-3,659,184				US-PATENT-CLASS-73-422TC				US-PATENT-CLASS-60-25
N72-25252*	c 09		NASA-CASE-ERC-10268				US-PATENT-3,662,604				US-PATENT-CLASS-60-39.74
			US-PATENT-APPL-SN-39342	N72-25409*	c 14		NASA-CASE-ERC-10174		N72-25456*	c 15	US-PATENT-3,662,54
			US-PATENT-CLASS-321-11				US-PATENT-APPL-SN-39344				NASA-CASE-NPO-11222

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N72-29172*	c 09	US-PATENT-APPL-SN-796685	N72-32688*	c 25	US-PATENT-3,690,291	N73-12264*	c 11	US-PATENT-CLASS-325-480
		US-PATENT-CLASS-106-39			NASA-CASE-MFS-20589			US-PATENT-3,700,812
		US-PATENT-CLASS-106-46			US-PATENT-APPL-SN-103077			NASA-CASE-LAR-10348-1
		US-PATENT-CLASS-117-212			US-PATENT-CLASS-313-231			US-PATENT-APPL-SN-70032
		US-PATENT-CLASS-117-217			US-PATENT-CLASS-315-111			US-PATENT-CLASS-73-147
		US-PATENT-CLASS-29-25.42			US-PATENT-3,693,002			US-PATENT-3,695,101
		US-PATENT-3,649,353			NASA-CASE-ERC-10338			NASA-CASE-NPO-10890
		NASA-CASE-LAR-10511-1			US-PATENT-APPL-SN-50339			US-PATENT-APPL-SN-99903
		US-PATENT-APPL-SN-41345			US-PATENT-CLASS-23-109			US-PATENT-CLASS-137-559
		US-PATENT-CLASS-333-24R			US-PATENT-3,679,360			US-PATENT-CLASS-219-203
N72-29464*	c 14	US-PATENT-CLASS-333-98P	N72-33096*	c 05	NASA-CASE-MSC-13540-1	N73-12265*	c 11	US-PATENT-CLASS-219-522
		US-PATENT-CLASS-333-98R			US-PATENT-APPL-SN-68023			US-PATENT-CLASS-52-171
		US-PATENT-3,676,809			US-PATENT-CLASS-99-80PS			US-PATENT-3,696,833
		NASA-CASE-ARC-10017-1			US-PATENT-3,692,533			NASA-CASE-GSC-10903-1
		US-PATENT-APPL-SN-55536			NASA-CASE-MSC-12259-2			US-PATENT-APPL-SN-114846
		US-PATENT-CLASS-250-41.9D			US-PATENT-APPL-SN-61895			US-PATENT-CLASS-250-41.9G
		US-PATENT-CLASS-250-71.5R			US-PATENT-APPL-SN-853763			US-PATENT-CLASS-250-41.9S
		US-PATENT-CLASS-313-356			US-PATENT-CLASS-325-373			US-PATENT-CLASS-73-421.5
		US-PATENT-3,676,674			US-PATENT-3,694,753			US-PATENT-3,700,893
		NASA-CASE-XLE-10326-2			NASA-CASE-NPO-11630			NASA-CASE-LAR-10728-1
N72-29488*	c 15	US-PATENT-APPL-SN-54540	N72-33172*	c 08	US-PATENT-APPL-SN-143078	N73-12445*	c 14	US-PATENT-APPL-SN-112998
		US-PATENT-APPL-SN-723465			US-PATENT-CLASS-179-15.55R			US-PATENT-CLASS-250-83.3H
		US-PATENT-CLASS-277-25			US-PATENT-3,694,581			US-PATENT-CLASS-250-83.3R
		US-PATENT-CLASS-277-27			NASA-CASE-NPO-11129			US-PATENT-CLASS-250-83R
		US-PATENT-CLASS-277-74			US-PATENT-APPL-SN-883523			US-PATENT-3,700,897
		US-PATENT-3,675,935			US-PATENT-CLASS-307-262			NASA-CASE-NPO-11239
		NASA-CASE-MSC-13335-1			US-PATENT-CLASS-307-295			US-PATENT-APPL-SN-89211
		US-PATENT-APPL-SN-55806			US-PATENT-CLASS-328-155			US-PATENT-CLASS-356-106
		US-PATENT-CLASS-55-16			US-PATENT-CLASS-328-24			US-PATENT-CLASS-356-114
		US-PATENT-CLASS-55-55			US-PATENT-3,621,406			US-PATENT-3,700,334
N72-29488*	c 15	US-PATENT-3,678,654	N72-33205*	c 09	NASA-CASE-GSC-10835-1	N73-12447*	c 14	NASA-CASE-NPO-11493
		NASA-CASE-ARC-10308-1			US-PATENT-APPL-SN-116778			US-PATENT-APPL-SN-151413
		US-PATENT-APPL-SN-134568			US-PATENT-CLASS-317-101A			US-PATENT-CLASS-136-224
		US-PATENT-CLASS-250-43.5R			US-PATENT-CLASS-317-235			US-PATENT-3,700,503
		US-PATENT-CLASS-356-51			US-PATENT-CLASS-317-235A			NASA-CASE-KSC-10615
		US-PATENT-3,679,899			US-PATENT-CLASS-317-235AJ			US-PATENT-APPL-SN-103078
		NASA-CASE-NPO-11016			US-PATENT-3,694,700			US-PATENT-CLASS-244-1SB
		US-PATENT-APPL-SN-889584			NASA-CASE-GSC-11340-1			US-PATENT-CLASS-244-135
		US-PATENT-CLASS-235-150.1			US-PATENT-APPL-SN-107379			US-PATENT-CLASS-62-45
		US-PATENT-CLASS-235-151.1			US-PATENT-CLASS-330-12			US-PATENT-CLASS-62-7
N72-31226*	c 08	US-PATENT-CLASS-235-92MT	N72-33230*	c 10	US-PATENT-CLASS-331-115	N73-12486*	c 15	US-PATENT-3,697,021
		US-PATENT-CLASS-323-19			US-PATENT-CLASS-331-116R			NASA-CASE-FRC-10019
		US-PATENT-CLASS-340-347AD			US-PATENT-CLASS-333-80T			US-PATENT-APPL-SN-880398
		US-PATENT-3,681,581			US-PATENT-3,693,105			US-PATENT-CLASS-204-192
		NASA-CASE-ERC-10214			NASA-CASE-MFS-20760			US-PATENT-3,700,575
		US-PATENT-APPL-SN-863914			US-PATENT-APPL-SN-99174			NASA-CASE-ARC-10345-1
		US-PATENT-CLASS-343-770			US-PATENT-CLASS-73-141AB			US-PATENT-APPL-SN-193671
		US-PATENT-CLASS-343-771			US-PATENT-CLASS-73-85			US-PATENT-CLASS-287-85R
		US-PATENT-CLASS-343-786			US-PATENT-3,693,418			US-PATENT-CLASS-308-2A
		US-PATENT-CLASS-343-797			NASA-CASE-XGS-07805			US-PATENT-CLASS-74-5F
N72-31235*	c 09	US-PATENT-CLASS-343-853	N72-33476*	c 15	US-PATENT-APPL-SN-104884	N73-12489*	c 15	US-PATENT-3,700,291
		US-PATENT-3,680,142			US-PATENT-CLASS-308-10			NASA-CASE-MSC-12357
		NASA-CASE-KSC-10647-1			US-PATENT-3,694,041			US-PATENT-APPL-SN-662763
		US-PATENT-APPL-SN-774691			US-PATENT-3,694,041			US-PATENT-CLASS-264-102
		US-PATENT-CLASS-178-7.5E			NASA-CASE-NPO-11340			US-PATENT-CLASS-264-28
		US-PATENT-CLASS-315-22R			US-PATENT-APPL-SN-147997			US-PATENT-CLASS-264-36
		US-PATENT-CLASS-315-30R			US-PATENT-CLASS-137-13			US-PATENT-CLASS-264-40
		US-PATENT-CLASS-330-27R			US-PATENT-CLASS-137-81.5			US-PATENT-3,697,630
		US-PATENT-3,678,191			US-PATENT-CLASS-60-36			NASA-CASE-XLA-08914
		NASA-CASE-ERC-10087-2			US-PATENT-3,693,346			US-PATENT-APPL-SN-810576
N72-31446*	c 14	US-PATENT-APPL-SN-738315	N72-33681*	c 24	NASA-CASE-LEW-10518-1	N73-12495* #	c 15	NASA-CASE-NPO-13086-1
		US-PATENT-APPL-SN-91642			US-PATENT-APPL-SN-863280			US-PATENT-APPL-SN-292477
		US-PATENT-CLASS-29-588			US-PATENT-CLASS-176-11			NASA-CASE-LAR-10539-1
		US-PATENT-CLASS-317-234D			US-PATENT-3,694,313			US-PATENT-APPL-SN-136085
		US-PATENT-CLASS-317-234G			NASA-CASE-GSC-11291-1			US-PATENT-CLASS-23-230R
		US-PATENT-CLASS-317-235M			US-PATENT-APPL-SN-102412			US-PATENT-3,701,631
		US-PATENT-CLASS-317-235R			US-PATENT-CLASS-250-83.6F			NASA-CASE-MFS-20408
		US-PATENT-3,686,542			US-PATENT-3,694,655			US-PATENT-APPL-SN-71048
		NASA-CASE-LAR-10061-1			NASA-CASE-NPO-11406			US-PATENT-CLASS-161-93
		US-PATENT-APPL-SN-104047			US-PATENT-APPL-SN-95183			US-PATENT-3,700,538
N72-31637*	c 21	US-PATENT-CLASS-251-331	N73-12175*	c 08	US-PATENT-CLASS-235-152	N73-12884*	c 30	NASA-CASE-MSC-12391
		US-PATENT-CLASS-251-86			US-PATENT-CLASS-331-78			US-PATENT-APPL-SN-106465
		US-PATENT-3,680,830			US-PATENT-CLASS-340-146.1AL			US-PATENT-CLASS-244-155
		NASA-CASE-GSC-10945-1			US-PATENT-3,700,869			US-PATENT-3,700,193
		US-PATENT-APPL-SN-75431			NASA-CASE-KSC-10595			NASA-CASE-GSC-11077-1
		US-PATENT-CLASS-60-23			US-PATENT-APPL-SN-98772			US-PATENT-APPL-SN-127618
		US-PATENT-CLASS-60-26			US-PATENT-CLASS-235-155			US-PATENT-CLASS-244-32
		US-PATENT-3,678,685			US-PATENT-CLASS-340-347DD			US-PATENT-3,698,667
		NASA-CASE-NPO-11361			US-PATENT-3,697,733			NASA-CASE-MSC-13604-1
		US-PATENT-APPL-SN-112988			NASA-CASE-NPO-11371			US-PATENT-APPL-SN-78717
N72-32169*	c 07	US-PATENT-CLASS-343-781	N73-12177*	c 08	US-PATENT-APPL-SN-117575	N73-13114*	c 05	US-PATENT-APPL-SN-78717
		US-PATENT-CLASS-343-837			US-PATENT-CLASS-340-146.1AQ			US-PATENT-CLASS-128-2N
		US-PATENT-CLASS-343-840			US-PATENT-CLASS-340-146.1AV			US-PATENT-CLASS-273-1E
		US-PATENT-CLASS-343-915			US-PATENT-3,697,950			US-PATENT-CLASS-35-22R
		US-PATENT-3,680,144			NASA-CASE-ERC-10412-1			US-PATENT-3,698,385
		NASA-CASE-MFS-15162			US-PATENT-APPL-SN-72024			NASA-CASE-GSC-11214-1
		US-PATENT-APPL-SN-100639			US-PATENT-CLASS-343-11R			US-PATENT-APPL-SN-115134
		US-PATENT-CLASS-350-79			US-PATENT-CLASS-343-11VB			US-PATENT-CLASS-117-35R
		US-PATENT-CLASS-356-241			US-PATENT-CLASS-343-5DP			US-PATENT-3,702,775
		US-PATENT-3,694,094			US-PATENT-3,696,418			NASA-CASE-XNP-08124-2
N72-32452*	c 14	NASA-CASE-LAR-10541-1	N73-12214* #	c 09	NASA-CASE-NPO-13091-1	N73-13129*	c 06	US-PATENT-APPL-SN-97829
		US-PATENT-APPL-SN-138229			US-PATENT-APPL-SN-290022			US-PATENT-CLASS-75-66
		US-PATENT-CLASS-118-49.1			NASA-CASE-NPO-11631			US-PATENT-3,702,762
		US-PATENT-CLASS-204-298			US-PATENT-APPL-SN-123253			NASA-CASE-NPO-11302-1
		US-PATENT-CLASS-219-121P			US-PATENT-CLASS-179-1P			US-PATENT-APPL-SN-70967
		US-PATENT-CLASS-219-273			US-PATENT-CLASS-325-473			US-PATENT-CLASS-178-69.5
		US-PATENT-CLASS-219-273			US-PATENT-CLASS-325-473			US-PATENT-CLASS-235-150.5
		US-PATENT-CLASS-219-273			US-PATENT-CLASS-325-473			US-PATENT-CLASS-235-150.5
		US-PATENT-CLASS-219-273			US-PATENT-CLASS-325-473			US-PATENT-CLASS-235-150.5
		US-PATENT-CLASS-219-273			US-PATENT-CLASS-325-473			US-PATENT-CLASS-235-150.5

				US-PATENT-CLASS-235-181				US-PATENT-CLASS-60-37				US-PATENT-CLASS-174-52S
				US-PATENT-CLASS-325-325				US-PATENT-3,702,532				US-PATENT-CLASS-29-589
				US-PATENT-CLASS-340-146.1				NASA-CASE-HQN-10654-1				US-PATENT-CLASS-29-591
				US-PATENT-3,701,894		N73-13489*	c 16	US-PATENT-APPL-SN-182978				US-PATENT-CLASS-317-234A
N73-13187*	c 08			NASA-CASE-GSC-10975-1				US-PATENT-CLASS-324-5FR				US-PATENT-CLASS-317-234G
				US-PATENT-APPL-SN-100996				US-PATENT-CLASS-331-94				US-PATENT-3,705,255
				US-PATENT-CLASS-340-172.5				US-PATENT-3,702,972		N73-14584*	c 18	NASA-CASE-LAR-10894-1
				US-PATENT-3,702,463		N73-13562*	c 18	NASA-CASE-ARC-10196-1				US-PATENT-APPL-SN-189375
N73-13208*	c 09			NASA-CASE-LEW-11192-1				US-PATENT-APPL-SN-115082				US-PATENT-CLASS-106-39R
				US-PATENT-APPL-SN-198285				US-PATENT-CLASS-260-2.5F				US-PATENT-CLASS-106-55
				US-PATENT-CLASS-315-3.5				US-PATENT-3,702,841				US-PATENT-CLASS-106-58
				US-PATENT-CLASS-315-5.38		N73-13643*	c 21	NASA-CASE-HQN-10703				US-PATENT-CLASS-106-63
				US-PATENT-3,702,951				US-PATENT-APPL-SN-156724				US-PATENT-CLASS-264-DIG.36
N73-13209*	c 09			NASA-CASE-XLA-05099				US-PATENT-CLASS-340-27NA				US-PATENT-CLASS-264-65
				US-PATENT-APPL-SN-98798				US-PATENT-CLASS-340-33				US-PATENT-3,706,583
				US-PATENT-CLASS-235-152				US-PATENT-CLASS-340-97		N73-14692*	c 21	NASA-CASE-ERC-10392
				US-PATENT-CLASS-307-207				US-PATENT-CLASS-343-112CA				US-PATENT-APPL-SN-36534
				US-PATENT-CLASS-307-215				US-PATENT-3,699,511				US-PATENT-CLASS-340-27AT
				US-PATENT-3,700,868		N73-13644*	c 21	NASA-CASE-NPO-11481				US-PATENT-3,706,970
N73-13235*	c 10			NASA-CASE-KSC-10003				US-PATENT-APPL-SN-134571		N73-14853*	c 31	NASA-CASE-GSC-10590-1
				US-PATENT-APPL-SN-60883				US-PATENT-CLASS-179-100.2A				US-PATENT-APPL-SN-130353
				US-PATENT-CLASS-178-DIG.6				US-PATENT-CLASS-340-174.1R				US-PATENT-CLASS-102-49.5
				US-PATENT-CLASS-178-6				US-PATENT-CLASS-346-138				US-PATENT-3,706,281
				US-PATENT-CLASS-307-242				US-PATENT-CLASS-346-74MD		N73-14854*	c 31	NASA-CASE-MS-12433
				US-PATENT-CLASS-307-259				US-PATENT-CLASS-74-5.22				US-PATENT-APPL-SN-103551
				US-PATENT-CLASS-328-104				US-PATENT-3,697,968				US-PATENT-CLASS-244-155
				US-PATENT-CLASS-328-154		N73-13660*	c 23	NASA-CASE-MFS-20809				US-PATENT-3,702,688
				US-PATENT-3,702,898				US-PATENT-APPL-SN-173185		N73-14855*	c 31	NASA-CASE-NPO-10680
N73-13257*	c 11			NASA-CASE-LAR-10574-1				US-PATENT-CLASS-315-169R				US-PATENT-APPL-SN-104048
				US-PATENT-APPL-SN-66206				US-PATENT-CLASS-315-169TV				US-PATENT-CLASS-74-2
				US-PATENT-CLASS-244-1SS				US-PATENT-CLASS-317-101A				US-PATENT-3,706,230
				US-PATENT-3,698,659		N73-13661*	c 23	US-PATENT-3,700,961		N73-15235*	c 09	NASA-CASE-NPO-12106
N73-13415*	c 14			NASA-CASE-LAR-10855-1				NASA-CASE-MS-12404-1				US-PATENT-APPL-SN-175881
				US-PATENT-APPL-SN-166541				US-PATENT-APPL-SN-142662				US-PATENT-CLASS-317-234V
				US-PATENT-CLASS-73-147				US-PATENT-CLASS-356-106S				US-PATENT-CLASS-317-235AG
				US-PATENT-CLASS-73-182				US-PATENT-3,702,735				US-PATENT-CLASS-317-235K
				US-PATENT-CLASS-73-189		N73-13662*	c 23	NASA-CASE-MFS-20243				US-PATENT-CLASS-331-107G
				US-PATENT-CLASS-73-212				US-PATENT-APPL-SN-59894				US-PATENT-CLASS-331-177R
				US-PATENT-3,699,811				US-PATENT-CLASS-250-51.5				US-PATENT-CLASS-331-90
N73-13416*	c 14			NASA-CASE-GSC-11302-1				US-PATENT-CLASS-250-52				US-PATENT-3,694,771
				US-PATENT-APPL-SN-168650				US-PATENT-3,702,933		N73-16106*	c 06	NASA-CASE-LAR-10668-1
				US-PATENT-CLASS-73-71.6				NASA-CASE-LEW-10374-1				US-PATENT-APPL-SN-172459
				US-PATENT-3,699,807		N73-13773*	c 28	US-PATENT-APPL-SN-107380				US-PATENT-CLASS-23-232E
N73-13417*	c 14			NASA-CASE-XLE-05230-2				US-PATENT-CLASS-137-81.5				US-PATENT-CLASS-23-232R
				US-PATENT-APPL-SN-147099				US-PATENT-CLASS-60-211				US-PATENT-CLASS-23-254E
				US-PATENT-APPL-SN-877717				US-PATENT-CLASS-60-240				US-PATENT-CLASS-23-254R
				US-PATENT-CLASS-136-233				US-PATENT-CLASS-60-243				US-PATENT-CLASS-250-71R
				US-PATENT-CLASS-29-573				US-PATENT-3,702,536				US-PATENT-CLASS-250-83.UUV
				US-PATENT-CLASS-29-624				NASA-CASE-LAR-10549-1				US-PATENT-3,709,663
				US-PATENT-3,699,645		N73-13898*	c 31	US-PATENT-APPL-SN-108824		N73-16121*	c 07	NASA-CASE-NPO-11572
N73-13418*	c 14			NASA-CASE-MFS-14216				US-PATENT-CLASS-244-139				US-PATENT-APPL-SN-125234
				US-PATENT-APPL-SN-50208				US-PATENT-CLASS-60-291				US-PATENT-CLASS-179-15AN
				US-PATENT-CLASS-137-487.5				US-PATENT-3,700,192				US-PATENT-CLASS-179-15BC
				US-PATENT-CLASS-137-81				NASA-CASE-MS-12233-2				US-PATENT-CLASS-325-60
				US-PATENT-CLASS-92-49		N73-13921*	c 32	US-PATENT-APPL-SN-107298				US-PATENT-CLASS-343-200
				US-PATENT-3,698,412				US-PATENT-CLASS-229-DIG.11				US-PATENT-3,710,257
N73-13420*	c 14			NASA-CASE-NPO-11418-1				US-PATENT-CLASS-52-284		N73-16205*	c 10	NASA-CASE-NPO-11282
				US-PATENT-APPL-SN-193947				US-PATENT-CLASS-52-594				US-PATENT-APPL-SN-101354
				US-PATENT-CLASS-333-81B				US-PATENT-3,702,520				US-PATENT-CLASS-325-346
				US-PATENT-CLASS-333-98R		N73-14130*	c 07	NASA-CASE-NPO-11661				US-PATENT-CLASS-325-419
				US-PATENT-3,702,979				US-PATENT-APPL-SN-200682				US-PATENT-3,710,261
N73-13435* #	c 14			NASA-CASE-GSC-11533-1				US-PATENT-CLASS-343-782		N73-16206*	c 10	NASA-CASE-ERC-10285
				US-PATENT-APPL-SN-305013				US-PATENT-CLASS-343-837				US-PATENT-APPL-SN-55333
N73-13462*	c 15			NASA-CASE-NPO-11479				US-PATENT-CLASS-343-915				US-PATENT-CLASS-331-45
				US-PATENT-APPL-SN-170440				US-PATENT-3,705,406				US-PATENT-CLASS-343-100R
				US-PATENT-CLASS-137-608				NASA-CASE-ARC-10467-1				US-PATENT-CLASS-343-100SA
				US-PATENT-CLASS-137-81.5				US-PATENT-APPL-SN-212028				US-PATENT-CLASS-343-853
				US-PATENT-CLASS-138-45				US-PATENT-CLASS-250-205				US-PATENT-3,710,329
				US-PATENT-CLASS-251-122				US-PATENT-CLASS-250-211J		N73-16483*	c 14	NASA-CASE-ERC-10226-1
				US-PATENT-3,700,005				US-PATENT-CLASS-250-217SS				US-PATENT-APPL-SN-124909
N73-13463*	c 15			NASA-CASE-MFS-20317				US-PATENT-CLASS-307-310				US-PATENT-APPL-SN-808822
				US-PATENT-APPL-SN-67730				US-PATENT-CLASS-307-311				US-PATENT-CLASS-250-209
				US-PATENT-CLASS-173-131				US-PATENT-3,705,316				US-PATENT-CLASS-250-215
				US-PATENT-CLASS-72-447		N73-14427*	c 14	NASA-CASE-NPO-10758				US-PATENT-CLASS-250-217
				US-PATENT-CLASS-72-476				US-PATENT-APPL-SN-81096				US-PATENT-CLASS-315-153
				US-PATENT-3,699,799				US-PATENT-CLASS-352-169				US-PATENT-CLASS-340-25
N73-13464*	c 15			NASA-CASE-NPO-10812				US-PATENT-CLASS-95-12.5				US-PATENT-CLASS-340-27R
				US-PATENT-APPL-SN-129073				US-PATENT-CLASS-95-59				US-PATENT-3,708,671
				US-PATENT-CLASS-425-113				US-PATENT-3,704,659		N73-16484*	c 14	NASA-CASE-LAR-10739-1
				US-PATENT-CLASS-425-133				NASA-CASE-NPO-10764-1				US-PATENT-APPL-SN-134567
				US-PATENT-CLASS-425-176				US-PATENT-APPL-SN-836280				US-PATENT-CLASS-250-217F
				US-PATENT-CLASS-72-258				US-PATENT-CLASS-252-408				US-PATENT-CLASS-340-228S
				US-PATENT-3,698,848				US-PATENT-3,700,603				US-PATENT-CLASS-340-418
N73-13465*	c 15			NASA-CASE-LEW-10805-1				NASA-CASE-NPO-11387				US-PATENT-3,708,674
				US-PATENT-APPL-SN-29917		N73-14429*	c 14	US-PATENT-APPL-SN-142719		N73-16536*	c 16	NASA-CASE-LAR-10311-1
				US-PATENT-CLASS-148-11.5R				US-PATENT-CLASS-73-57				US-PATENT-APPL-SN-31702
				US-PATENT-3,702,791				US-PATENT-CLASS-73-60				US-PATENT-CLASS-250-199
N73-13466*	c 15			NASA-CASE-MFS-20944				US-PATENT-3,706,221				US-PATENT-CLASS-340-171
				US-PATENT-APPL-SN-148756				NASA-CASE-LAR-10103-1				US-PATENT-CLASS-350-293
				US-PATENT-CLASS-91-363A		N73-14468*	c 15	US-PATENT-APPL-SN-103230				US-PATENT-3,710,122
				US-PATENT-CLASS-91-448				US-PATENT-CLASS-219-101				NASA-CASE-NPO-12015
				US-PATENT-3,702,575				US-PATENT-CLASS-219-119		N73-16764*	c 27	US-PATENT-APPL-SN-74862
N73-13467*	c 15			NASA-CASE-NPO-11369				US-PATENT-CLASS-29-203V				US-PATENT-CLASS-149-19
				US-PATENT-APPL-SN-129072				US-PATENT-3,705,288				US-PATENT-CLASS-149-36
				US-PATENT-CLASS-60-1		N73-14469*	c 15	NASA-CASE-GSC-10791-1				US-PATENT-3,708,359
				US-PATENT-CLASS-60-23				US-PATENT-APPL-SN-84289		N73-16918*	c 33	NASA-CASE-MS-15567-1



				US-PATENT-APPL-SN-87551	US-PATENT-CLASS-340-163	US-PATENT-CLASS-128-206F
				US-PATENT-CLASS-204-324	US-PATENT-3,715,723	US-PATENT-CLASS-324-78E
				US-PATENT-CLASS-204-325	N73-20217* c 08	US-PATENT-3,729,676
				US-PATENT-CLASS-204-328	NASA-CASE-LAR-10128-1	NASA-CASE-NPO-11417
				US-PATENT-3,708,419	US-PATENT-APPL-SN-84002	US-PATENT-APPL-SN-120241
N73-19004*	c 02			NASA-CASE-ERC-10439	US-PATENT-CLASS-235-92FQ	US-PATENT-CLASS-417-391
				US-PATENT-APPL-SN-54271	US-PATENT-CLASS-235-92R	US-PATENT-CLASS-60-25
				US-PATENT-CLASS-244-17.13	US-PATENT-CLASS-235-92T	US-PATENT-3,732,040
				US-PATENT-CLASS-244-77D	US-PATENT-CLASS-340-347AD	NASA-CASE-LEW-10920-1
				US-PATENT-CLASS-318-489	US-PATENT-3,714,645	N73-24569* c 17
				US-PATENT-3,711,042	NASA-CASE-ARC-10264-1	US-PATENT-APPL-SN-106424
N73-19234*	c 09			NASA-CASE-GSC-11013-1	US-PATENT-APPL-SN-80368	US-PATENT-CLASS-204-192
				US-PATENT-APPL-SN-200717	US-PATENT-CLASS-328-167	US-PATENT-3,732,158
				US-PATENT-CLASS-343-754	US-PATENT-CLASS-330-109	N73-24783* c 28
				US-PATENT-CLASS-343-839	US-PATENT-CLASS-330-86	NASA-CASE-NPO-11880
				US-PATENT-CLASS-343-854	US-PATENT-3,714,588	US-PATENT-CLASS-313-DIG.8
				US-PATENT-CLASS-343-895	N73-20232* c 09	US-PATENT-CLASS-313-231
				US-PATENT-3,713,163	NASA-CASE-MFS-21433	US-PATENT-CLASS-313-63
N73-19235*	c 09			NASA-CASE-MFS-20407	US-PATENT-APPL-SN-236281	US-PATENT-CLASS-60-202
				US-PATENT-APPL-SN-116777	US-PATENT-CLASS-307-230	US-PATENT-3,732,204
				US-PATENT-CLASS-317-235AM	US-PATENT-CLASS-307-304	US-PATENT-3,728,861
				US-PATENT-CLASS-317-235N	US-PATENT-CLASS-330-20	N73-24784* c 28
				US-PATENT-CLASS-317-235R	US-PATENT-CLASS-330-30D	NASA-CASE-NPO-11559
				US-PATENT-CLASS-317-235T	US-PATENT-CLASS-330-35	US-PATENT-APPL-SN-147996
				US-PATENT-CLASS-317-235UA	US-PATENT-CLASS-330-40	US-PATENT-CLASS-102-49.7
				US-PATENT-3,714,526	US-PATENT-CLASS-330-80T	US-PATENT-CLASS-102-49.8
N73-19419*	c 14			NASA-CASE-LAR-10226-1	US-PATENT-3,715,693	US-PATENT-CLASS-60-254
				US-PATENT-APPL-SN-98774	N73-20253* c 10	US-PATENT-CLASS-60-256
				US-PATENT-CLASS-250-217R	NASA-CASE-LAR-10310-1	US-PATENT-3,729,935
				US-PATENT-CLASS-95-11.5R	US-PATENT-APPL-SN-47103	N73-25125* c 05
				US-PATENT-CLASS-95-11R	US-PATENT-CLASS-235-197	NASA-CASE-MFS-20332-2
				US-PATENT-3,712,195	US-PATENT-3,714,405	US-PATENT-APPL-SN-195061
N73-19420*	c 14			NASA-CASE-MFS-20774	N73-20254* c 10	US-PATENT-APPL-SN-869260
				US-PATENT-APPL-SN-161028	NASA-CASE-NPO-11868	US-PATENT-CLASS-128-142.5
				US-PATENT-CLASS-73-84	US-PATENT-APPL-SN-192101	US-PATENT-CLASS-137-538
				US-PATENT-3,712,121	US-PATENT-CLASS-307-221R	US-PATENT-CLASS-2-2.1A
N73-19421*	c 14			NASA-CASE-MFS-20242	US-PATENT-CLASS-328-187	US-PATENT-3,720,208
				US-PATENT-APPL-SN-213004	US-PATENT-CLASS-328-37	N73-25160* c 07
				US-PATENT-CLASS-73-71.6	US-PATENT-CLASS-328-61	NASA-CASE-ARC-10097-2
				US-PATENT-3,712,120	US-PATENT-3,718,863	US-PATENT-APPL-SN-115083
N73-19457*	c 15			NASA-CASE-MFS-20698-2	N73-20267* c 11	US-PATENT-APPL-SN-768662
				US-PATENT-APPL-SN-136086	NASA-CASE-MFS-21362	US-PATENT-CLASS-325-113
				US-PATENT-APPL-SN-3418	US-PATENT-APPL-SN-211411	US-PATENT-CLASS-325-139
				US-PATENT-CLASS-423-446	US-PATENT-CLASS-73-432SD	US-PATENT-CLASS-325-45
				US-PATENT-CLASS-423-625	US-PATENT-3,714,833	US-PATENT-CLASS-325-61
				US-PATENT-3,714,332	N73-20474* c 14	US-PATENT-CLASS-340-207
N73-19458*	c 15			NASA-CASE-LAR-10195-1	NASA-CASE-ERC-10350	US-PATENT-CLASS-340-258R
				US-PATENT-APPL-SN-201782	US-PATENT-APPL-SN-55535	US-PATENT-3,719,891
				US-PATENT-CLASS-259-4	US-PATENT-CLASS-340-27R	N73-25161* c 07
				US-PATENT-3,712,591	US-PATENT-3,714,624	NASA-CASE-NPO-11707
N73-19630* #	c 21			NASA-CASE-GSC-11188-2	N73-20475* c 14	US-PATENT-APPL-SN-196399
				US-PATENT-APPL-SN-244440	US-PATENT-APPL-SN-146935	US-PATENT-CLASS-343-6.5R
N73-19793*	c 28			NASA-CASE-LEW-11187-1	US-PATENT-CLASS-250-231	US-PATENT-CLASS-343-6.6R
				US-PATENT-APPL-SN-147922	US-PATENT-CLASS-250-83.3H	US-PATENT-3,729,736
				US-PATENT-CLASS-60-39.28R	US-PATENT-3,714,432	N73-25206* c 08
				US-PATENT-3,713,290	N73-20476* c 14	NASA-CASE-NPO-11497
N73-20039*	c 03			NASA-CASE-GSC-10814-1	NASA-CASE-MFS-20673	US-PATENT-APPL-SN-155565
				US-PATENT-APPL-SN-41404	US-PATENT-APPL-SN-94049	US-PATENT-CLASS-235-10.2
				US-PATENT-CLASS-244-15A	US-PATENT-CLASS-73-90	US-PATENT-CLASS-235-151.27
				US-PATENT-CLASS-244-15S	US-PATENT-CLASS-73-91	US-PATENT-CLASS-235-92CV
				US-PATENT-3,715,092	US-PATENT-CLASS-73-91	US-PATENT-CLASS-235-92DN
N73-20040*	c 03			NASA-CASE-NPO-11771	US-PATENT-3,714,821	US-PATENT-CLASS-235-92EA
				US-PATENT-APPL-SN-200762	N73-20477* c 14	US-PATENT-CLASS-235-92EV
				US-PATENT-CLASS-244-1.55	NASA-CASE-ARC-10443-1	US-PATENT-CLASS-235-92F
				US-PATENT-CLASS-250-212	US-PATENT-APPL-SN-128419	US-PATENT-CLASS-235-92R
				US-PATENT-CLASS-250-234	US-PATENT-CLASS-250-83.3R	US-PATENT-3,729,129
				US-PATENT-CLASS-60-26	US-PATENT-CLASS-250-83.3R	N73-25240* c 10
				US-PATENT-3,715,600	US-PATENT-3,715,590	NASA-CASE-MSC-12428-1
N73-20137*	c 05			NASA-CASE-LAR-10076-1	N73-20478* c 14	US-PATENT-APPL-SN-170681
				US-PATENT-APPL-SN-84290	NASA-CASE-NPO-10985	US-PATENT-CLASS-179-15A
				US-PATENT-CLASS-165-46	US-PATENT-APPL-SN-74759	US-PATENT-CLASS-235-151.31
				US-PATENT-CLASS-312-1	US-PATENT-CLASS-324-30R	US-PATENT-CLASS-324-77R
				US-PATENT-CLASS-62-259	US-PATENT-CLASS-324-65P	US-PATENT-CLASS-324-78J
				US-PATENT-3,713,480	US-PATENT-CLASS-73-194E	US-PATENT-3,732,405
N73-20174*	c 07			NASA-CASE-GSC-10087-4	US-PATENT-3,712,132	N73-25241* c 10
				US-PATENT-APPL-SN-47440	NASA-CASE-NPO-11213	NASA-CASE-GSC-11239-1
				US-PATENT-APPL-SN-701679	US-PATENT-APPL-SN-78703	US-PATENT-APPL-SN-180683
				US-PATENT-CLASS-325-12	US-PATENT-CLASS-195-127	US-PATENT-CLASS-325-363
				US-PATENT-CLASS-325-17	US-PATENT-3,713,987	US-PATENT-CLASS-325-67
				US-PATENT-CLASS-325-4	N73-20740* c 32	US-PATENT-3,737,781
				US-PATENT-CLASS-325-5	NASA-CASE-LAR-10765-1	N73-25243* c 10
				US-PATENT-CLASS-325-63	US-PATENT-APPL-SN-138230	NASA-CASE-MFS-21919-1
				US-PATENT-CLASS-325-8	US-PATENT-CLASS-356-32	US-PATENT-APPL-SN-193456
				US-PATENT-CLASS-325-9	US-PATENT-CLASS-73-88A	US-PATENT-CLASS-317-100
				US-PATENT-CLASS-343-179	US-PATENT-3,715,915	US-PATENT-CLASS-317-101DH
				US-PATENT-3,715,663	N73-20741* c 23	US-PATENT-3,735,206
N73-20175*	c 07			NASA-CASE-KSC-10698	NASA-CASE-ARC-10194-1	N73-25262* c 12
				US-PATENT-APPL-SN-213949	US-PATENT-APPL-SN-107659	NASA-CASE-LAR-10578-1
				US-PATENT-CLASS-324-72	US-PATENT-CLASS-350-202	US-PATENT-APPL-SN-233098
				US-PATENT-CLASS-73-170R	US-PATENT-3,715,152	US-PATENT-CLASS-73-147
				US-PATENT-3,715,660	N73-22076* # c 07	US-PATENT-3,731,528
N73-20176*	c 07			NASA-CASE-KSC-10521	NASA-CASE-NPO-10166-1	N73-25460* c 14
				US-PATENT-APPL-SN-212921	US-PATENT-APPL-SN-192803	NASA-CASE-MFS-20916
				US-PATENT-CLASS-340-146.1C	N73-22710* c 27	US-PATENT-APPL-SN-212165
				US-PATENT-CLASS-340-147R	NASA-CASE-NPO-10893	US-PATENT-CLASS-73-189
					US-PATENT-APPL-SN-845584	US-PATENT-3,731,531
					US-PATENT-CLASS-260-94.8	N73-25461* c 14
					US-PATENT-3,634,383	NASA-CASE-KSC-10108
					N73-24176* c 07	US-PATENT-APPL-SN-73922
					NASA-CASE-NPO-11751	US-PATENT-CLASS-343-14
					US-PATENT-APPL-SN-192141	US-PATENT-CLASS-343-17.5
					US-PATENT-CLASS-343-DIG.2	US-PATENT-CLASS-343-6.8R
					US-PATENT-CLASS-343-915	US-PATENT-3,732,567
					US-PATENT-3,729,743	N73-25462* c 14
N73-24472*	c 14			NASA-CASE-LEW-11072-1	US-PATENT-APPL-SN-104885	NASA-CASE-NPO-11686
				US-PATENT-APPL-SN-104885	US-PATENT-CLASS-136-225	US-PATENT-APPL-SN-212900
					US-PATENT-3,729,343	US-PATENT-CLASS-250-203R
					N73-24473* c 14	US-PATENT-CLASS-250-214
					NASA-CASE-MFS-20418	US-PATENT-CLASS-250-214
					US-PATENT-APPL-SN-162101	US-PATENT-CLASS-250-83.3H

		US-PATENT-CLASS-356-152				US-PATENT-3,737,231				US-PATENT-3,733,424
		US-PATENT-3,723,745				NASA-CASE-NPO-11821-1				NASA-CASE-NPO-11330
N73-25463*	c 14	NASA-CASE-ARC-10278-1				US-PATENT-APPL-SN-236285				US-PATENT-APPL-SN-118269
		US-PATENT-APPL-SN-154933				US-PATENT-CLASS-235-152				US-PATENT-CLASS-285-DIG.21
		US-PATENT-CLASS-356-110				US-PATENT-CLASS-235-164				US-PATENT-CLASS-285-316
		US-PATENT-3,729,260				US-PATENT-CLASS-328-167				US-PATENT-3,737,181
N73-25512*	c 15	NASA-CASE-LAR-10129-1				US-PATENT-3,732,409				NASA-CASE-GSC-11092-2
		US-PATENT-APPL-SN-99201				NASA-CASE-NPO-11456				US-PATENT-APPL-SN-139250
		US-PATENT-CLASS-182-5				US-PATENT-APPL-SN-153543				US-PATENT-APPL-SN-60950
		US-PATENT-CLASS-188-65.1				US-PATENT-CLASS-340-172.5				US-PATENT-CLASS-103.5R
		US-PATENT-CLASS-24-134R				US-PATENT-3,740,725				US-PATENT-3,745,090
		US-PATENT-CLASS-254-156				NASA-CASE-GSC-10990-1				NASA-CASE-LEW-11669-1
		US-PATENT-3,729,068				US-PATENT-APPL-SN-93329				US-PATENT-APPL-SN-198885
N73-25513*	c 15	NASA-CASE-GSC-11205-1				US-PATENT-CLASS-333-73R				US-PATENT-CLASS-128-2
		US-PATENT-APPL-SN-107376				US-PATENT-CLASS-333-73S				US-PATENT-CLASS-128-24A
		US-PATENT-CLASS-188-266				US-PATENT-CLASS-333-82A				US-PATENT-CLASS-128-305
		US-PATENT-CLASS-244-15A				US-PATENT-CLASS-333-84M				US-PATENT-CLASS-32-28
		US-PATENT-3,737,118				US-PATENT-3,737,815				US-PATENT-CLASS-32-58
N73-25760*	c 25	NASA-CASE-LEW-11180-1				NASA-CASE-ERC-10403-1				US-PATENT-3,736,938
		US-PATENT-APPL-SN-175852				US-PATENT-APPL-SN-253405				NASA-CASE-GSC-10225-1
		US-PATENT-CLASS-313-161				US-PATENT-CLASS-317-DIG.6				US-PATENT-APPL-SN-710621
		US-PATENT-CLASS-313-231				US-PATENT-CLASS-321-11				US-PATENT-CLASS-195-66R
		US-PATENT-CLASS-60-202				US-PATENT-CLASS-321-45C				US-PATENT-3,745,089
		US-PATENT-3,735,591				US-PATENT-3,737,757				NASA-CASE-ERC-10224-2
N73-25952*	c 33	NASA-CASE-LEW-10359-2				NASA-CASE-NPO-11569				US-PATENT-APPL-SN-221833
		US-PATENT-APPL-SN-150215				US-PATENT-APPL-SN-199957				US-PATENT-APPL-SN-868775
		US-PATENT-APPL-SN-47063				US-PATENT-CLASS-307-220				US-PATENT-CLASS-29-580
		US-PATENT-CLASS-102-105				US-PATENT-CLASS-307-233				US-PATENT-CLASS-317-234G
		US-PATENT-CLASS-244-117A				US-PATENT-3,737,676				US-PATENT-CLASS-317-234L
		US-PATENT-CLASS-60-200A				NASA-CASE-MS-13907-1				US-PATENT-CLASS-317-234M
		US-PATENT-CLASS-60-265				US-PATENT-APPL-SN-254177				US-PATENT-CLASS-317-234N
		US-PATENT-CLASS-60-267				US-PATENT-CLASS-235-186				US-PATENT-CLASS-317-234R
		US-PATENT-CLASS-62-467				US-PATENT-CLASS-235-194				US-PATENT-3,742,316
		US-PATENT-3,720,075				US-PATENT-CLASS-235-197				NASA-CASE-NPO-11941-1
N73-26004*	c 02	NASA-CASE-LAR-10682-1				US-PATENT-3,737,639				US-PATENT-APPL-SN-241614
		US-PATENT-APPL-SN-127915				NASA-CASE-NPO-11366				US-PATENT-CLASS-330-70CR
		US-PATENT-CLASS-244-75A				US-PATENT-APPL-SN-144139				US-PATENT-CLASS-331-17
		US-PATENT-CLASS-244-76C				US-PATENT-CLASS-180-41				US-PATENT-CLASS-331-25
		US-PATENT-CLASS-244-77F				US-PATENT-CLASS-180-6.5				US-PATENT-3,740,671
		US-PATENT-CLASS-244-77G				US-PATENT-CLASS-180-7R				NASA-CASE-HQN-10037-1
		US-PATENT-3,734,432				US-PATENT-CLASS-180-8A				US-PATENT-APPL-SN-235957
N73-26005*	c 02	NASA-CASE-ARC-10470-1				US-PATENT-CLASS-180-9.2R				US-PATENT-CLASS-73-28
		US-PATENT-APPL-SN-206279				US-PATENT-CLASS-180-9.5				US-PATENT-3,741,001
		US-PATENT-CLASS-244-13				US-PATENT-CLASS-305-35EB				NASA-CASE-MFS-21046-1
		US-PATENT-CLASS-244-46				US-PATENT-CLASS-305-39				US-PATENT-APPL-SN-156725
		US-PATENT-CLASS-244-55				US-PATENT-3,730,287				US-PATENT-CLASS-272-73
		US-PATENT-3,737,121				NASA-CASE-NPO-11304				US-PATENT-CLASS-35-12C
N73-26006*	c 02	NASA-CASE-MS-12393-1				US-PATENT-APPL-SN-101214				US-PATENT-3,744,794
		US-PATENT-APPL-SN-203405				US-PATENT-CLASS-219-499				NASA-CASE-KSC-10626
		US-PATENT-CLASS-114-122				US-PATENT-CLASS-219-50				US-PATENT-APPL-SN-180963
		US-PATENT-CLASS-9-11A				US-PATENT-3,733,463				US-PATENT-CLASS-222-414
		US-PATENT-CLASS-9-2A				NASA-CASE-MS-12363-1				US-PATENT-CLASS-244-1SS
		US-PATENT-CLASS-9-3				US-PATENT-APPL-SN-125236				US-PATENT-CLASS-244-135
		US-PATENT-3,736,607				US-PATENT-CLASS-95-1.1				US-PATENT-3,744,738
N73-26071*	c 05	NASA-CASE-ARC-10599-1				US-PATENT-3,736,849				NASA-CASE-FRC-10060-1
		US-PATENT-APPL-SN-247481				NASA-CASE-ERC-10276				US-PATENT-APPL-SN-189290
		US-PATENT-CLASS-165-46				US-PATENT-APPL-SN-24155				US-PATENT-CLASS-179-175.1A
		US-PATENT-CLASS-2-2.1				US-PATENT-CLASS-250-209				US-PATENT-CLASS-340-5C
		US-PATENT-CLASS-62-176				US-PATENT-CLASS-340-15.5GC				US-PATENT-CLASS-73-1DV
		US-PATENT-CLASS-62-207				US-PATENT-CLASS-343-100ME				US-PATENT-3,744,294
		US-PATENT-CLASS-62-209				US-PATENT-3,737,905				NASA-CASE-MFS-20855
		US-PATENT-CLASS-62-259				NASA-CASE-KSC-10639				US-PATENT-APPL-SN-127647
		US-PATENT-CLASS-62-89				US-PATENT-APPL-SN-181023				US-PATENT-CLASS-219-348
		US-PATENT-3,736,764				US-PATENT-CLASS-137-397				US-PATENT-CLASS-53-112A
N73-26072*	c 05	NASA-CASE-ARC-10329-1				US-PATENT-CLASS-137-582				US-PATENT-CLASS-53-22A
		US-PATENT-APPL-SN-159857				US-PATENT-3,736,956				US-PATENT-3,745,739
		US-PATENT-CLASS-128-2.1R				NASA-CASE-ARC-10304-1				NASA-CASE-NPO-11377
		US-PATENT-CLASS-351-23				US-PATENT-APPL-SN-140946				US-PATENT-APPL-SN-187262
		US-PATENT-CLASS-351-30				US-PATENT-CLASS-252-8.1				US-PATENT-CLASS-137-1
		US-PATENT-CLASS-351-36				US-PATENT-3,730,891				US-PATENT-CLASS-137-154
		US-PATENT-3,737,217				NASA-CASE-MFS-20675				US-PATENT-CLASS-137-604
N73-26100*	c 06	NASA-CASE-GSC-11358-1				US-PATENT-APPL-SN-200085				US-PATENT-3,744,510
		US-PATENT-APPL-SN-226551				US-PATENT-CLASS-250-219TH				NASA-CASE-LAR-10953-1
		US-PATENT-CLASS-260-46.5R				US-PATENT-CLASS-356-108				US-PATENT-APPL-SN-163152
		US-PATENT-3,733,350				US-PATENT-CLASS-356-161				US-PATENT-CLASS-23-230R
N73-26117*	c 07	NASA-CASE-KSC-10392				US-PATENT-CLASS-356-202				US-PATENT-3,744,972
		US-PATENT-APPL-SN-181024				US-PATENT-3,737,237				NASA-CASE-XLE-10453-2
		US-PATENT-CLASS-343-880				NASA-CASE-LEW-11726-1				US-PATENT-APPL-SN-180473
		US-PATENT-CLASS-343-883				US-PATENT-APPL-SN-280031				US-PATENT-APPL-SN-758540
		US-PATENT-CLASS-343-889				US-PATENT-CLASS-156-18				US-PATENT-CLASS-313-217
		US-PATENT-CLASS-343-895				US-PATENT-CLASS-174-DIG.6				US-PATENT-CLASS-313-218
		US-PATENT-3,737,912				US-PATENT-CLASS-29-599				US-PATENT-CLASS-313-230
N73-26118*	c 07	NASA-CASE-NPO-11548				US-PATENT-CLASS-336-DIG.1				US-PATENT-CLASS-313-355
		US-PATENT-APPL-SN-151411				US-PATENT-CLASS-336-200				US-PATENT-CLASS-313-63
		US-PATENT-CLASS-179-15A				US-PATENT-3,737,824				US-PATENT-CLASS-60-202
		US-PATENT-CLASS-179-15BM				NASA-CASE-MFS-20863				US-PATENT-3,744,247
		US-PATENT-CLASS-325-40				US-PATENT-APPL-SN-159966				NASA-CASE-LAR-10439-1
		US-PATENT-CLASS-343-204				US-PATENT-CLASS-244-1SD				US-PATENT-APPL-SN-182033
		US-PATENT-3,737,776				US-PATENT-CLASS-244-137P				US-PATENT-CLASS-356-72
N73-26119*	c 07	NASA-CASE-NPO-11426				US-PATENT-3,737,117				US-PATENT-CLASS-73-339
		US-PATENT-APPL-SN-89210				NASA-CASE-LAR-10756-1				US-PATENT-CLASS-73-432R
		US-PATENT-CLASS-250-199				US-PATENT-APPL-SN-160859				US-PATENT-CLASS-73-86
		US-PATENT-CLASS-331-94.5				US-PATENT-CLASS-235-92MT				US-PATENT-3,745,816
		US-PATENT-CLASS-332-7.51				US-PATENT-CLASS-73-67.3				NASA-CASE-MFS-21109-1
		US-PATENT-CLASS-356-4				US-PATENT-CLASS-73-88.5R				US-PATENT-APPL-SN-202769
		US-PATENT-CLASS-356-5				US-PATENT-CLASS-73-91				US-PATENT-CLASS-128-2.05R

			US-PATENT-CLASS-128-2.06R				US-PATENT-CLASS-317-158				US-PATENT-APPL-SN-11220
			US-PATENT-CLASS-272-73				US-PATENT-3,244,943				US-PATENT-APPL-SN-51317
			US-PATENT-CLASS-73-379				NASA-CASE-XNP-08876				US-PATENT-CLASS-250-105
			US-PATENT-3,744,480		N73-28573*	c 17	US-PATENT-APPL-SN-527331				US-PATENT-CLASS-250-65R
N73-27980*	c 06		NASA-CASE-LEW-11325-1				US-PATENT-CLASS-75-66		N73-30390*	c 14	US-PATENT-3,749,911
			US-PATENT-APPL-SN-184960				US-PATENT-3,419,384				NASA-CASE-XGS-07752
			US-PATENT-CLASS-117-161P		N73-28710*	c 26	NASA-CASE-XNP-01185				US-PATENT-APPL-SN-533659
			US-PATENT-CLASS-117-161UN				US-PATENT-APPL-SN-155595				US-PATENT-CLASS-73-4
			US-PATENT-CLASS-117-228				US-PATENT-CLASS-317-158				US-PATENT-3,395,565
			US-PATENT-CLASS-161-214				US-PATENT-3,198,994		N73-30391*	c 14	NASA-CASE-XLA-05087
			US-PATENT-CLASS-161-227		N73-30078*	c 05	NASA-CASE-MFS-21010-1				US-PATENT-APPL-SN-459407
			US-PATENT-CLASS-260-30.2				US-PATENT-APPL-SN-251609				US-PATENT-CLASS-315-111
			US-PATENT-CLASS-260-30.8DS				US-PATENT-CLASS-73-379				US-PATENT-3,394,286
			US-PATENT-CLASS-260-32.6N				US-PATENT-3,750,479		N73-30392*	c 14	NASA-CASE-MFS-21441
			US-PATENT-CLASS-260-33.4R		N73-30097*	c 06	NASA-CASE-LAR-10670-1				US-PATENT-APPL-SN-231662
			US-PATENT-CLASS-260-33.6R				US-PATENT-APPL-SN-59892				US-PATENT-CLASS-250-394
			US-PATENT-CLASS-260-47CP				US-PATENT-CLASS-149-1				US-PATENT-CLASS-250-518
			US-PATENT-CLASS-260-65				US-PATENT-CLASS-149-36				US-PATENT-3,752,986
			US-PATENT-CLASS-260-78TF				US-PATENT-CLASS-252-301.4		N73-30393*	c 14	NASA-CASE-GSC-11487-1
			US-PATENT-CLASS-260-78UA				US-PATENT-CLASS-252-305				US-PATENT-APPL-SN-193814
			US-PATENT-3,745,149				US-PATENT-CLASS-60-215				US-PATENT-CLASS-250-203
N73-28012*	c 07		NASA-CASE-NPO-11593-1				US-PATENT-3,751,913				US-PATENT-CLASS-350-199
			US-PATENT-APPL-SN-172807		N73-30098*	c 06	NASA-CASE-MFS-21040-1				US-PATENT-CLASS-350-204
			US-PATENT-CLASS-179-15FS				US-PATENT-APPL-SN-183240				US-PATENT-CLASS-350-55
			US-PATENT-CLASS-325-419				US-PATENT-CLASS-260-485F				US-PATENT-3,752,559
			US-PATENT-CLASS-329-122				US-PATENT-3,752,847		N73-30394*	c 14	NASA-CASE-LAR-10000
			US-PATENT-3,745,255		N73-30099*	c 06	NASA-CASE-MFS-10512				US-PATENT-APPL-SN-613235
N73-28013*	c 07		NASA-CASE-GSC-11046-1				US-PATENT-APPL-SN-606027				US-PATENT-CLASS-73-398
			US-PATENT-APPL-SN-182399				US-PATENT-CLASS-260-77.5		N73-30395*	c 14	NASA-CASE-LAR-10623-1
			US-PATENT-CLASS-343-725				US-PATENT-3,463,761				US-PATENT-APPL-SN-214086
			US-PATENT-CLASS-343-729		N73-30100*	c 06	NASA-CASE-MFS-10506				US-PATENT-CLASS-15-415
			US-PATENT-CLASS-343-797				US-PATENT-APPL-SN-606036				US-PATENT-CLASS-73-28
			US-PATENT-CLASS-343-803				US-PATENT-CLASS-260-77.5				US-PATENT-CLASS-73-421.5R
			US-PATENT-CLASS-343-893				US-PATENT-3,463,762				US-PATENT-3,748,905
			US-PATENT-3,747,111		N73-30101*	c 06	NASA-CASE-MFS-10507		N73-30457*	c 15	NASA-CASE-GSC-11149-1
N73-28045*	c 08		NASA-CASE-XNP-00477				US-PATENT-APPL-SN-605994				US-PATENT-APPL-SN-152849
			US-PATENT-APPL-SN-175497				US-PATENT-CLASS-260-615				US-PATENT-CLASS-254-29A
			US-PATENT-CLASS-340-347				US-PATENT-3,452,103				US-PATENT-CLASS-29-452
			US-PATENT-3,219,997		N73-30102*	c 06	NASA-CASE-MFS-11492				US-PATENT-CLASS-81-57.3E
N73-28083*	c 09		NASA-CASE-GSC-11215-1				US-PATENT-APPL-SN-707440				US-PATENT-3,749,362
			US-PATENT-APPL-SN-114873				US-PATENT-CLASS-260-2		N73-30458*	c 15	NASA-CASE-LEW-11087-1
			US-PATENT-CLASS-29-628				US-PATENT-3,577,356				US-PATENT-APPL-SN-201904
			US-PATENT-CLASS-29-629		N73-30103*	c 06	NASA-CASE-MFS-10509				US-PATENT-CLASS-308-188
			US-PATENT-CLASS-29-630				US-PATENT-APPL-SN-605964				US-PATENT-CLASS-308-193
			US-PATENT-CLASS-29-630A				US-PATENT-CLASS-260-77.5				US-PATENT-3,751,123
			US-PATENT-3,744,128				US-PATENT-3,475,384		N73-30459*	c 15	NASA-CASE-MSC-13587-1
N73-28084*	c 09		NASA-CASE-XNP-03623		N73-30113*	c 07	NASA-CASE-NPO-11628-1				US-PATENT-APPL-SN-206698
			US-PATENT-APPL-SN-471154				US-PATENT-APPL-SN-207211				US-PATENT-CLASS-137-516.27
			US-PATENT-CLASS-178-69.5				US-PATENT-CLASS-325-420				US-PATENT-CLASS-137-535
			US-PATENT-3,402,265				US-PATENT-CLASS-325-422				US-PATENT-3,749,123
N73-28144*	c 12		NASA-CASE-LAR-10612-1				US-PATENT-CLASS-329-120		N73-30460*	c 15	NASA-CASE-HQN-10638-1
			US-PATENT-APPL-SN-233173				US-PATENT-3,746,998				US-PATENT-APPL-SN-212977
			US-PATENT-CLASS-73-147		N73-30115*	c 07	NASA-CASE-KSC-10654-1				US-PATENT-CLASS-188-1C
			US-PATENT-3,744,305				US-PATENT-APPL-SN-250766				US-PATENT-CLASS-297-386
N73-28486*	c 14		NASA-CASE-NPO-11749				US-PATENT-CLASS-178-DIG.23				US-PATENT-3,749,205
			US-PATENT-APPL-SN-175267				US-PATENT-CLASS-178-6.8DD		N73-30476*	c 16	NASA-CASE-MFS-20823-1
			US-PATENT-CLASS-324-52				US-PATENT-CLASS-178-6.8				US-PATENT-APPL-SN-175981
			US-PATENT-CLASS-73-15R				US-PATENT-CLASS-179-15BS				US-PATENT-CLASS-350-3.5
			US-PATENT-3,737,762				US-PATENT-3,749,831				US-PATENT-CLASS-356-108
N73-28487*	c 14		NASA-CASE-XLA-08916-2		N73-30135*	c 08	NASA-CASE-NPO-10817-1				US-PATENT-CLASS-356-109
			US-PATENT-APPL-SN-777765				US-PATENT-APPL-SN-82649				US-PATENT-3,744,912
			US-PATENT-APPL-SN-97472				US-PATENT-CLASS-250-229		N73-30532*	c 18	NASA-CASE-ERC-10339-1
			US-PATENT-CLASS-73-170R				US-PATENT-CLASS-250-237R				US-PATENT-APPL-SN-43883
			US-PATENT-CLASS-73-432R				US-PATENT-CLASS-250-239				US-PATENT-CLASS-156-285
			US-PATENT-3,744,320				US-PATENT-3,745,352				US-PATENT-3,745,082
N73-28488*	c 14		NASA-CASE-LEW-11159-1		N73-30181*	c 09	NASA-CASE-MFS-21214-1		N73-30640*	c 21	NASA-CASE-GSC-10890-1
			US-PATENT-APPL-SN-104346				US-PATENT-APPL-SN-235269				US-PATENT-APPL-SN-111998
			US-PATENT-CLASS-250-336				US-PATENT-CLASS-313-161				US-PATENT-CLASS-244-1SA
			US-PATENT-CLASS-307-308				US-PATENT-CLASS-315-248				US-PATENT-CLASS-250-203R
			US-PATENT-3,745,357				US-PATENT-CLASS-315-324				US-PATENT-CLASS-250-209
N73-28489*	c 14		NASA-CASE-GSC-11074-1		N73-30185*	c 09	US-PATENT-3,745,410				US-PATENT-CLASS-250-236
			US-PATENT-APPL-SN-198362				US-PATENT-APPL-SN-235295		N73-30641*	c 21	US-PATENT-3,752,993
			US-PATENT-CLASS-34-155				US-PATENT-CLASS-335-296				US-PATENT-APPL-SN-242028
			US-PATENT-CLASS-34-160				US-PATENT-CLASS-335-297				US-PATENT-CLASS-343-112CA
			US-PATENT-CLASS-34-162				US-PATENT-3,750,067				US-PATENT-CLASS-343-6.5R
			US-PATENT-3,744,148				US-PATENT-3,750,137		N73-30665*	c 23	US-PATENT-3,750,168
N73-28490*	c 14		NASA-CASE-GSC-11444-1		N73-30205*	c 10	NASA-CASE-NPO-11307-1				NASA-CASE-LEW-11326-1
			US-PATENT-APPL-SN-229128				US-PATENT-APPL-SN-169671				US-PATENT-APPL-SN-192970
			US-PATENT-CLASS-250-203R				US-PATENT-CLASS-340-277				US-PATENT-CLASS-431-173
			US-PATENT-CLASS-250-209				US-PATENT-CLASS-340-279				US-PATENT-CLASS-431-9
			US-PATENT-CLASS-250-214R				US-PATENT-3,750,131				US-PATENT-CLASS-60-39.65
			US-PATENT-CLASS-356-141		N73-30386*	c 14	NASA-CASE-MFS-20658-1				US-PATENT-CLASS-60-39.66
			US-PATENT-3,744,913				US-PATENT-APPL-SN-205675				US-PATENT-CLASS-60-39.72
N73-28491*	c 14		NASA-CASE-XNP-05231				US-PATENT-CLASS-324-79D				US-PATENT-CLASS-60-39.74R
			US-PATENT-APPL-SN-524746				US-PATENT-CLASS-328-129				US-PATENT-3,748,853
			US-PATENT-CLASS-250-51.5				US-PATENT-CLASS-328-134				US-PATENT-CLASS-60-39.74R
			US-PATENT-3,440,419				US-PATENT-CLASS-328-48				US-PATENT-3,748,853
N73-28515*	c 15		NASA-CASE-LEW-10533-1				US-PATENT-3,745,475		N73-30666*	c 23	NASA-CASE-GSC-11296-1
			US-PATENT-APPL-SN-134658		N73-30388*	c 14	NASA-CASE-NPO-11291-1				US-PATENT-APPL-SN-228190
			US-PATENT-CLASS-219-107				US-PATENT-APPL-SN-116790				US-PATENT-CLASS-350-162SF
			US-PATENT-CLASS-219-62				US-PATENT-CLASS-324-29.5				US-PATENT-CLASS-350-55
			US-PATENT-CLASS-27-498				US-PATENT-CLASS-324-57R				US-PATENT-3,752,564
			US-PATENT-CLASS-29-497.5				US-PATENT-CLASS-324-62R		N73-30829*	c 31	NASA-CASE-GSC-11018-1
			US-PATENT-3,745,300				US-PATENT-CLASS-324-95				US-PATENT-APPL-SN-244523
N73-28516*	c 15		NASA-CASE-XNP-01187				US-PATENT-3,750,016				US-PATENT-CLASS-165-105
			US-PATENT-APPL-SN-155598		N73-30389*	c 14	NASA-CASE-MFS-20546-2				US-PATENT-CLASS-165-32

			US-PATENT-CLASS-165-47				US-PATENT-3,760,239				US-PATENT-CLASS-117-151
			US-PATENT-CLASS-165-96				NASA-CASE-MSC-13746-1				US-PATENT-CLASS-117-160R
			US-PATENT-CLASS-244-1SS				US-PATENT-APPL-SN-226476				US-PATENT-CLASS-117-66
			US-PATENT-3,749,156				US-PATENT-CLASS-178-18				US-PATENT-CLASS-29-527.2
N73-31988*	c 03		NASA-CASE-MSC-12396-1				US-PATENT-3,758,718				US-PATENT-CLASS-72-53
			US-PATENT-APPL-SN-258331				NASA-CASE-NPO-11703-1				US-PATENT-3,754,976
			US-PATENT-CLASS-307-18				US-PATENT-APPL-SN-223560				NASA-CASE-XNP-01188
			US-PATENT-CLASS-307-28				US-PATENT-CLASS-340-166				US-PATENT-APPL-SN-155596
			US-PATENT-CLASS-307-29				US-PATENT-CLASS-340-173				US-PATENT-CLASS-317-158
			US-PATENT-CLASS-307-38				US-PATENT-CLASS-340-223				US-PATENT-3,262,025
			US-PATENT-3,755,686				US-PATENT-CLASS-340-415				NASA-CASE-XNP-07169
N73-32011*	c 05		NASA-CASE-GSC-11169-2				US-PATENT-3,760,394				US-PATENT-APPL-SN-486884
			US-PATENT-APPL-SN-139094				NASA-CASE-MFS-21465-1				US-PATENT-CLASS-175-26
			US-PATENT-APPL-SN-60882				US-PATENT-APPL-SN-218965				US-PATENT-3,375,885
			US-PATENT-CLASS-195-127				US-PATENT-CLASS-307-271				NASA-CASE-GSC-11222-1
			US-PATENT-3,756,920				US-PATENT-CLASS-318-230				US-PATENT-APPL-SN-251621
N73-32012*	c 05		NASA-CASE-MSC-12609-1				US-PATENT-CLASS-318-231				US-PATENT-CLASS-307-157
			US-PATENT-APPL-SN-750031				US-PATENT-CLASS-318-341				US-PATENT-CLASS-315-DIG.2
			US-PATENT-CLASS-128-1A				US-PATENT-CLASS-331-135				US-PATENT-CLASS-315-101
			US-PATENT-CLASS-2-2.1A				US-PATENT-3,760,248				US-PATENT-CLASS-315-258
			US-PATENT-CLASS-2-81				NASA-CASE-MSC-13789-1				US-PATENT-CLASS-315-356
			US-PATENT-3,751,727				US-PATENT-APPL-SN-166487				US-PATENT-CLASS-330-4.3
N73-32013*	c 05		NASA-CASE-MFS-16570-1				US-PATENT-CLASS-102-95				US-PATENT-CLASS-331-94.5
			US-PATENT-APPL-SN-228150				US-PATENT-CLASS-188-1C				US-PATENT-3,758,877
			US-PATENT-CLASS-3-1.1				US-PATENT-CLASS-89-8				NASA-CASE-LEW-11267-1
			US-PATENT-CLASS-3-12				US-PATENT-3,763,740				US-PATENT-APPL-SN-190316
			US-PATENT-CLASS-3-2				NASA-CASE-NPO-12128-1				US-PATENT-CLASS-29-196.2
			US-PATENT-CLASS-3-6				US-PATENT-APPL-SN-841845				US-PATENT-CLASS-29-196.6
			US-PATENT-3,751,733				US-PATENT-CLASS-250-207				US-PATENT-CLASS-29-197
N73-32014*	c 05		NASA-CASE-MSC-11561-1				US-PATENT-CLASS-250-83.3R				US-PATENT-3,762,884
			US-PATENT-APPL-SN-146940				US-PATENT-CLASS-313-104				NASA-CASE-LEW-10436-1
			US-PATENT-CLASS-137-535				US-PATENT-3,758,781				US-PATENT-APPL-SN-221093
			US-PATENT-CLASS-272-DIG.1				NASA-CASE-KSC-10730-1				US-PATENT-CLASS-73-170
			US-PATENT-CLASS-272-DIG.4				US-PATENT-APPL-SN-248469				US-PATENT-CLASS-75-171
			US-PATENT-CLASS-272-DIG.5				US-PATENT-CLASS-324-72				US-PATENT-3,762,918
			US-PATENT-CLASS-272-79C				US-PATENT-3,760,268				NASA-CASE-MFS-20861-1
			US-PATENT-CLASS-91-186				NASA-CASE-KSC-10728-1				US-PATENT-APPL-SN-160860
			US-PATENT-3,758,112				US-PATENT-APPL-SN-292682				US-PATENT-CLASS-75-135
N73-32015*	c 05		NASA-CASE-MSC-13436-1				US-PATENT-CLASS-95-11				US-PATENT-3,752,665
			US-PATENT-APPL-SN-173190				US-PATENT-CLASS-95-11.5				NASA-CASE-XLE-00209
			US-PATENT-CLASS-128-2.07				US-PATENT-3,759,152				US-PATENT-APPL-SN-60276
			US-PATENT-CLASS-128-2.08				NASA-CASE-GSC-11188-1				US-PATENT-CLASS-176-169
			US-PATENT-CLASS-73-194E				US-PATENT-APPL-SN-244440				US-PATENT-3,759,787
			US-PATENT-CLASS-73-194M				US-PATENT-APPL-SN-80029				NASA-CASE-LEW-11015
			US-PATENT-3,759,249				US-PATENT-CLASS-29-195Y				US-PATENT-APPL-SN-235266
N73-32029*	c 06		NASA-CASE-NPO-10998-1				US-PATENT-3,759,672				US-PATENT-CLASS-174-DIG.6
			NASA-CASE-NPO-10999-1				NASA-CASE-XNP-05530				US-PATENT-CLASS-174-126CP
			US-PATENT-APPL-SN-145027				NASA-CASE-XNP-06933				US-PATENT-CLASS-29-599
			US-PATENT-CLASS-252-431N				US-PATENT-APPL-SN-488381				US-PATENT-CLASS-335-216
			US-PATENT-CLASS-252-431R				US-PATENT-CLASS-73-81				US-PATENT-3,763,552
			US-PATENT-CLASS-260-47UP				US-PATENT-3,379,052				NASA-CASE-NPO-12070-1
			US-PATENT-CLASS-260-567.6M				NASA-CASE-LAR-10319-1				US-PATENT-APPL-SN-153542
			US-PATENT-CLASS-260-93.5A				US-PATENT-APPL-SN-197870				US-PATENT-CLASS-165-105
			US-PATENT-CLASS-260-93.5S				US-PATENT-CLASS-346-110				US-PATENT-CLASS-165-141
			US-PATENT-CLASS-260-94.2M				US-PATENT-CLASS-95-42				US-PATENT-CLASS-165-185
			US-PATENT-CLASS-260-94.2R				US-PATENT-3,757,659				US-PATENT-CLASS-239-127.1
			US-PATENT-CLASS-260-94.7R				NASA-CASE-LAR-10440-1				US-PATENT-CLASS-60-267
			US-PATENT-3,755,283				US-PATENT-APPL-SN-229413				US-PATENT-3,759,443
N73-32030*	c 06		NASA-CASE-MFS-20979-2				US-PATENT-CLASS-73-103				NASA-CASE-ERC-10365-1
			US-PATENT-APPL-SN-100774				US-PATENT-CLASS-73-94				US-PATENT-APPL-SN-99198
			US-PATENT-APPL-SN-219590				US-PATENT-3,757,568				US-PATENT-CLASS-287-92
			US-PATENT-CLASS-260-448.2D				NASA-CASE-LAR-02743				US-PATENT-CLASS-52-109
			US-PATENT-3,763,204				US-PATENT-APPL-SN-404212				US-PATENT-CLASS-52-64
N73-32081*	c 08		NASA-CASE-MSC-12458-1				US-PATENT-CLASS-313-7				US-PATENT-CLASS-52-646
			US-PATENT-APPL-SN-188927				US-PATENT-3,310,699				US-PATENT-CLASS-52-80
			US-PATENT-CLASS-235-152IE				NASA-CASE-XNP-04231				US-PATENT-3,757,476
			US-PATENT-CLASS-340-347DA				US-PATENT-APPL-SN-362261				NASA-CASE-LEW-11011-1
			US-PATENT-3,754,236				US-PATENT-CLASS-250-41.9				US-PATENT-APPL-SN-175983
N73-32107*	c 09		NASA-CASE-MFS-20207-1				US-PATENT-3,334,225				US-PATENT-CLASS-244-1SC
			US-PATENT-APPL-SN-239574				NASA-CASE-ARC-10362-1				US-PATENT-CLASS-244-1SS
			US-PATENT-CLASS-318-254				US-PATENT-APPL-SN-198289				US-PATENT-CLASS-47-1.4
			US-PATENT-CLASS-318-328				US-PATENT-CLASS-128-2.05F				US-PATENT-CLASS-47-17
			US-PATENT-3,757,183				US-PATENT-CLASS-73-194EM				US-PATENT-3,749,332
N73-32108*	c 09		NASA-CASE-GSC-11368-1				US-PATENT-3,751,980				NASA-CASE-NPO-11942-1
			US-PATENT-APPL-SN-237029				NASA-CASE-LAR-10483-1				US-PATENT-APPL-SN-266866
			US-PATENT-CLASS-136-24				US-PATENT-APPL-SN-184090				US-PATENT-CLASS-165-106
			US-PATENT-3,759,746				US-PATENT-CLASS-73-12				US-PATENT-CLASS-165-32
N73-32109*	c 09		NASA-CASE-GSC-11394-1				US-PATENT-CLASS-73-170R				US-PATENT-CLASS-165-96
			US-PATENT-APPL-SN-292698				US-PATENT-3,763,691				US-PATENT-CLASS-244-1SS
			US-PATENT-CLASS-136-89				NASA-CASE-LEW-11388-1				US-PATENT-3,763,928
			US-PATENT-CLASS-250-212				US-PATENT-APPL-SN-289033				NASA-CASE-NPO-10767-1
			US-PATENT-CLASS-321-1.5				US-PATENT-CLASS-219-117				US-PATENT-APPL-SN-241061
			US-PATENT-3,760,257				US-PATENT-CLASS-219-91				US-PATENT-APPL-SN-770417
N73-32110*	c 09		NASA-CASE-KSC-10729-1				US-PATENT-CLASS-29-497				US-PATENT-CLASS-260-77.5AP
			US-PATENT-APPL-SN-221714				US-PATENT-3,758,741				US-PATENT-3,755,265
			US-PATENT-CLASS-343-112R				NASA-CASE-LEW-11152-1				NASA-CASE-ARC-10468-1
			US-PATENT-CLASS-343-113R				US-PATENT-APPL-SN-198379				US-PATENT-APPL-SN-288857
			US-PATENT-3,754,263				US-PATENT-CLASS-308-35				US-PATENT-CLASS-355-18
N73-32111*	c 09		NASA-CASE-ARC-10463-1				US-PATENT-CLASS-308-9				US-PATENT-CLASS-95-12
			US-PATENT-APPL-SN-241615				US-PATENT-3,759,588				US-PATENT-3,764,209
			US-PATENT-CLASS-331-94.5				NASA-CASE-GSC-11163-1				NASA-CASE-LEW-11026-1
			US-PATENT-3,753,148				US-PATENT-APPL-SN-205047				US-PATENT-APPL-SN-196970
N73-32112*	c 09		NASA-CASE-ARC-10330-1				US-PATENT-CLASS-117-105				US-PATENT-CLASS-29-487
			US-PATENT-APPL-SN-151412				US-PATENT-CLASS-117-105.5				US-PATENT-CLASS-29-494
			US-PATENT-CLASS-317-235R				US-PATENT-CLASS-117-130R				US-PATENT-CLASS-29-497.5
			US-PATENT-CLASS-317-235VW				US-PATENT-CLASS-117-138.8R				US-PATENT-CLASS-29-498

N73-33397*	c 16	US-PATENT-3,748,722	N74-11284*	c 35	US-PATENT-CLASS-178-6.6DD	N74-13011*	c 46	US-PATENT-CLASS-317-234R
		NASA-CASE-ARC-10444-1			US-PATENT-CLASS-179-100.2MD			US-PATENT-3,778,685
		US-PATENT-APPL-SN-167719			US-PATENT-CLASS-179-100.2T			NASA-CASE-MSC-12408-1
		US-PATENT-CLASS-331-94.5A			US-PATENT-CLASS-340-174.1L			US-PATENT-APPL-SN-229916
N74-10034*	c 02	US-PATENT-CLASS-350-285	N74-11300*	c 37	US-PATENT-3,770,903	N74-13129*	c 35	US-PATENT-CLASS-423-579
		US-PATENT-CLASS-356-138			NASA-CASE-NPO-11919-1			US-PATENT-3,773,913
		US-PATENT-CLASS-356-148			US-PATENT-APPL-SN-237694			NASA-CASE-FRC-10051-1
		US-PATENT-CLASS-356-153			US-PATENT-CLASS-250-343			US-PATENT-APPL-SN-253725
N74-10132*	c 32	US-PATENT-CLASS-356-172	N74-11301*	c 37	US-PATENT-3,766,380	N74-13130*	c 91	US-PATENT-CLASS-254-93R
		US-PATENT-3,764,220			NASA-CASE-LEW-10533-2			US-PATENT-CLASS-73-88R
		NASA-CASE-LAR-10776-1			US-PATENT-APPL-SN-247055			US-PATENT-3,776,028
		US-PATENT-APPL-SN-211332			US-PATENT-CLASS-219-101			NASA-CASE-NPO-12127-1
N74-10194*	c 33	US-PATENT-CLASS-244-145	N74-11313*	c 36	US-PATENT-CLASS-219-107	N74-13132*	c 35	US-PATENT-APPL-SN-106106
		US-PATENT-3,764,097			US-PATENT-CLASS-219-78			US-PATENT-CLASS-250-219DF
		NASA-CASE-NPO-11302-2			US-PATENT-CLASS-29-497.5			US-PATENT-CLASS-250-83CD
		US-PATENT-APPL-SN-266822			US-PATENT-3,770,933			US-PATENT-3,752,996
N74-10195*	c 33	US-PATENT-APPL-SN-70967	N74-12778*	c 52	NASA-CASE-LAR-10170-1	N74-13177*	c 31	NASA-CASE-MFS-20730-1
		US-PATENT-CLASS-178-69.4R			US-PATENT-APPL-SN-217213			US-PATENT-APPL-SN-182977
		US-PATENT-3,766,315			US-PATENT-CLASS-117-105.2			US-PATENT-CLASS-269-48.1
		NASA-CASE-NPO-11962-1			US-PATENT-CLASS-29-460			US-PATENT-CLASS-83-452
N74-10223*	c 33	US-PATENT-APPL-SN-292681	N74-12779*	c 54	US-PATENT-CLASS-29-498	N74-13178*	c 37	US-PATENT-CLASS-83-602
		US-PATENT-CLASS-331-1A			US-PATENT-CLASS-29-503			US-PATENT-CLASS-83-917
		US-PATENT-CLASS-331-14			US-PATENT-CLASS-29-527.2			US-PATENT-3,777,605
		US-PATENT-CLASS-331-17			US-PATENT-3,768,689			NASA-CASE-LAR-10910-1
N74-10415*	c 35	US-PATENT-CLASS-331-178	N74-12812*	c 27	NASA-CASE-HQN-10790-1	N74-13205*	c 36	US-PATENT-APPL-SN-239577
		US-PATENT-CLASS-331-18			US-PATENT-APPL-SN-235962			US-PATENT-CLASS-73-4R
		US-PATENT-CLASS-331-4			US-PATENT-CLASS-333-83R			US-PATENT-CLASS-73-420
		US-PATENT-3,764,933			US-PATENT-CLASS-333-97R			US-PATENT-3,777,546
N74-10474*	c 37	NASA-CASE-LEW-11617-1	N74-12813*	c 25	US-PATENT-3,771,074	N74-13270*	c 27	NASA-CASE-LAR-10547-1
		US-PATENT-APPL-SN-266832			NASA-CASE-MFS-20284-1			US-PATENT-APPL-SN-193980
		US-PATENT-CLASS-315-5.35			US-PATENT-APPL-SN-242027			US-PATENT-CLASS-264-294
		US-PATENT-CLASS-315-5.38			US-PATENT-CLASS-128-2.05T			US-PATENT-3,772,418
N74-10521*	c 26	US-PATENT-3,764,850	N74-12814*	c 27	US-PATENT-CLASS-128-2.06F	N74-13420*	c 04	NASA-CASE-LAR-10544-1
		NASA-CASE-LAR-10730-1			US-PATENT-CLASS-324-186			US-PATENT-APPL-SN-188928
		US-PATENT-APPL-SN-239573			US-PATENT-CLASS-324-78D			US-PATENT-CLASS-222-193
		US-PATENT-CLASS-235-150.3			US-PATENT-3,773,038			US-PATENT-3,776,432
N74-10907*	c 05	US-PATENT-CLASS-235-92CA	N74-12887*	c 33	NASA-CASE-MFS-21115-1	N74-13436*	c 70	NASA-CASE-LEW-10805-2
		US-PATENT-CLASS-235-92DM			US-PATENT-APPL-SN-266930			US-PATENT-APPL-SN-233743
		US-PATENT-CLASS-307-225R			US-PATENT-CLASS-222-309			US-PATENT-APPL-SN-29917
		US-PATENT-CLASS-328-48			US-PATENT-CLASS-222-340			US-PATENT-CLASS-29-182
N74-10942*	c 08	US-PATENT-3,764,790	N74-12888*	c 60	US-PATENT-CLASS-222-387	N74-13436*	c 70	US-PATENT-CLASS-29-420.5
		NASA-CASE-MFS-20335-1			US-PATENT-CLASS-222-514			US-PATENT-CLASS-75-200
		US-PATENT-APPL-SN-238263			US-PATENT-3,777,942			US-PATENT-CLASS-75-213
		US-PATENT-CLASS-73-67.8S			NASA-CASE-ARC-10464-1			US-PATENT-CLASS-75-214
N74-10975*	c 52	US-PATENT-3,765,229	N74-12912*	c 32	US-PATENT-APPL-SN-198472	N74-13502*	c 20	US-PATENT-CLASS-75-226
		NASA-CASE-LEW-10326-3			US-PATENT-CLASS-260-2.5AM			US-PATENT-3,775,101
		US-PATENT-APPL-SN-99901			US-PATENT-3,772,216			NASA-CASE-NPO-11317-2
		US-PATENT-CLASS-277-25			NASA-CASE-LAR-10551-1			US-PATENT-APPL-SN-187143
N74-11000*	c 32	US-PATENT-CLASS-277-27	N74-12913*	c 33	US-PATENT-APPL-SN-191301	N74-14784*	c 44	US-PATENT-APPL-SN-34989
		US-PATENT-CLASS-277-96			US-PATENT-CLASS-128-191R			US-PATENT-CLASS-179-100.2CH
		US-PATENT-3,767,212			US-PATENT-CLASS-23-252R			US-PATENT-CLASS-250-205
		NASA-CASE-LEW-10805-3			US-PATENT-CLASS-23-281			US-PATENT-CLASS-250-217
N74-11049*	c 33	US-PATENT-CLASS-235-92CA	N74-12951*	c 33	US-PATENT-CLASS-23-288F	N74-14845*	c 54	US-PATENT-CLASS-340-174.1M
		US-PATENT-APPL-SN-266928			US-PATENT-CLASS-23-288J			US-PATENT-CLASS-340-174YC
		US-PATENT-APPL-SN-29917			US-PATENT-CLASS-423-231			US-PATENT-CLASS-350-151
		US-PATENT-CLASS-148-126			US-PATENT-CLASS-55-510			US-PATENT-3,778,791
N74-11050*	c 32	US-PATENT-CLASS-29-420.5	N74-12913*	c 33	US-PATENT-CLASS-55-518	N74-14920*	c 62	NASA-CASE-LEW-11262-1
		US-PATENT-CLASS-75-200			US-PATENT-3,771,959			NASA-CASE-LEW-11058-1
		US-PATENT-CLASS-75-226			NASA-CASE-ARC-10180-1			US-PATENT-APPL-SN-233519
		US-PATENT-3,765,958			US-PATENT-APPL-SN-136253			US-PATENT-CLASS-60-258
N74-110907*	c 05	US-PATENT-APPL-SN-78766	N74-12913*	c 33	US-PATENT-CLASS-260-2.5L	N74-14920*	c 62	US-PATENT-CLASS-60-259
		US-PATENT-CLASS-D71-1			US-PATENT-3,772,220			US-PATENT-3,777,490
		US-PATENT-DES-228,688			NASA-CASE-NPO-11905-1			NASA-CASE-LAR-10782-1
		NASA-CASE-MSC-12394-1			US-PATENT-APPL-SN-290030			US-PATENT-APPL-SN-197689
N74-11094*	c 08	US-PATENT-APPL-SN-341662	N74-12913*	c 33	US-PATENT-CLASS-178-88	N74-14920*	c 62	US-PATENT-CLASS-264-102
		US-PATENT-CLASS-244-83			US-PATENT-CLASS-325-320			US-PATENT-3,780,151
		US-PATENT-CLASS-318-580			US-PATENT-CLASS-329-104			NASA-CASE-LEW-11069-1
		US-PATENT-CLASS-318-628			US-PATENT-CLASS-329-122			US-PATENT-APPL-SN-83816
N74-10975*	c 52	US-PATENT-3,771,037	N74-12913*	c 33	US-PATENT-CLASS-329-126	N74-14920*	c 62	US-PATENT-CLASS-136-89
		NASA-CASE-MSC-13972-1			US-PATENT-3,772,272			US-PATENT-CLASS-29-572
		US-PATENT-APPL-SN-200040			NASA-CASE-MSC-14053-1			US-PATENT-CLASS-29-588
		US-PATENT-CLASS-128-2S			US-PATENT-APPL-SN-266899			US-PATENT-3,780,424
N74-11000*	c 32	US-PATENT-CLASS-73-149	N74-12913*	c 33	US-PATENT-CLASS-328-123	N74-14920*	c 62	NASA-CASE-LAR-10241-1
		US-PATENT-3,769,834			US-PATENT-CLASS-340-173CR			US-PATENT-APPL-SN-193672
		NASA-CASE-NPO-13171-1			US-PATENT-CLASS-340-173LM			US-PATENT-CLASS-9-11A
		US-PATENT-APPL-SN-290915			US-PATENT-3,778,786			US-PATENT-3,781,933
N74-11049*	c 33	US-PATENT-CLASS-343-781	N74-12913*	c 33	NASA-CASE-NPO-11850-1	N74-14920*	c 62	NASA-CASE-MSC-13932-1
		US-PATENT-CLASS-343-909			US-PATENT-APPL-SN-186700			US-PATENT-APPL-SN-229354
		US-PATENT-3,769,623			US-PATENT-CLASS-343-18B			
		NASA-CASE-HQN-10792-1			US-PATENT-CLASS-343-6.5R			
N74-11050*	c 33	US-PATENT-CLASS-343-6.5SS	N74-12913*	c 33	US-PATENT-CLASS-343-6.5SS	N74-14920*	c 62	
		US-PATENT-APPL-SN-245063			US-PATENT-3,772,691			
		US-PATENT-CLASS-321-18			NASA-CASE-LEW-11162-1			
		US-PATENT-CLASS-321-2			US-PATENT-APPL-SN-143508			
N74-11050*	c 33	US-PATENT-CLASS-321-45S	N74-12913*	c 33	US-PATENT-CLASS-313-153	N74-14920*	c 62	
		US-PATENT-CLASS-323-DIG.1			US-PATENT-CLASS-313-209			
		US-PATENT-CLASS-331-113A			US-PATENT-CLASS-313-217			
		US-PATENT-CLASS-331-62			US-PATENT-CLASS-313-224			
N74-11050*	c 33	US-PATENT-3,771,040	N74-12913*	c 33	US-PATENT-CLASS-313-32	N74-14920*	c 62	
		NASA-CASE-LAR-10868-1			US-PATENT-3,777,200			
		US-PATENT-APPL-SN-253249			NASA-CASE-MFS-21374-1			
		US-PATENT-CLASS-137-819			US-PATENT-APPL-SN-238047			
N74-11050*	c 33	US-PATENT-CLASS-137-833	N74-12913*	c 33	US-PATENT-CLASS-317-234E	N74-14920*	c 62	
		US-PATENT-CLASS-137-840			US-PATENT-CLASS-317-234F			
		US-PATENT-3,770,021			US-PATENT-CLASS-317-234M			
					US-PATENT-CLASS-317-234N			

N74-14935*	c 33	US-PATENT-CLASS-235-153AK	N74-15145*	c 36	US-PATENT-CLASS-73-67.8S	N74-17955*	c 09	US-PATENT-APPL-SN-201700
		US-PATENT-3,783,250			US-PATENT-3,777,552			US-PATENT-CLASS-324-102
N74-14939*	c 33	NASA-CASE-MFS-21462-1	N74-15146*	c 35	NASA-CASE-NPO-11856-1	N74-18088*	c 35	US-PATENT-CLASS-324-118
		US-PATENT-APPL-SN-239576			US-PATENT-APPL-SN-235268			US-PATENT-CLASS-329-50
N74-14956*	c 33	US-PATENT-CLASS-219-477	N74-15395*	c 38	US-PATENT-CLASS-250-217SS	N74-18089*	c 31	US-PATENT-3,795,862
		US-PATENT-CLASS-219-539			US-PATENT-CLASS-331-94.5K			NASA-CASE-LAR-10812-1
N74-15089*	c 19	US-PATENT-CLASS-338-320	N74-15453*	c 07	US-PATENT-CLASS-331-94.5S	N74-18123*	c 37	US-PATENT-APPL-SN-263815
		US-PATENT-3,732,397			US-PATENT-CLASS-350-6			US-PATENT-CLASS-73-147
N74-15090*	c 35	NASA-CASE-FRC-10072-1	N74-15652*	c 34	US-PATENT-CLASS-356-152	N74-18125*	c 37	US-PATENT-3,791,207
		NASA-CASE-LAR-10586-1			US-PATENT-CLASS-356-4			NASA-CASE-LAR-11027-1
N74-15091*	c 35	US-PATENT-APPL-SN-162100	N74-15778*	c 51	US-PATENT-CLASS-356-5	N74-18126*	c 37	US-PATENT-APPL-SN-275118
		US-PATENT-CLASS-330-10			US-PATENT-3,781,111			US-PATENT-CLASS-250-338
N74-15092*	c 35	US-PATENT-CLASS-330-35	N74-15831*	c 35	NASA-CASE-MFS-21455-1	N74-18127*	c 37	US-PATENT-CLASS-250-370
		US-PATENT-3,783,399			US-PATENT-APPL-SN-281877			US-PATENT-CLASS-250-371
N74-15093*	c 35	NASA-CASE-MSC-17832-1	N74-16135*	c 35	US-PATENT-CLASS-350-3.5	N74-18128*	c 37	US-PATENT-3,790,795
		US-PATENT-APPL-SN-293727			US-PATENT-CLASS-356-106			NASA-CASE-LAR-10318-1
N74-15094*	c 35	US-PATENT-CLASS-307-127	N74-17153*	c 35	US-PATENT-CLASS-73-71.3	N74-18223*	c 35	US-PATENT-APPL-SN-224489
		US-PATENT-CLASS-317-33SC			US-PATENT-3,782,825			US-PATENT-CLASS-156-245
N74-15095*	c 74	US-PATENT-CLASS-317-43	N74-17283*	c 27	NASA-CASE-MFS-21233-1	N74-18251*	c 34	US-PATENT-CLASS-156-247
		US-PATENT-CLASS-317-46			US-PATENT-APPL-SN-246056			US-PATENT-CLASS-156-285
N74-15125*	c 37	US-PATENT-CLASS-317-47	N74-17853*	c 54	US-PATENT-CLASS-324-40	N74-18252*	c 34	US-PATENT-CLASS-156-309
		US-PATENT-CLASS-317-48			US-PATENT-CLASS-73-67.5R			US-PATENT-3,793,109
N74-15126*	c 35	US-PATENT-3,783,354	N74-17885*	c 35	US-PATENT-CLASS-73-71.5U	N74-18253*	c 35	NASA-CASE-NPO-13160-1
		NASA-CASE-LAR-10586-1			US-PATENT-3,782,177			US-PATENT-APPL-SN-359157
N74-15127*	c 35	US-PATENT-APPL-SN-289049	N74-17927*	c 33	NASA-CASE-LEW-11569-1	N74-18254*	c 35	US-PATENT-CLASS-321-8R
		US-PATENT-CLASS-102-70.2R			US-PATENT-APPL-SN-316618			US-PATENT-CLASS-324-57R
N74-15128*	c 37	US-PATENT-CLASS-244-15A	N74-17929*	c 33	US-PATENT-CLASS-181-43	N74-18255*	c 35	US-PATENT-3,795,858
		US-PATENT-CLASS-244-3.16			US-PATENT-3,780,827			NASA-CASE-LAR-10634-1
N74-15130*	c 38	US-PATENT-CLASS-250-203R	N74-17930*	c 33	NASA-CASE-LAR-10105-1	N74-18256*	c 35	US-PATENT-APPL-SN-214084
		US-PATENT-CLASS-250-237R			US-PATENT-APPL-SN-170680			US-PATENT-CLASS-23-253PC
		US-PATENT-3,780,966			US-PATENT-CLASS-73-86			US-PATENT-CLASS-23-259
		NASA-CASE-NPO-11432-2			US-PATENT-3,782,181			US-PATENT-CLASS-259-72
		US-PATENT-APPL-SN-258152			NASA-CASE-ARC-10302-1			US-PATENT-CLASS-312-209
		US-PATENT-APPL-SN-88435			US-PATENT-APPL-SN-203271			US-PATENT-CLASS-356-197
		US-PATENT-CLASS-250-211J			US-PATENT-CLASS-119-51.13			US-PATENT-CLASS-356-85
		US-PATENT-CLASS-250-214			US-PATENT-CLASS-119-51.5			US-PATENT-3,790,347
		US-PATENT-CLASS-317-235N			US-PATENT-CLASS-119-51R			NASA-CASE-LAR-10489-1
		US-PATENT-3,781,549			US-PATENT-CLASS-119-52AF			US-PATENT-APPL-SN-198763
		NASA-CASE-LAR-11155-1			US-PATENT-CLASS-119-54			US-PATENT-CLASS-264-102
		US-PATENT-APPL-SN-313381			US-PATENT-CLASS-221-265			US-PATENT-3,790,650
		US-PATENT-CLASS-250-360			US-PATENT-3,782,334			NASA-CASE-MFS-21309-1
		US-PATENT-CLASS-250-361			NASA-CASE-GSC-11553-1			US-PATENT-APPL-SN-244519
		US-PATENT-CLASS-250-369			US-PATENT-APPL-SN-177985			US-PATENT-CLASS-180-79.3
		US-PATENT-CLASS-250-492			US-PATENT-CLASS-178-6.7R			US-PATENT-CLASS-301-5P
		US-PATENT-3,781,562			US-PATENT-CLASS-219-216			US-PATENT-3,789,947
		NASA-CASE-LAR-10862-1			US-PATENT-CLASS-219-388			NASA-CASE-MFS-21364-1
		US-PATENT-APPL-SN-271951			US-PATENT-CLASS-34-162			US-PATENT-APPL-SN-214006
		US-PATENT-CLASS-73-4V			US-PATENT-CLASS-346-108			US-PATENT-CLASS-156-331
		US-PATENT-3,780,563			US-PATENT-CLASS-346-138			US-PATENT-CLASS-161-182
		NASA-CASE-ARC-10442-1			US-PATENT-CLASS-346-24			US-PATENT-CLASS-161-192
		US-PATENT-APPL-SN-280032			US-PATENT-CLASS-95-89R			US-PATENT-CLASS-161-42
		US-PATENT-CLASS-165-109			US-PATENT-3,781,902			US-PATENT-CLASS-161-43
		US-PATENT-CLASS-165-2			NASA-CASE-LAR-10595-1			US-PATENT-CLASS-161-93
		US-PATENT-CLASS-259-DIG.18			US-PATENT-APPL-SN-273240			US-PATENT-CLASS-260-2R
		US-PATENT-CLASS-259-60			US-PATENT-CLASS-340-12R			US-PATENT-CLASS-264-135
		US-PATENT-CLASS-62-45			US-PATENT-CLASS-340-5R			US-PATENT-CLASS-264-136
		US-PATENT-3,782,698			US-PATENT-CLASS-340-8R			US-PATENT-CLASS-264-257
		NASA-CASE-NPO-13044-1			US-PATENT-3,783,443			US-PATENT-3,790,432
		US-PATENT-APPL-SN-305012			NASA-CASE-MFS-21087-1			NASA-CASE-MFS-21481-1
		US-PATENT-CLASS-73-497			US-PATENT-APPL-SN-149283			US-PATENT-APPL-SN-266771
		US-PATENT-CLASS-73-517B			US-PATENT-CLASS-350-3.5			US-PATENT-CLASS-128-25R
		US-PATENT-CLASS-74-5.6			US-PATENT-3,752,556			US-PATENT-CLASS-272-73
		US-PATENT-3,782,205			NASA-CASE-MFS-20486-2			US-PATENT-CLASS-272-80
		NASA-CASE-MSC-14096-1			US-PATENT-APPL-SN-292382			US-PATENT-CLASS-74-594.6
		US-PATENT-APPL-SN-242662			US-PATENT-APPL-SN-84212			US-PATENT-CLASS-74-594.7
		US-PATENT-CLASS-350-236			US-PATENT-CLASS-260-29.6S			US-PATENT-3,788,163
		US-PATENT-CLASS-350-285			US-PATENT-3,784,499			NASA-CASE-LEW-11387-1
		US-PATENT-CLASS-350-7			NASA-CASE-MFS-21163-1			US-PATENT-APPL-SN-247090
		US-PATENT-CLASS-356-216			US-PATENT-APPL-SN-266925			US-PATENT-CLASS-29-482
		US-PATENT-CLASS-356-43			US-PATENT-CLASS-222-324			US-PATENT-CLASS-29-488
		US-PATENT-3,782,835			US-PATENT-CLASS-224-444			US-PATENT-CLASS-29-497
		NASA-CASE-XLE-10326-4			US-PATENT-3,790,037			US-PATENT-CLASS-29-498
		US-PATENT-APPL-SN-220251			NASA-CASE-MSC-13855-1			US-PATENT-3,787,959
		US-PATENT-APPL-SN-54540			US-PATENT-APPL-SN-196931			NASA-CASE-MFS-21136-1
		US-PATENT-APPL-SN-723465			US-PATENT-CLASS-325-38B			US-PATENT-APPL-SN-262430
		US-PATENT-CLASS-277-27			US-PATENT-CLASS-332-11D			US-PATENT-CLASS-308-10
		US-PATENT-CLASS-277-91			US-PATENT-CLASS-340-347AD			US-PATENT-CLASS-74-5.7
		US-PATENT-3,782,737			US-PATENT-3,795,900			US-PATENT-3,763,708
		NASA-CASE-ARC-10441-1			NASA-CASE-NPO-13138-1			NASA-CASE-LAR-11053-1
		US-PATENT-APPL-SN-280029			US-PATENT-APPL-SN-335201			US-PATENT-APPL-SN-281875
		US-PATENT-CLASS-259-98			US-PATENT-CLASS-328-155			US-PATENT-CLASS-73-15R
		US-PATENT-CLASS-417-470			US-PATENT-CLASS-333-16			US-PATENT-3,789,654
		US-PATENT-CLASS-417-471			US-PATENT-CLASS-333-18			NASA-CASE-NPO-11120-1
		US-PATENT-3,782,699			US-PATENT-3,790,906			US-PATENT-APPL-SN-39343
		NASA-CASE-NPO-11682-1			NASA-CASE-NPO-11966-1			US-PATENT-CLASS-165-105
		US-PATENT-APPL-SN-187365			NASA-CASE-NPO-13159-1			US-PATENT-CLASS-267-166
		US-PATENT-CLASS-23-284			US-PATENT-APPL-SN-284245			US-PATENT-CLASS-29-157.3R
		US-PATENT-3,782,904			US-PATENT-CLASS-100-8			US-PATENT-3,789,920
		NASA-CASE-LEW-11087-2			US-PATENT-CLASS-336-210			NASA-CASE-HQN-10740-1
		US-PATENT-APPL-SN-201904			US-PATENT-3,792,399			US-PATENT-APPL-SN-266943
		US-PATENT-APPL-SN-280390			NASA-CASE-ARC-10197-1			US-PATENT-CLASS-356-106R
		US-PATENT-CLASS-29-148.4A			US-PATENT-APPL-SN-310624			US-PATENT-CLASS-356-112
		US-PATENT-CLASS-29-148.4B			US-PATENT-CLASS-317-16			US-PATENT-CLASS-356-28
		US-PATENT-3,781,958			US-PATENT-CLASS-317-31			US-PATENT-3,795,448
		NASA-CASE-MFS-20767-1			US-PATENT-3,795,840			NASA-CASE-LAR-10426-1
		US-PATENT-APPL-SN-196898			NASA-CASE-NUC-10107-1			US-PATENT-APPL-SN-239575



			US-PATENT-CLASS-73-15.6	N74-20813*	c 32	NASA-CASE-FRC-10071-1			US-PATENT-3,797,098
			US-PATENT-CLASS-73-91			US-PATENT-APPL-SN-307727	N74-21058*	c 37	NASA-CASE-MFS-22411-1
			US-PATENT-3,795,134			US-PATENT-CLASS-178-7.7			US-PATENT-APPL-SN-382262
N74-19692*	c 44		NASA-CASE-GSC-11367-1			US-PATENT-CLASS-315-18			US-PATENT-CLASS-260-448.2N
			US-PATENT-APPL-SN-236985			US-PATENT-CLASS-315-22			US-PATENT-3,801,617
			US-PATENT-CLASS-136-36			US-PATENT-3,803,445	N74-21059*	c 31	NASA-CASE-LAR-10409-1
			US-PATENT-3,759,747	N74-20836*	c 60	NASA-CASE-ERC-10180-1			US-PATENT-APPL-SN-340864
N74-19693*	c 44		NASA-CASE-NPO-11806-1			US-PATENT-APPL-SN-838278			US-PATENT-CLASS-29-423
			US-PATENT-APPL-SN-228163			US-PATENT-CLASS-235-164			US-PATENT-3,798,741
			US-PATENT-CLASS-136-20			US-PATENT-3,803,393	N74-21060*	c 37	NASA-CASE-NPO-13105-1
			US-PATENT-CLASS-136-30	N74-20859*	c 33	NASA-CASE-XLE-2529-3			US-PATENT-APPL-SN-283502
			US-PATENT-3,790,409			US-PATENT-APPL-SN-288856			US-PATENT-CLASS-60-25
N74-19769*	c 24		NASA-CASE-ERC-10073-1			US-PATENT-APPL-SN-487929			US-PATENT-3,798,896
			US-PATENT-APPL-SN-856253			US-PATENT-APPL-SN-848403	N74-21061*	c 37	NASA-CASE-LEW-11076-1
			US-PATENT-CLASS-117-95			US-PATENT-CLASS-315-211			US-PATENT-APPL-SN-238264
			US-PATENT-3,796,592			US-PATENT-CLASS-315-228			US-PATENT-CLASS-308-73
N74-19788*	c 32		NASA-CASE-NPO-11820-1			US-PATENT-CLASS-331-94.5D			US-PATENT-3,804,472
			US-PATENT-APPL-SN-266912			US-PATENT-CLASS-332-7.51	N74-21062*	c 35	NASA-CASE-LAR-10295-1
			US-PATENT-CLASS-307-237			US-PATENT-3,806,835			US-PATENT-APPL-SN-221685
			US-PATENT-CLASS-328-160	N74-20860*	c 33	NASA-CASE-GSC-11446-1			US-PATENT-CLASS-73-12
			US-PATENT-CLASS-328-168			US-PATENT-APPL-SN-263230			US-PATENT-CLASS-73-432
			US-PATENT-CLASS-328-172			US-PATENT-CLASS-343-DIG.2			US-PATENT-3,805,622
			US-PATENT-CLASS-333-14			US-PATENT-CLASS-343-100SA	N74-21063*	c 37	NASA-CASE-LEW-10698-1
			US-PATENT-3,800,237			US-PATENT-CLASS-343-100ST			US-PATENT-APPL-SN-30498
N74-19790*	c 32		NASA-CASE-MFS-21540-1			US-PATENT-CLASS-343-854			US-PATENT-CLASS-106-52
			US-PATENT-APPL-SN-333912			US-PATENT-3,806,932			US-PATENT-CLASS-117-129
			US-PATENT-CLASS-178-7.1	N74-20861*	c 33	NASA-CASE-GSC-11560-1			US-PATENT-CLASS-161-196
			US-PATENT-CLASS-325-148			US-PATENT-APPL-SN-361906			US-PATENT-CLASS-65-DIG.1
			US-PATENT-3,800,224			US-PATENT-CLASS-350-269	N74-21064*	c 37	US-PATENT-3,804,703
N74-19870*	c 44		NASA-CASE-MFS-21470-1			US-PATENT-CLASS-354-234			NASA-CASE-LEW-11087-3
			US-PATENT-APPL-SN-340871			US-PATENT-CLASS-95-53EA			US-PATENT-APPL-SN-201904
			US-PATENT-CLASS-325-62			US-PATENT-3,804,506			US-PATENT-APPL-SN-346361
			US-PATENT-CLASS-333-17	N74-20862*	c 33	NASA-CASE-GSC-11513-1			US-PATENT-CLASS-308-188
			US-PATENT-CLASS-343-17.7			US-PATENT-APPL-SN-315089			US-PATENT-CLASS-308-191
			US-PATENT-CLASS-343-7.5			US-PATENT-CLASS-331-108A	N74-21065*	c 37	US-PATENT-3,802,753
			US-PATENT-3,795,910			US-PATENT-CLASS-331-115			NASA-CASE-NPO-11951-1
N74-20008*	c 74		NASA-CASE-GSC-11188-3			US-PATENT-CLASS-331-116R			US-PATENT-APPL-SN-287150
			US-PATENT-APPL-SN-244566			US-PATENT-CLASS-331-159			US-PATENT-CLASS-137-623
			US-PATENT-APPL-SN-80029			US-PATENT-3,806,831			US-PATENT-CLASS-251-123
			US-PATENT-CLASS-117-45	N74-20863*	c 32	NASA-CASE-GSC-11909			US-PATENT-CLASS-251-122
			US-PATENT-3,799,793			US-PATENT-APPL-SN-244158			US-PATENT-CLASS-251-210
N74-20009*	c 36		NASA-CASE-NPO-11861-1			US-PATENT-CLASS-343-730			US-PATENT-3,802,660
			US-PATENT-APPL-SN-266911			US-PATENT-CLASS-343-786	N74-21091*	c 36	NASA-CASE-GSC-11262-7
			US-PATENT-CLASS-178-DIG.1			US-PATENT-CLASS-343-797			US-PATENT-APPL-SN-162380
			US-PATENT-CLASS-178-6			US-PATENT-CLASS-343-853			US-PATENT-CLASS-250-204
			US-PATENT-CLASS-178-7.6			US-PATENT-3,803,617			US-PATENT-CLASS-33-285
N74-20063*	c 37		US-PATENT-3,800,074	N74-20864*	c 32	NASA-CASE-GSC-11428-1			US-PATENT-CLASS-356-141
			NASA-CASE-LAR-10129-2			US-PATENT-APPL-SN-292685			US-PATENT-CLASS-356-152
			US-PATENT-APPL-SN-319410			US-PATENT-CLASS-343-708			US-PATENT-CLASS-356-172
			US-PATENT-APPL-SN-99201			US-PATENT-CLASS-343-769			US-PATENT-3,804,525
			US-PATENT-CLASS-312-1			US-PATENT-CLASS-343-853	N74-21156*	c 27	NASA-CASE-ARC-10592-1
			US-PATENT-3,796,473			US-PATENT-3,805,266			US-PATENT-APPL-SN-321179
N74-20329*	c 76		NASA-CASE-GSC-11425-1			NASA-CASE-HQN-10832-1			US-PATENT-CLASS-260.46.5E
			US-PATENT-APPL-SN-206266	N74-21014*	c 71	US-PATENT-APPL-SN-301417			US-PATENT-3,803,090
			US-PATENT-CLASS-148-1.5			US-PATENT-CLASS-178-DIG.32	N74-21300*	c 70	NASA-CASE-ARC-10516-1
			US-PATENT-3,799,813			US-PATENT-CLASS-178-5.8R			US-PATENT-APPL-SN-267768
N74-20646*	c 02		NASA-CASE-LEW-11188-1			US-PATENT-CLASS-178-7.2			US-PATENT-CLASS-350-270
			US-PATENT-APPL-SN-152328			US-PATENT-CLASS-340-407			US-PATENT-CLASS-354-234
			US-PATENT-CLASS-137-15.1			US-PATENT-CLASS-35-35A			US-PATENT-3,797,919
			US-PATENT-CLASS-137-15.2			US-PATENT-3,800,082	N74-21304*	c 74	NASA-CASE-GSC-11353-1
			US-PATENT-CLASS-244-53B	N74-21015*	c 19	NASA-CASE-LAR-10626-1			US-PATENT-APPL-SN-260241
			US-PATENT-3,799,475			US-PATENT-APPL-SN-202750			US-PATENT-CLASS-250-231SE
N74-20725*	c 54		NASA-CASE-MFS-22102-1			US-PATENT-CLASS-33-1SA			US-PATENT-CLASS-350-299
			US-PATENT-APPL-SN-341621			US-PATENT-CLASS-33-46R			US-PATENT-CLASS-356-152
			US-PATENT-CLASS-4-10			US-PATENT-3,798,778			US-PATENT-3,802,779
			US-PATENT-CLASS-4-120	N74-21017*	c 35	NASA-CASE-MFS-21660-1	N74-21850*	c 33	NASA-CASE-GSC-11602-1
			US-PATENT-3,805,303			US-PATENT-APPL-SN-310616			US-PATENT-APPL-SN-298157
N74-20726*	c 52		NASA-CASE-ARC-10597-1			US-PATENT-CLASS-324-83Q			US-PATENT-CLASS-315-10
			US-PATENT-APPL-SN-281876			US-PATENT-3,806,802			US-PATENT-CLASS-315-11
			US-PATENT-CLASS-128-2V	N74-21018*	c 35	NASA-CASE-LEW-10981-1			US-PATENT-CLASS-315-12
			US-PATENT-CLASS-73-67.9			US-PATENT-APPL-SN-214089			US-PATENT-3,806,756
			US-PATENT-3,802,253			US-PATENT-CLASS-310-11	N74-21851*	c 33	NASA-CASE-ARC-10596-1
N74-20728*	c 52		NASA-CASE-MFS-21415-1			US-PATENT-CLASS-324-34FL			US-PATENT-APPL-SN-267862
			US-PATENT-APPL-SN-318152			US-PATENT-CLASS-73-194EM			US-PATENT-CLASS-330-28
			US-PATENT-CLASS-128-2.07			US-PATENT-3,802,262			US-PATENT-CLASS-330-59
			US-PATENT-CLASS-128-2.08	N74-21019*	c 35	NASA-CASE-GSC-11600-1			US-PATENT-3,811,094
			US-PATENT-CLASS-73-23			US-PATENT-APPL-SN-318357	N74-22095*	c 35	NASA-CASE-NPO-10617-1
			US-PATENT-CLASS-73-421.5R			US-PATENT-CLASS-73-1F			US-PATENT-APPL-SN-828920
			US-PATENT-3,799,149			US-PATENT-3,802,249			US-PATENT-CLASS-73-190H
N74-20809*	c 32		NASA-CASE-MSC-12462-1	N74-21055*	c 37	NASA-CASE-LEW-11388-2			US-PATENT-3,648,516
			US-PATENT-APPL-SN-274360			US-PATENT-APPL-SN-289033	N74-22096*	c 32	NASA-CASE-XLE-04791
			US-PATENT-CLASS-178-88			US-PATENT-APPL-SN-293726			US-PATENT-APPL-SN-582213
			US-PATENT-CLASS-325-320			US-PATENT-CLASS-29-487			US-PATENT-CLASS-330-103
			US-PATENT-CLASS-325-423			US-PATENT-CLASS-29-494			US-PATENT-3,404,348
			US-PATENT-3,800,227			US-PATENT-CLASS-29-498	N74-22136*	c 18	NASA-CASE-MFS-20922-1
N74-20810*	c 32		NASA-CASE-MSC-12494-1			US-PATENT-CLASS-29-504			US-PATENT-APPL-SN-220274
			US-PATENT-APPL-SN-304705			US-PATENT-3,798,748			US-PATENT-CLASS-244-1SS
			US-PATENT-CLASS-325-321	N74-21056*	c 37	NASA-CASE-LAR-10688-1			US-PATENT-CLASS-49-68
			US-PATENT-CLASS-325-419			US-PATENT-APPL-SN-285705			US-PATENT-CLASS-61-83
			US-PATENT-3,806,816			US-PATENT-CLASS-235-151			US-PATENT-3,807,656
N74-20811*	c 32		NASA-CASE-NPO-13103-1			US-PATENT-CLASS-235-92PE	N74-22771*	c 52	NASA-CASE-ARC-10447-1
			US-PATENT-APPL-SN-338484			US-PATENT-CLASS-235-92SB			US-PATENT-APPL-SN-311175
			US-PATENT-CLASS-325-320			US-PATENT-3,800,253			US-PATENT-CLASS-128-214E
			US-PATENT-CLASS-325-419	N74-21057*	c 37	NASA-CASE-LAR-10941-1			US-PATENT-CLASS-235-151.3
			US-PATENT-CLASS-329-122			US-PATENT-APPL-SN-289048			US-PATENT-3,809,871
			US-PATENT-3,806,815			US-PATENT-CLASS-29-470.1	N74-22814*	c 33	NASA-CASE-NPO-13081-1

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N74-27902*	c 31	NASA-CASE-GSC-11445-1 US-PATENT-APPL-SN-248471 US-PATENT-CLASS-236-49 US-PATENT-CLASS-98-39 US-PATENT-3,818,814	N74-31269*	c 20	US-PATENT-3,827,288 NASA-CASE-LEW-11646-1 US-PATENT-APPL-SN-292686 US-PATENT-CLASS-204-192 US-PATENT-3,826,729	N74-33218*	c 07	US-PATENT-CLASS-149-60 US-PATENT-CLASS-149-76 US-PATENT-3,830,673 NASA-CASE-ARC-10712-1 US-PATENT-APPL-SN-344410 US-PATENT-CLASS-181-33HC US-PATENT-CLASS-239-265 11 US-PATENT-3,830,431
N74-27903*	c 37	NASA-CASE-MSC-12549-1 US-PATENT-APPL-SN-301039 US-PATENT-CLASS-244-1SD US-PATENT-3,820,741	N74-31270*	c 07	NASA-CASE-LAR-10642-1 US-PATENT-APPL-SN-266820 US-PATENT-CLASS-137-15.1 US-PATENT-CLASS-415-181 US-PATENT-3,829,237	N74-33378*	c 25	NASA-CASE-MFS-21675-1 US-PATENT-APPL-SN-392823 US-PATENT-CLASS-23-277C US-PATENT-CLASS-431-202 US-PATENT-3,833,336
N74-27904*	c 37	NASA-CASE-LEW-11672-1 US-PATENT-APPL-SN-305639 US-PATENT-CLASS-417-52 US-PATENT-3,819,299	N74-32418*	c 07	NASA-CASE-LAR-11141-1 US-PATENT-APPL-SN-359957 US-PATENT-CLASS-181-33C US-PATENT-CLASS-181-33F US-PATENT-CLASS-181-33H US-PATENT-CLASS-181-33L US-PATENT-CLASS-181-42 US-PATENT-3,830,335	N74-33379*	c 44	NASA-CASE-ARC-10461-1 US-PATENT-APPL-SN-336319 US-PATENT-CLASS-60-527 US-PATENT-3,830,080
N74-27905*	c 37	NASA-CASE-LAR-10450-1 US-PATENT-APPL-SN-289017 US-PATENT-CLASS-51-225 US-PATENT-CLASS-51-234 US-PATENT-CLASS-51-97R US-PATENT-3,820,286	N74-32546*	c 54	NASA-CASE-MSC-11072 US-PATENT-APPL-SN-689455 US-PATENT-CLASS-156-218 US-PATENT-CLASS-2-2.1A US-PATENT-CLASS-2-82 US-PATENT-3,832,735	N74-34638*	c 33	NASA-CASE-MFS-22343-1 US-PATENT-APPL-SN-329237 US-PATENT-CLASS-307-18 US-PATENT-CLASS-307-295 US-PATENT-CLASS-307-304 US-PATENT-CLASS-307-35 US-PATENT-3,840,829
N74-28097*	c 35	NASA-CASE-GSC-11479-1 US-PATENT-APPL-SN-293739 US-PATENT-CLASS-244-1SA US-PATENT-CLASS-74-5.5 US-PATENT-3,818,767	N74-32598*	c 32	NASA-CASE-MSC-14070-1 US-PATENT-APPL-SN-266940 US-PATENT-CLASS-340-146.1AQ US-PATENT-3,831,142	N74-34672*	c 85	NASA-CASE-LAR-10256-1 US-PATENT-APPL-SN-220785 US-PATENT-CLASS-104-138R US-PATENT-CLASS-104-23FS US-PATENT-CLASS-238-134 US-PATENT-3,837,285
N74-28226*	c 07	NASA-CASE-LEW-11402-1 US-PATENT-APPL-SN-219806 US-PATENT-CLASS-415-181 US-PATENT-CLASS-416-223 US-PATENT-CLASS-416-237 US-PATENT-3,820,918	N74-32660*	c 33	NASA-CASE-GSC-11617-1 US-PATENT-APPL-SN-402865 US-PATENT-CLASS-330-4.9 US-PATENT-CLASS-330-53 US-PATENT-3,833,857	N74-34857*	c 35	NASA-CASE-LAR-11428-1 US-PATENT-APPL-SN-188836 US-PATENT-APPL-SN-357126 US-PATENT-CLASS-250-281 US-PATENT-CLASS-250-295 US-PATENT-3,835,318
N74-29410*	c 19	NASA-CASE-MFS-21577-1 US-PATENT-APPL-SN-343308 US-PATENT-CLASS-250-372 US-PATENT-CLASS-250-394 US-PATENT-3,825,760	N74-32711*	c 33	NASA-CASE-MSC-14130-1 US-PATENT-APPL-SN-373587 US-PATENT-CLASS-307-267 US-PATENT-CLASS-328-58 US-PATENT-3,831,098	N75-12086*	c 25	NASA-CASE-ARC-10469-1 US-PATENT-APPL-SN-281908 US-PATENT-CLASS-195-103.5R US-PATENT-3,846,243
N74-29556*	c 33	NASA-CASE-KSC-10769-1 US-PATENT-APPL-SN-374583 US-PATENT-CLASS-318-602 US-PATENT-CLASS-318-603 US-PATENT-CLASS-318-664 US-PATENT-3,826,964	N74-32712*	c 33	NASA-CASE-NPO-11948-1 US-PATENT-APPL-SN-306652 US-PATENT-CLASS-307-230 US-PATENT-CLASS-330-69 US-PATENT-CLASS-333-80R US-PATENT-3,831,117	N75-12087*	c 25	NASA-CASE-ARC-10643-1 US-PATENT-APPL-SN-513389 US-PATENT-CLASS-117-161UA US-PATENT-CLASS-117-161UN US-PATENT-CLASS-117-161UZ US-PATENT-CLASS-117-93.1GD US-PATENT-CLASS-204-177 US-PATENT-CLASS-210-500 US-PATENT-CLASS-264-217 US-PATENT-CLASS-264-22 US-PATENT-3,847,652
N74-30001*	c 24	NASA-CASE-LAR-10416-1 US-PATENT-APPL-SN-251752 US-PATENT-CLASS-156-94 US-PATENT-3,814,645	N74-32877*	c 35	NASA-CASE-LAR-10806-1 US-PATENT-APPL-SN-322998 US-PATENT-CLASS-33-1M US-PATENT-CLASS-33-23R US-PATENT-CLASS-338-89 US-PATENT-CLASS-340-347AD US-PATENT-CLASS-346-33R US-PATENT-3,832,781	N75-12161*	c 31	NASA-CASE-MFS-20775-1 US-PATENT-APPL-SN-356664 US-PATENT-CLASS-118-49.1 US-PATENT-3,847,115
N74-30156*	c 75	NASA-CASE-ARC-10598-1 US-PATENT-APPL-SN-318151 US-PATENT-CLASS-356-201 US-PATENT-CLASS-356-43 US-PATENT-CLASS-356-73 US-PATENT-CLASS-356-85 US-PATENT-CLASS-356-87 US-PATENT-3,817,622	N74-32878*	c 35	NASA-CASE-LAR-11139-1 US-PATENT-APPL-SN-287149 US-PATENT-CLASS-73-182 US-PATENT-CLASS-73-388 US-PATENT-3,832,903	N75-12222*	c 34	NASA-CASE-GSC-11619-1 US-PATENT-APPL-SN-397476 US-PATENT-CLASS-138-113 US-PATENT-CLASS-138-114 US-PATENT-CLASS-138-148 US-PATENT-CLASS-165-1 US-PATENT-CLASS-165-105 US-PATENT-CLASS-165-47 US-PATENT-CLASS-220-15 US-PATENT-CLASS-244-1SC US-PATENT-3,847,208
N74-30421*	c 08	NASA-CASE-LAR-10753-1 US-PATENT-APPL-SN-289018 US-PATENT-CLASS-244-327 US-PATENT-CLASS-244-90R US-PATENT-CLASS-244-91 US-PATENT-3,826,448	N74-32879*	c 35	NASA-CASE-MSC-14187-1 US-PATENT-APPL-SN-326326 US-PATENT-CLASS-23-230L US-PATENT-CLASS-73-104 US-PATENT-CLASS-73-15.4 US-PATENT-CLASS-73-40.7 US-PATENT-3,830,094	N75-12270*	c 35	NASA-CASE-MFS-20775-1 US-PATENT-APPL-SN-356664 US-PATENT-CLASS-118-49.1 US-PATENT-3,847,115
N74-30502*	c 25	NASA-CASE-LEW-10906-1 US-PATENT-APPL-SN-245279 US-PATENT-APPL-SN-876588 US-PATENT-CLASS-204-157.1H US-PATENT-3,826,726	N74-32917*	c 31	NASA-CASE-NPO-13205-1 US-PATENT-APPL-SN-393525 US-PATENT-CLASS-425-28B US-PATENT-CLASS-425-35 US-PATENT-3,833,322	N75-12271*	c 35	NASA-CASE-MFS-20994-1 US-PATENT-APPL-SN-386789 US-PATENT-CLASS-128-2V US-PATENT-CLASS-73-67.1 US-PATENT-3,847,141
N74-30523*	c 32	NASA-CASE-NPO-11921-1 US-PATENT-APPL-SN-359039 US-PATENT-CLASS-179-15BC US-PATENT-CLASS-325-346 US-PATENT-3,828,138	N74-32918*	c 37	NASA-CASE-NPO-13157-1 US-PATENT-APPL-SN-370872 US-PATENT-CLASS-29-203H US-PATENT-CLASS-29-268 US-PATENT-3,832,764	N75-12272*	c 35	NASA-CASE-LAR-11069-1 US-PATENT-APPL-SN-326198 US-PATENT-CLASS-195-127 US-PATENT-3,841,973
N74-30524*	c 32	NASA-CASE-MSC-13912-1 US-PATENT-APPL-SN-310034 US-PATENT-CLASS-179-15AT US-PATENT-CLASS-179-15BY US-PATENT-3,828,137	N74-32919*	c 20	NASA-CASE-LEW-11118-1 US-PATENT-APPL-SN-289050 US-PATENT-CLASS-204-9 US-PATENT-3,832,290	N75-12273*	c 35	NASA-CASE-MFS-20506-1 US-PATENT-APPL-SN-328792 US-PATENT-CLASS-33-DIG.13 US-PATENT-CLASS-33-180R US-PATENT-CLASS-350-292 US-PATENT-3,842,509
N74-30597*	c 09	NASA-CASE-LAR-10550-1 US-PATENT-APPL-SN-261183 US-PATENT-CLASS-35-12E US-PATENT-3,824,707	N74-32920*	c 31	NASA-CASE-LAR-10489-2 US-PATENT-APPL-SN-198763 US-PATENT-APPL-SN-350300 US-PATENT-CLASS-249-145 US-PATENT-CLASS-249-184 US-PATENT-CLASS-249-83 US-PATENT-CLASS-249-95 US-PATENT-CLASS-425-128 US-PATENT-CLASS-425-415 US-PATENT-3,830,609	N75-12326*	c 37	NASA-CASE-LAR-11211-1 US-PATENT-APPL-SN-302681 US-PATENT-CLASS-29-470.1 US-PATENT-CLASS-29-475 US-PATENT-3,842,485
N74-30608*	c 34	NASA-CASE-LAR-10194-1 US-PATENT-APPL-SN-169962 US-PATENT-CLASS-55-159 US-PATENT-CLASS-55-199 US-PATENT-CLASS-55-43 US-PATENT-3,828,524	N74-32921*	c 37	NASA-CASE-LEW-11076-2 US-PATENT-APPL-SN-238264 US-PATENT-APPL-SN-346483 US-PATENT-CLASS-308-121 US-PATENT-3,830,552	N75-12616*	c 54	NASA-CASE-MFS-21611-1 US-PATENT-APPL-SN-403684 US-PATENT-CLASS-214-1CM US-PATENT-CLASS-307-149 US-PATENT-CLASS-308-174
N74-30886*	c 89	NASA-CASE-GSC-11569-1 US-PATENT-APPL-SN-293725 US-PATENT-CLASS-250-203R US-PATENT-CLASS-33-268 US-PATENT-CLASS-356-141 US-PATENT-CLASS-356-147 US-PATENT-3,827,807	N74-33209*	c 28	NASA-CASE-NPO-11975-1 US-PATENT-APPL-SN-329243 US-PATENT-CLASS-149-17			
N74-31148*	c 71	NASA-CASE-NPO-11623-1 US-PATENT-APPL-SN-235338 US-PATENT-CLASS-181.5R US-PATENT-CLASS-73-69 US-PATENT-CLASS-73-71.5R						

N75-12732*	c 74	US-PATENT-3,849,668 NASA-CASE-ARC-10448-2 US-PATENT-APPL-SN-374424 US-PATENT-CLASS-156-16 US-PATENT-CLASS-156-18 US-PATENT-CLASS-156-7 US-PATENT-CLASS-250-495 US-PATENT-3,847,689	N75-13539*	c 60	US-PATENT-3,850,169 NASA-CASE-ARC-10466-1 US-PATENT-APPL-SN-352382 US-PATENT-CLASS-235-156 US-PATENT-CLASS-235-197 US-PATENT-CLASS-324-77B US-PATENT-3,851,162	N75-16783*	c 35	US-PATENT-CLASS-117-93.3 US-PATENT-CLASS-156-89 US-PATENT-CLASS-156-99 US-PATENT-CLASS-29-472.7 US-PATENT-CLASS-29-473.1 US-PATENT-CLASS-65-43 US-PATENT-3,859,714
N75-12810*	c 76	NASA-CASE-LAR-11059-1 US-PATENT-APPL-SN-367294 US-PATENT-CLASS-73-32R US-PATENT-CLASS-73-432PS US-PATENT-3,842,656	N75-13625*	c 75	NASA-CASE-MFS-22145-1 US-PATENT-APPL-SN-367606 US-PATENT-CLASS-176-3 US-PATENT-CLASS-313-63 US-PATENT-CLASS-315-111 US-PATENT-CLASS-328-233 US-PATENT-3,854,097	N75-18310*	c 20	NASA-CASE-LEW-11694-1 US-PATENT-APPL-SN-352381 US-PATENT-CLASS-29-25.18 US-PATENT-CLASS-72-63 US-PATENT-3,864,797
N75-12930*	c 05	NASA-CASE-ARC-10456-1 US-PATENT-APPL-SN-237491 US-PATENT-CLASS-244-75R US-PATENT-CLASS-244-83R US-PATENT-CLASS-416-25 US-PATENT-CLASS-74-480R US-PATENT-3,850,388	N75-14834*	c 23	NASA-CASE-MS-13530-2 US-PATENT-APPL-SN-178771 US-PATENT-APPL-SN-69488 US-PATENT-CLASS-106-13 US-PATENT-CLASS-106-15R US-PATENT-CLASS-106-287SB US-PATENT-CLASS-117-124F US-PATENT-CLASS-117-135.5 US-PATENT-CLASS-252-549 US-PATENT-CLASS-252-70 US-PATENT-3,856,534	N75-18477*	c 33	NASA-CASE-MFS-22129-1 US-PATENT-APPL-SN-370255 US-PATENT-CLASS-324-32 US-PATENT-CLASS-324-54 US-PATENT-3,866,114
N75-12968*	c 09	NASA-CASE-MFS-22039-1 US-PATENT-APPL-SN-386790 US-PATENT-CLASS-108-136 US-PATENT-3,853,075	N75-14844*	c 25	NASA-CASE-NPO-12130-1 US-PATENT-APPL-SN-750235 US-PATENT-CLASS-23-230B US-PATENT-CLASS-23-253R US-PATENT-3,856,471	N75-18479*	c 33	NASA-CASE-MS-14129-1 US-PATENT-APPL-SN-362146 US-PATENT-CLASS-307-229 US-PATENT-CLASS-307-235R US-PATENT-CLASS-307-267 US-PATENT-CLASS-328-115 US-PATENT-CLASS-328-151 US-PATENT-CLASS-328-58 US-PATENT-3,869,624
N75-12969*	c 09	NASA-CASE-ARC-10710-1 US-PATENT-APPL-SN-379019 US-PATENT-CLASS-73-147 US-PATENT-3,853,003	N75-14957*	c 33	NASA-CASE-MS-14240-1 US-PATENT-APPL-SN-351929 US-PATENT-CLASS-307-205 US-PATENT-CLASS-307-208 US-PATENT-3,857,045	N75-18573*	c 37	NASA-CASE-NPO-13253-1 US-PATENT-APPL-SN-395687 US-PATENT-CLASS-248-358R US-PATENT-3,863,881
N75-13007*	c 15	NASA-CASE-GSC-11182-1 US-PATENT-APPL-SN-393527 US-PATENT-CLASS-325-4 US-PATENT-3,851,250	N75-15014*	c 35	NASA-CASE-LAR-11213-1 US-PATENT-APPL-SN-406715 US-PATENT-CLASS-250-201 US-PATENT-CLASS-356-4 US-PATENT-3,857,031	N75-18574*	c 37	NASA-CASE-GSC-11079-1 US-PATENT-APPL-SN-100637 US-PATENT-CLASS-308-10 US-PATENT-3,865,442
N75-13032*	c 24	NASA-CASE-LAR-10994-1 US-PATENT-APPL-SN-390466 US-PATENT-CLASS-29-420 US-PATENT-CLASS-29-604 US-PATENT-CLASS-340-174MA US-PATENT-CLASS-75-200 US-PATENT-3,849,877	N75-15028*	c 36	NASA-CASE-MFS-21244-1 US-PATENT-APPL-SN-350249 US-PATENT-CLASS-356-103 US-PATENT-CLASS-356-28 US-PATENT-CLASS-356-5 US-PATENT-3,856,402	N75-19329*	c 18	NASA-CASE-MFS-22734-1 US-PATENT-APPL-SN-453232 US-PATENT-CLASS-244-162 US-PATENT-3,866,863
N75-13111*	c 31	NASA-CASE-LAR-10782-2 US-PATENT-APPL-SN-197689 US-PATENT-APPL-SN-379049 US-PATENT-CLASS-249-144 US-PATENT-CLASS-249-145 US-PATENT-CLASS-249-59 US-PATENT-CLASS-425-DIG.43 US-PATENT-CLASS-425-405R US-PATENT-CLASS-425-438 US-PATENT-CLASS-425-468 US-PATENT-3,850,567	N75-15029*	c 36	NASA-CASE-NPO-13050-1 US-PATENT-APPL-SN-317567 US-PATENT-CLASS-117-95 US-PATENT-CLASS-117-97 US-PATENT-CLASS-330-4 US-PATENT-CLASS-332-7.5 US-PATENT-3,859,119	N75-19408*	c 26	NASA-CASE-LEW-11696-2 US-PATENT-APPL-SN-298156 US-PATENT-APPL-SN-436315 US-PATENT-CLASS-29-194 US-PATENT-CLASS-29-196.2 US-PATENT-CLASS-29-196.6 US-PATENT-CLASS-29-197 US-PATENT-3,869,779
N75-13139*	c 33	NASA-CASE-MFS-22073-1 US-PATENT-APPL-SN-409991 US-PATENT-CLASS-318-608 US-PATENT-CLASS-318-640 US-PATENT-CLASS-318-649 US-PATENT-CLASS-318-675 US-PATENT-3,851,238	N75-15050*	c 37	NASA-CASE-NPO-13201-1 US-PATENT-APPL-SN-372149 US-PATENT-CLASS-137-505.38 US-PATENT-CLASS-137-505.42 US-PATENT-CLASS-74-424.8VA US-PATENT-3,856,042	N75-19515*	c 33	NASA-CASE-MS-14131-1 US-PATENT-APPL-SN-373588 US-PATENT-CLASS-307-260 US-PATENT-CLASS-324-78J US-PATENT-CLASS-328-59 US-PATENT-CLASS-331-78 US-PATENT-3,866,128
N75-13213*	c 35	NASA-CASE-LEW-11632-2 US-PATENT-APPL-SN-254173 US-PATENT-APPL-SN-327969 US-PATENT-CLASS-29-571 US-PATENT-CLASS-29-592 US-PATENT-CLASS-307-309 US-PATENT-CLASS-317-235H US-PATENT-CLASS-330-6 US-PATENT-3,849,875	N75-15270*	c 52	NASA-CASE-NPO-12119-1 US-PATENT-APPL-SN-847815 US-PATENT-CLASS-424-180 US-PATENT-3,849,554	N75-19516*	c 33	NASA-CASE-GSC-11760-1 NASA-CASE-GSC-11763-1 US-PATENT-APPL-SN-395868 US-PATENT-CLASS-343-761 US-PATENT-CLASS-343-781 US-PATENT-CLASS-343-837 US-PATENT-3,866,233
N75-13261*	c 37	NASA-CASE-LEW-11696-1 US-PATENT-APPL-SN-298156 US-PATENT-CLASS-29-196.6 US-PATENT-CLASS-29-197 US-PATENT-CLASS-29-460 US-PATENT-CLASS-29-494 US-PATENT-CLASS-29-497.5 US-PATENT-CLASS-29-504 US-PATENT-3,849,865	N75-15662*	c 09	NASA-CASE-LAR-10276-1 US-PATENT-APPL-SN-29979 US-PATENT-CLASS-272-1R US-PATENT-CLASS-272-57A US-PATENT-CLASS-35-12C US-PATENT-3,859,736	N75-19517*	c 33	NASA-CASE-GSC-11582-1 US-PATENT-APPL-SN-397477 US-PATENT-CLASS-178-15 US-PATENT-CLASS-315-18 US-PATENT-CLASS-340-324AD US-PATENT-3,866,210
N75-13265*	c 37	NASA-CASE-KSC-10723-1 US-PATENT-APPL-SN-347952 US-PATENT-CLASS-338-162 US-PATENT-CLASS-338-75 US-PATENT-CLASS-338-97 US-PATENT-3,854,113	N75-15854*	c 32	NASA-CASE-NPO-13292-1 US-PATENT-APPL-SN-416135 US-PATENT-CLASS-343-100ST US-PATENT-CLASS-343-17.5 US-PATENT-CLASS-343-6.5R US-PATENT-CLASS-343-9 US-PATENT-3,860,921	N75-19518*	c 33	NASA-CASE-ARC-10348-1 US-PATENT-APPL-SN-140439 US-PATENT-CLASS-330-69 US-PATENT-CLASS-330-86 US-PATENT-3,872,395
N75-13266*	c 37	NASA-CASE-NPO-13281-1 US-PATENT-APPL-SN-412079 US-PATENT-CLASS-74-436 US-PATENT-CLASS-74-820 US-PATENT-3,855,873	N75-15874*	c 33	NASA-CASE-MFS-22088-1 US-PATENT-APPL-SN-426155 US-PATENT-CLASS-318-227 US-PATENT-CLASS-318-230 US-PATENT-CLASS-318-231 US-PATENT-3,860,858	N75-19519*	c 33	NASA-CASE-NPO-13125-1 US-PATENT-APPL-SN-319150 US-PATENT-CLASS-235-92DM US-PATENT-CLASS-235-92LG US-PATENT-CLASS-235-92R US-PATENT-CLASS-235-92T US-PATENT-CLASS-235-92VA US-PATENT-3,866,021
N75-13502*	c 51	NASA-CASE-LAR-11074-1 US-PATENT-APPL-SN-326364 US-PATENT-CLASS-115-103.5 US-PATENT-CLASS-195-120 US-PATENT-CLASS-195-127 US-PATENT-3,850,754	N75-15931*	c 35	NASA-CASE-MFS-21761-1 US-PATENT-APPL-SN-337816 US-PATENT-CLASS-200-83N US-PATENT-CLASS-73-40 US-PATENT-CLASS-73-49.2 US-PATENT-3,859,845	N75-19520*	c 33	NASA-CASE-ARC-10364-3 US-PATENT-APPL-SN-209618 US-PATENT-APPL-SN-462844 US-PATENT-CLASS-307-321 US-PATENT-CLASS-324-DIG.1 US-PATENT-CLASS-329-166 US-PATENT-CLASS-329-204 US-PATENT-CLASS-332-47 US-PATENT-3,869,676
N75-13531*	c 54	NASA-CASE-LEW-11581-1 US-PATENT-APPL-SN-327921 US-PATENT-CLASS-128-2.05A US-PATENT-CLASS-128-2.05P	N75-15932*	c 35	NASA-CASE-MFS-21045-1 US-PATENT-APPL-SN-411572 US-PATENT-CLASS-73-1R US-PATENT-CLASS-73-379 US-PATENT-3,859,840	N75-19521*	c 33	NASA-CASE-KSC-10736-1 US-PATENT-APPL-SN-348787 US-PATENT-CLASS-324-102 US-PATENT-CLASS-324-113

N75-19522*	c 33	US-PATENT-3,869,667 NASA-CASE-GSC-11844-1 US-PATENT-APPL-SN-452761 US-PATENT-CLASS-307-227 US-PATENT-CLASS-321-15 US-PATENT-CLASS-324-32 US-PATENT-3,869,659	N75-20140*	c 77	US-PATENT-CLASS-165-111 US-PATENT-CLASS-62-285 US-PATENT-CLASS-62-288 US-PATENT-CLASS-62-289 US-PATENT-CLASS-62-290 US-PATENT-CLASS-62-317 US-PATENT-CLASS-62-93 US-PATENT-3,868,830 NASA-CASE-GSC-11752-1 US-PATENT-APPL-SN-446569 US-PATENT-CLASS-219-497 US-PATENT-CLASS-219-501 US-PATENT-CLASS-219-505 US-PATENT-3,869,597	N75-25041*	c 33	US-PATENT-CLASS-331-25 US-PATENT-3,883,817 NASA-CASE-ARC-10364-2 US-PATENT-APPL-SN-209618 US-PATENT-APPL-SN-433968 US-PATENT-CLASS-307-321 US-PATENT-CLASS-324-DIG.1 US-PATENT-CLASS-329-166 US-PATENT-CLASS-329-204 US-PATENT-3,883,812
N75-19524*	c 33	NASA-CASE-NPO-13374-1 US-PATENT-APPL-SN-449118 US-PATENT-CLASS-318-137 US-PATENT-CLASS-318-167 US-PATENT-CLASS-318-176 US-PATENT-CLASS-318-183 US-PATENT-3,867,677	N75-21485*	c 32	NASA-CASE-MS-12607-1 US-PATENT-APPL-SN-407323 US-PATENT-CLASS-178-DIG.12 US-PATENT-CLASS-358-36 US-PATENT-3,875,584	N75-25122*	c 35	NASA-CASE-NPO-10764-2 US-PATENT-APPL-SN-273519 US-PATENT-APPL-SN-836280 US-PATENT-CLASS-116-114.5 US-PATENT-CLASS-117-72 US-PATENT-CLASS-73-356 US-PATENT-3,874,24C
N75-19611*	c 35	NASA-CASE-LAR-11071-1 US-PATENT-APPL-SN-334349 US-PATENT-CLASS-417-138 US-PATENT-CLASS-417-36 US-PATENT-CLASS-417-395 US-PATENT-CLASS-73-221 US-PATENT-3,864,060	N75-21486*	c 32	NASA-CASE-MS-14558-1 US-PATENT-APPL-SN-428994 US-PATENT-CLASS-178-58A US-PATENT-CLASS-178-79 US-PATENT-3,875,332	N75-25123*	c 35	NASA-CASE-NPO-13214-1 NASA-CASE-NPO-13215-1 US-PATENT-APPL-SN-394149 US-PATENT-CLASS-178-DIG.29 US-PATENT-CLASS-178-7.2 US-PATENT-3,883,689
N75-19612*	c 35	NASA-CASE-LAR-11237-1 US-PATENT-APPL-SN-402868 US-PATENT-CLASS-340-242 US-PATENT-CLASS-73-46 US-PATENT-CLASS-73-49.2 US-PATENT-3,864,960	N75-21582*	c 35	NASA-CASE-MFS-22671-1 US-PATENT-APPL-SN-419831 US-PATENT-CLASS-178-69A US-PATENT-CLASS-235-181 US-PATENT-CLASS-324-57PS US-PATENT-CLASS-324-77H US-PATENT-CLASS-325-67 US-PATENT-3,875,500	N75-25124*	c 35	NASA-CASE-MFS-21704-1 US-PATENT-APPL-SN-386793 US-PATENT-CLASS-350-3.5 US-PATENT-3,883,215
N75-19613*	c 35	NASA-CASE-LAR-11207-1 US-PATENT-APPL-SN-385013 US-PATENT-CLASS-178-DIG.20 US-PATENT-CLASS-250-332 US-PATENT-CLASS-356-186 US-PATENT-CLASS-356-189 US-PATENT-CLASS-356-83 US-PATENT-CLASS-356-96 US-PATENT-3,869,212	N75-21631*	c 37	NASA-CASE-LEW-11274-1 US-PATENT-APPL-SN-380630 US-PATENT-CLASS-277-134 US-PATENT-CLASS-277-27 US-PATENT-CLASS-277-40 US-PATENT-3,874,677	N75-25185*	c 37	NASA-CASE-NPO-13360-1 US-PATENT-APPL-SN-401920 US-PATENT-CLASS-228-1 US-PATENT-CLASS-251-333 US-PATENT-3,874,635
N75-19614*	c 35	NASA-CASE-LAR-11173-1 US-PATENT-APPL-SN-354408 US-PATENT-CLASS-332-2 US-PATENT-CLASS-73-557 US-PATENT-3,868,856	N75-23910*	c 35	NASA-CASE-NPO-13327-1 US-PATENT-APPL-SN-429437 US-PATENT-CLASS-247-171 US-PATENT-CLASS-250-203 US-PATENT-CLASS-250-211R US-PATENT-3,875,404	N75-25186*	c 37	NASA-CASE-MFS-22649-1 US-PATENT-APPL-SN-398901 US-PATENT-CLASS-408-112 US-PATENT-CLASS-408-186 US-PATENT-CLASS-408-193 US-PATENT-CLASS-408-195 US-PATENT-3,877,833
N75-19615*	c 35	NASA-CASE-MFS-22189-1 US-PATENT-APPL-SN-405342 US-PATENT-CLASS-33-148D US-PATENT-CLASS-73-143 US-PATENT-3,864,953	N75-24716*	c 05	NASA-CASE-MS-14339-1 US-PATENT-APPL-SN-347953 US-PATENT-CLASS-128-2.06E US-PATENT-CLASS-128-DIG.4 US-PATENT-CLASS-128-2.06B US-PATENT-3,882,846	N75-25503*	c 51	NASA-CASE-ARC-10722-1 US-PATENT-APPL-SN-428995 US-PATENT-CLASS-47-1.2 US-PATENT-CLASS-47-39 US-PATENT-CLASS-47-58 US-PATENT-3,882,634
N75-19616*	c 35	NASA-CASE-MFS-20932-1 US-PATENT-APPL-SN-374441 US-PATENT-CLASS-250-505 US-PATENT-CLASS-250-508 US-PATENT-CLASS-250-510 US-PATENT-3,869,615	N75-24736*	c 07	NASA-CASE-ARC-10754-1 US-PATENT-APPL-SN-398886 US-PATENT-CLASS-137-15.1 US-PATENT-CLASS-244-53B US-PATENT-3,883,095	N75-25706*	c 74	NASA-CASE-HQN-10542-1 US-PATENT-APPL-SN-163151 US-PATENT-CLASS-178-DIG.25 US-PATENT-CLASS-250-566 US-PATENT-CLASS-350-311 US-PATENT-3,883,436
N75-19652*	c 36	NASA-CASE-NPO-13131-1 US-PATENT-APPL-SN-390468 US-PATENT-CLASS-178-7.1 US-PATENT-CLASS-250-211R US-PATENT-CLASS-250-578 US-PATENT-CLASS-315-169R US-PATENT-CLASS-340-173LS US-PATENT-3,865,975	N75-24758*	c 09	NASA-CASE-GSC-11127-1 US-PATENT-APPL-SN-401466 US-PATENT-CLASS-318-314 US-PATENT-CLASS-318-318 US-PATENT-CLASS-318-341 US-PATENT-3,883,785	N75-25730*	c 76	NASA-CASE-GSC-11425-2 US-PATENT-APPL-SN-206266 US-PATENT-APPL-SN-394206 US-PATENT-CLASS-357-23 US-PATENT-CLASS-357-29 US-PATENT-CLASS-357-42 US-PATENT-CLASS-357-52 US-PATENT-CLASS-357-54 US-PATENT-CLASS-357-91 US-PATENT-3,882,530
N75-19653*	c 36	NASA-CASE-HQN-10844-1 US-PATENT-APPL-SN-412080 US-PATENT-CLASS-356-106LR US-PATENT-3,869,210	N75-24774*	c 12	NASA-CASE-NPO-13263-1 US-PATENT-APPL-SN-393523 US-PATENT-CLASS-73-505 US-PATENT-3,882,732	N75-25914*	c 05	NASA-CASE-LAR-11252-1 US-PATENT-APPL-SN-367268 US-PATENT-CLASS-D12-76 US-PATENT-CLASS-244-13 US-PATENT-CLASS-244-15 US-PATENT-CLASS-244-42DA US-PATENT-CLASS-244-55 US-PATENT-3,884,432
N75-19654*	c 36	NASA-CASE-GSC-11746-1 US-PATENT-APPL-SN-393528 US-PATENT-CLASS-331-94.5M US-PATENT-3,869,680	N75-24794*	c 14	NASA-CASE-MFS-21488-1 US-PATENT-APPL-SN-359156 US-PATENT-CLASS-73-143 US-PATENT-3,882,719	N75-25915*	c 05	NASA-CASE-ARC-10519-2 US-PATENT-APPL-SN-452767 US-PATENT-CLASS-280-150SB US-PATENT-CLASS-297-385 US-PATENT-CLASS-297-388 US-PATENT-CLASS-297-389 US-PATENT-3,887,233
N75-19655*	c 36	NASA-CASE-LAR-11341-1 US-PATENT-APPL-SN-367293 US-PATENT-CLASS-330-4.3 US-PATENT-CLASS-331-94.5P US-PATENT-3,868,591	N75-24837*	c 20	NASA-CASE-NPO-13303-1 US-PATENT-APPL-SN-457295 US-PATENT-CLASS-310-10 US-PATENT-CLASS-310-40 US-PATENT-CLASS-310-52 US-PATENT-CLASS-310-52 US-PATENT-CLASS-335-216 US-PATENT-CLASS-60-516 US-PATENT-CLASS-60-530 US-PATENT-CLASS-62-3 US-PATENT-CLASS-62-467 US-PATENT-3,875,435	N75-26043*	c 25	NASA-CASE-LAR-11144-1 US-PATENT-APPL-SN-426405 US-PATENT-CLASS-117-106A US-PATENT-CLASS-117-107.2 US-PATENT-CLASS-117-201 US-PATENT-CLASS-118-48 US-PATENT-CLASS-118-49.1 US-PATENT-CLASS-148-175 US-PATENT-CLASS-252-62.3GA US-PATENT-3,888,705
N75-19683*	c 37	NASA-CASE-MS-19095-1 US-PATENT-APPL-SN-415486 US-PATENT-CLASS-219-137 US-PATENT-3,864,542	N75-24981*	c 32	NASA-CASE-GSC-11743-1 US-PATENT-APPL-SN-370271 US-PATENT-CLASS-178-66R US-PATENT-CLASS-325-30 US-PATENT-CLASS-325-60 US-PATENT-3,878,464	N75-26194*	c 32	NASA-CASE-NPO-13217-1 US-PATENT-APPL-SN-362145 US-PATENT-CLASS-343-105R US-PATENT-CLASS-343-112D US-PATENT-3,889,264
N75-19684*	c 37	NASA-CASE-NPO-13345-1 US-PATENT-APPL-SN-462705 US-PATENT-CLASS-204-192 US-PATENT-CLASS-204-298 US-PATENT-3,864,239	N75-24982*	c 32	NASA-CASE-NPO-13140-1 US-PATENT-APPL-SN-374422 US-PATENT-CLASS-343-100PE US-PATENT-CLASS-343-5GC US-PATENT-3,883,872	N75-26195*	c 32	NASA-CASE-NPO-13321-1 US-PATENT-APPL-SN-455163 US-PATENT-CLASS-178-69.5R US-PATENT-CLASS-179-15BS US-PATENT-CLASS-325-4
N75-19685*	c 37	NASA-CASE-MFS-21606-1 US-PATENT-APPL-SN-356555 US-PATENT-CLASS-292-DIG.15 US-PATENT-CLASS-292-108 US-PATENT-CLASS-292-122 US-PATENT-3,869,160	N75-25040*	c 33	NASA-CASE-GSC-11623-1 US-PATENT-APPL-SN-389929 US-PATENT-CLASS-331-1A US-PATENT-CLASS-331-18			
N75-19686*	c 37	NASA-CASE-MFS-19193-1 US-PATENT-APPL-SN-461477 US-PATENT-CLASS-285-114 US-PATENT-CLASS-285-226 US-PATENT-3,869,151						
N75-20139*	c 77	NASA-CASE-MS-14143-1 US-PATENT-APPL-SN-393526 US-PATENT-CLASS-165-110						

N75-26243*	c 33	US-PATENT-3,889,064	N75-27251*	c 33	US-PATENT-3,189,784	N75-29381*	c 35	US-PATENT-CLASS-311-37	
		NASA-CASE-GSC-11744-1			NASA-CASE-HQN-10069			US-PATENT-CLASS-331-65	
		US-PATENT-APPL-SN-353162			US-PATENT-APPL-SN-739072			US-PATENT-CLASS-73-23	
		US-PATENT-CLASS-179-158C			US-PATENT-CLASS-330-5			US-PATENT-3,895,912	
		US-PATENT-CLASS-235-150.53			US-PATENT-3,551,831			NASA-CASE-ARC-10806-1	
N75-26244*	c 33	US-PATENT-CLASS-235-181	N75-27252*	c 33	NASA-CASE-LAR-11042-1	N75-29382*	c 35	US-PATENT-APPL-SN-478802	
		US-PATENT-CLASS-324-83Q			US-PATENT-APPL-SN-440916			US-PATENT-CLASS-73-178R	
		US-PATENT-CLASS-328-133			US-PATENT-CLASS-204-242			US-PATENT-3,895,521	
		US-PATENT-3,875,394			US-PATENT-CLASS-204-267			NASA-CASE-XMS-05731	
		NASA-CASE-MFS-22208-1			US-PATENT-CLASS-204-279			US-PATENT-APPL-SN-441279	
N75-26245*	c 33	US-PATENT-APPL-SN-448325	N75-27328*	c 35	US-PATENT-CLASS-204-286	N75-29426*	c 37	US-PATENT-CLASS-73-117.4	
		US-PATENT-CLASS-315-10			US-PATENT-CLASS-204-290R			US-PATENT-3,375,712	
		US-PATENT-CLASS-315-367			US-PATENT-3,891,533			NASA-CASE-XLE-10717	
		US-PATENT-CLASS-315-369			NASA-CASE-MFS-22537-1			US-PATENT-APPL-SN-844243	
		US-PATENT-CLASS-315-387			US-PATENT-APPL-SN-387266			US-PATENT-CLASS-315-111	
N75-26246*	c 33	US-PATENT-3,889,155	N75-27329*	c 35	US-PATENT-CLASS-350-3.5	N75-30132*	c 03	US-PATENT-3,004,189	
		NASA-CASE-LAR-11352-1			US-PATENT-3,888,561			NASA-CASE-ERC-10419-1	
		US-PATENT-APPL-SN-459736			NASA-CASE-XMF-05882			US-PATENT-APPL-SN-219722	
		US-PATENT-CLASS-23-254E			US-PATENT-APPL-SN-533650			US-PATENT-CLASS-343-112CA	
		US-PATENT-CLASS-324-58.5A			US-PATENT-CLASS-250-83.3			US-PATENT-CLASS-343-6.5R	
N75-26246*	c 33	US-PATENT-CLASS-324-58.5C	N75-27330*	c 35	US-PATENT-3,454,766	N75-30256*	c 23	US-PATENT-3,900,847	
		US-PATENT-3,889,182			NASA-CASE-LAR-11354-1			NASA-CASE-MFS-22356-1	
		NASA-CASE-KSC-10807-1			US-PATENT-APPL-SN-409990			US-PATENT-APPL-SN-489008	
		US-PATENT-APPL-SN-461073			US-PATENT-CLASS-195-103.5R			US-PATENT-CLASS-260-346.3	
		US-PATENT-CLASS-324-72			US-PATENT-CLASS-195-120			US-PATENT-CLASS-260-520	
N75-26282*	c 34	US-PATENT-3,889,185	N75-27331*	c 35	US-PATENT-CLASS-195-127	N75-30260*	c 24	US-PATENT-CLASS-260-78TF	
		NASA-CASE-LAR-11110-1			US-PATENT-CLASS-195-141			US-PATENT-3,899,517	
		US-PATENT-APPL-SN-420424			US-PATENT-3,884,765			NASA-CASE-LAR-10337-1	
		US-PATENT-CLASS-233-DIG.1			NASA-CASE-GSC-11829-1			US-PATENT-APPL-SN-424038	
		US-PATENT-CLASS-233-20RP			US-PATENT-APPL-SN-502136			US-PATENT-CLASS-29-610	
N75-26334*	c 35	US-PATENT-CLASS-233-25	N75-27364*	c 36	US-PATENT-CLASS-250-385	N75-30428*	c 33	US-PATENT-CLASS-29-613	
		US-PATENT-CLASS-233-46			US-PATENT-3,891,851			US-PATENT-CLASS-338-13	
		US-PATENT-CLASS-233-6			NASA-CASE-XLE-2529-2			US-PATENT-CLASS-338-283	
		US-PATENT-3,888,410			US-PATENT-APPL-SN-848403			US-PATENT-3,898,730	
		NASA-CASE-ARC-10344-2			US-PATENT-CLASS-240-4.1B			NASA-CASE-MFS-22342-1	
N75-26371*	c 37	US-PATENT-APPL-SN-446564	N75-27376*	c 37	US-PATENT-CLASS-330-4.3	N75-30429*	c 33	US-PATENT-APPL-SN-361666	
		US-PATENT-CLASS-55-386			US-PATENT-CLASS-331-94.5A			US-PATENT-CLASS-330-13	
		US-PATENT-3,887,345			US-PATENT-3,894,289			US-PATENT-CLASS-330-18	
		NASA-CASE-GSC-10984-1			NASA-CASE-XMS-01330			US-PATENT-CLASS-330-40	
		US-PATENT-APPL-SN-127480			US-PATENT-APPL-SN-153624			US-PATENT-CLASS-330-63	
N75-26372*	c 37	US-PATENT-CLASS-117-126GM	N75-27585*	c 45	US-PATENT-APPL-SN-322565	N75-30430*	c 33	US-PATENT-3,898,578	
		US-PATENT-CLASS-117-126R			US-PATENT-CLASS-219-125			NASA-CASE-MFS-21616-1	
		US-PATENT-CLASS-161-92			US-PATENT-3,275,794			US-PATENT-APPL-SN-464723	
		US-PATENT-CLASS-161-93			NASA-CASE-NPO-13231-1			US-PATENT-CLASS-330-207A	
		US-PATENT-CLASS-29-182.2			US-PATENT-APPL-SN-428993			US-PATENT-CLASS-330-24	
N75-26373*	c 35	US-PATENT-CLASS-29-182.5	N75-27758*	c 54	US-PATENT-CLASS-250-343	N75-30431*	c 33	US-PATENT-3,899,745	
		US-PATENT-CLASS-29-420.5			US-PATENT-CLASS-250-345			NASA-CASE-NPO-13504-1	
		US-PATENT-CLASS-65-3			US-PATENT-CLASS-250-432			US-PATENT-APPL-SN-483852	
		US-PATENT-CLASS-75-DIG.1			US-PATENT-3,891,848			US-PATENT-CLASS-33-96	
		US-PATENT-CLASS-75-200			NASA-CASE-NPO-13386-1			US-PATENT-CLASS-333-21R	
N75-26372*	c 37	US-PATENT-CLASS-75-208R	N75-27759*	c 54	US-PATENT-APPL-SN-475336	N75-30502*	c 35	US-PATENT-CLASS-333-83BT	
		US-PATENT-CLASS-75-212			US-PATENT-CLASS-214-1B			US-PATENT-CLASS-333-98R	
		US-PATENT-CLASS-75-214			US-PATENT-CLASS-214-1CM			US-PATENT-3,902,143	
		US-PATENT-CLASS-75-222			US-PATENT-CLASS-318-640			NASA-CASE-KSC-10782-1	
		US-PATENT-3,887,365			US-PATENT-3,888,362			US-PATENT-APPL-SN-400467	
N75-26789* #	c 70	NASA-CASE-MFS-21931-1	N75-27760*	c 54	NASA-CASE-MS-13601-2	N75-30503*	c 35	US-PATENT-CLASS-178-DIG.1	
		US-PATENT-APPL-SN-464721			US-PATENT-APPL-SN-395495			US-PATENT-CLASS-178-6.8	
		US-PATENT-CLASS-250-359			US-PATENT-CLASS-351-38			US-PATENT-3,900,705	
		US-PATENT-CLASS-250-460			US-PATENT-3,891,311			NASA-CASE-ARC-10802-1	
		US-PATENT-CLASS-250-492			NASA-CASE-ARC-10753-1			US-PATENT-APPL-SN-484208	
N75-26789* #	c 70	US-PATENT-3,889,122	N75-27761*	c 54	US-PATENT-APPL-SN-427395	N75-30504*	c 35	US-PATENT-CLASS-205-343	
		NASA-CASE-MFS-22758-1			US-PATENT-CLASS-128-2.05Z			US-PATENT-CLASS-250-351	
		US-PATENT-APPL-SN-581514			US-PATENT-CLASS-128-2V			US-PATENT-CLASS-250-373	
		NASA-CASE-XHQ-02146			US-PATENT-CLASS-128-24A			US-PATENT-CLASS-356-51	
		US-PATENT-APPL-SN-290043			US-PATENT-CLASS-74-471XY			US-PATENT-3,899,252	
N75-27040*	c 18	US-PATENT-CLASS-52-71	N75-27762*	c 54	US-PATENT-3,893,449	N75-30505*	c 35	NASA-CASE-LEW-12078-1	
		US-PATENT-3,206,897			NASA-CASE-NPO-13313-1			US-PATENT-APPL-SN-447124	
		NASA-CASE-MS-14245-1			US-PATENT-APPL-SN-449153			US-PATENT-CLASS-73-194M	
		US-PATENT-APPL-SN-369916			US-PATENT-CLASS-128-145.8			US-PATENT-CLASS-73-195	
		US-PATENT-CLASS-214-1CM			US-PATENT-CLASS-55-DIG.35			US-PATENT-3,898,882	
N75-27041*	c 18	US-PATENT-3,893,573	N75-27763*	c 54	US-PATENT-3,893,458	N75-30506*	c 35	NASA-CASE-MS-12531-1	
		NASA-CASE-XMF-05868			NASA-CASE-MFS-21077-1			US-PATENT-APPL-SN-354612	
		US-PATENT-APPL-SN-512509			US-PATENT-APPL-SN-127481			US-PATENT-CLASS-307-204	
		US-PATENT-CLASS-260-29.6			US-PATENT-CLASS-228-190			US-PATENT-CLASS-307-211	
		US-PATENT-3,475,442			US-PATENT-CLASS-228-193			US-PATENT-CLASS-307-219	
N75-27042*	c 18	NASA-CASE-XMF-06053	N75-27764*	c 54	US-PATENT-CLASS-29-419	N75-30507*	c 35	US-PATENT-CLASS-328-61	
		US-PATENT-APPL-SN-542192			US-PATENT-3,894,677			US-PATENT-CLASS-328-62	
		US-PATENT-CLASS-75-173			NASA-CASE-HQN-10462			US-PATENT-3,900,741	
		US-PATENT-3,411,900			US-PATENT-APPL-SN-773530			NASA-CASE-NPO-13308-1	
		NASA-CASE-XNP-03878			US-PATENT-CLASS-118-43			US-PATENT-APPL-SN-455165	
N75-27043*	c 18	US-PATENT-APPL-SN-488745	N75-27765*	c 54	US-PATENT-3,603,285	N75-30508*	c 36	US-PATENT-CLASS-310-4	
		US-PATENT-CLASS-75-173			NASA-CASE-XNP-01311			US-PATENT-CLASS-331-DIG.1	
		US-PATENT-3,373,016			US-PATENT-APPL-SN-430496			US-PATENT-3,899,696	
		NASA-CASE-MFS-22324-1			US-PATENT-CLASS-148-127			NASA-CASE-LEW-11076-3	
		US-PATENT-APPL-SN-350250			US-PATENT-3,390,023			US-PATENT-APPL-SN-405346	
N75-27044*	c 18	US-PATENT-CLASS-106-48	N75-27766*	c 54	NASA-CASE-LAR-11397-1	N75-30509*	c 37	US-PATENT-CLASS-308-121	
		US-PATENT-CLASS-106-54			US-PATENT-APPL-SN-532784			US-PATENT-CLASS-308-73	
		US-PATENT-CLASS-117-129			NASA-CASE-ARC-10266-1			US-PATENT-3,899,224	
		US-PATENT-3,891,452			US-PATENT-APPL-SN-453241			NASA-CASE-LEW-11227-1	
		NASA-CASE-XMS-02744			US-PATENT-APPL-SN-585988			US-PATENT-APPL-SN-146939	
N75-27045*	c 33	US-PATENT-APPL-SN-351950	N75-27767*	c 33	US-PATENT-CLASS-315-111	N75-30876*	c 73	US-PATENT-CLASS-244-1SS	
		US-PATENT-CLASS-200-129			US-PATENT-3,469,143			US-PATENT-CLASS-250-493	
		US-PATENT-3,281,558			NASA-CASE-MFS-22060-1			US-PATENT-CLASS-250-496	
		NASA-CASE-XNP-01296			US-PATENT-APPL-SN-521603			US-PATENT-3,899,680	
		US-PATENT-APPL-SN-127984			US-PATENT-CLASS-23-254E			NASA-CASE-NPO-13423-1	
N75-27046*	c 33	US-PATENT-CLASS-315-30	N75-27768*	c 35	US-PATENT-CLASS-23-255E	N75-31329*	c 33	US-PATENT-APPL-SN-470422	



		US-PATENT-CLASS-128-25			US-PATENT-CLASS-279-1B	N76-14429*	c 35	NASA-CASE-LAR-11552-1
		US-PATENT-CLASS-338-2			US-PATENT-CLASS-279-107			US-PATENT-APPL-SN-518685
		US-PATENT-CLASS-73-88.5			US-PATENT-CLASS-279-89			US-PATENT-CLASS-73-182
		US-PATENT-3,905,356			US-PATENT-CLASS-29-26A			US-PATENT-CLASS-73-212
N75-31330*	c 33	NASA-CASE-NPO-13426-1			US-PATENT-CLASS-294-116	N76-14430*	c 35	NASA-CASE-NPO-13170-1
		US-PATENT-APPL-SN-45053			US-PATENT-CLASS-294-86.33			US-PATENT-APPL-SN-382261
		US-PATENT-CLASS-307-225R			US-PATENT-3,907,312			US-PATENT-CLASS-338-6
		US-PATENT-CLASS-328-41	N75-33640*	c 52	NASA-CASE-LEW-12051-1			US-PATENT-CLASS-73-88.5R
		US-PATENT-3,906,374			US-PATENT-APPL-SN-397478			US-PATENT-3,914,991
N75-31331*	c 33	NASA-CASE-NPO-11156-2			US-PATENT-CLASS-128-230	N76-14431*	c 35	NASA-CASE-LEW-11915-1
		US-PATENT-APPL-SN-174684			US-PATENT-CLASS-128-305			US-PATENT-APPL-SN-474744
		US-PATENT-CLASS-307-238			US-PATENT-3,906,954			US-PATENT-CLASS-137-15.2
		US-PATENT-CLASS-340-173CA	N76-14158*	c 15	NASA-CASE-LAR-11051-1			US-PATENT-CLASS-235-151.34
		US-PATENT-CLASS-357-24			US-PATENT-APPL-SN-384773			US-PATENT-CLASS-60-39.29
		US-PATENT-CLASS-357-7			US-PATENT-CLASS-244-165			US-PATENT-3,911,260
		US-PATENT-3,906,296			US-PATENT-CLASS-244-3.21	N76-14447*	c 36	NASA-CASE-ARC-10642-1
N75-31332*	c 33	NASA-CASE-NPO-13348-1			US-PATENT-CLASS-74-5.7			US-PATENT-APPL-SN-446562
		US-PATENT-APPL-SN-452770			US-PATENT-3,915,416			US-PATENT-CLASS-356-106R
		US-PATENT-CLASS-250-238	N76-14186*	c 18	NASA-CASE-MS-12559-1			US-PATENT-CLASS-356-28
		US-PATENT-CLASS-250-370			US-PATENT-APPL-SN-370582			US-PATENT-3,915,572
		US-PATENT-CLASS-357-5			US-PATENT-CLASS-178-DIG.20	N76-14460*	c 37	NASA-CASE-MFS-19194-1
		US-PATENT-3,906,231			US-PATENT-CLASS-244-161			US-PATENT-CLASS-285-226
N75-31426*	c 36	NASA-CASE-ARC-10370-1			US-PATENT-CLASS-33-286			US-PATENT-CLASS-285-265
		US-PATENT-APPL-SN-137391			US-PATENT-CLASS-35-12			US-PATENT-3,915,482
		US-PATENT-CLASS-331-94.5G			US-PATENT-CLASS-356-153	N76-14461*	c 37	NASA-CASE-LEW-11694-2
		US-PATENT-CLASS-331-94.5P			US-PATENT-3,910,533			US-PATENT-APPL-SN-352381
		US-PATENT-3,906,397	N76-14190*	c 20	NASA-CASE-LEW-11593-1			US-PATENT-APPL-SN-462903
N75-31427*	c 36	NASA-CASE-NPO-13175-1			US-PATENT-APPL-SN-363691			US-PATENT-CLASS-29-421
		US-PATENT-APPL-SN-374423			US-PATENT-CLASS-60-39.23			US-PATENT-CLASS-72-363
		US-PATENT-CLASS-331-94.5C			US-PATENT-CLASS-60-39.29			US-PATENT-CLASS-72-54
		US-PATENT-CLASS-350-161			US-PATENT-CLASS-60-39.74R			US-PATENT-CLASS-72-63
		US-PATENT-CLASS-350-96WG			US-PATENT-3,910,035			US-PATENT-3,914,969
		US-PATENT-3,906,393	N76-14191*	c 20	NASA-CASE-LEW-11118-2	N76-14463*	c 37	NASA-CASE-MFS-22323-1
N75-31446*	c 37	NASA-CASE-LEW-11925-1			US-PATENT-APPL-SN-436316			US-PATENT-APPL-SN-474745
		US-PATENT-APPL-SN-450505			US-PATENT-CLASS-239-127.3			US-PATENT-CLASS-137-515.3
		US-PATENT-CLASS-308-191			US-PATENT-CLASS-60-265			US-PATENT-CLASS-137-550
		US-PATENT-CLASS-308-195			US-PATENT-CLASS-60-267			US-PATENT-CLASS-210-429
		US-PATENT-CLASS-308-201			US-PATENT-3,910,039			US-PATENT-CLASS-251-149.6
		US-PATENT-3,905,660	N76-14203*	c 24	NASA-CASE-NPO-12122-1			US-PATENT-3,910,307
N75-32441*	c 36	NASA-CASE-NPO-13449-1			US-PATENT-APPL-SN-401921	N76-14595*	c 44	NASA-CASE-MFS-22562-1
		US-PATENT-APPL-SN-420813			US-PATENT-CLASS-149-36			US-PATENT-APPL-SN-458484
		US-PATENT-CLASS-310-11			US-PATENT-CLASS-423-407			US-PATENT-CLASS-126-27C
		US-PATENT-CLASS-330-4.3			US-PATENT-3,919,014			US-PATENT-CLASS-136-206
		US-PATENT-CLASS-331-94.5PE	N76-14204*	c 24	NASA-CASE-MS-12568-1			US-PATENT-CLASS-204-32R
		US-PATENT-CLASS-331-94.5G			US-PATENT-APPL-SN-325784			US-PATENT-CLASS-204-33R
		US-PATENT-3,906,398			US-PATENT-CLASS-136-146			US-PATENT-CLASS-204-38A
N75-32465* #	c 37	NASA-CASE-ARC-10907-1			US-PATENT-CLASS-136-148			US-PATENT-CLASS-204-40
		US-PATENT-APPL-SN-619986			US-PATENT-CLASS-162-102			US-PATENT-CLASS-204-42
N75-32581*	c 44	NASA-CASE-MFS-21628-1			US-PATENT-CLASS-162-153			US-PATENT-CLASS-204-49
		US-PATENT-APPL-SN-421702			US-PATENT-CLASS-162-222			US-PATENT-CLASS-29-194
		US-PATENT-CLASS-126-271			US-PATENT-CLASS-162-228			US-PATENT-CLASS-29-195
		US-PATENT-CLASS-165-105			US-PATENT-3,910,814			US-PATENT-CLASS-29-197
		US-PATENT-CLASS-244-173	N76-14264*	c 27	NASA-CASE-MS-14182-1			US-PATENT-3,920,413
		US-PATENT-CLASS-60-641			US-PATENT-APPL-SN-419748	N76-14600*	c 44	NASA-CASE-LEW-11065-2
		US-PATENT-CLASS-60-659			US-PATENT-CLASS-403-179			US-PATENT-APPL-SN-154930
		US-PATENT-3,903,699			US-PATENT-CLASS-403-28			US-PATENT-APPL-SN-371322
N75-33181*	c 24	NASA-CASE-LEW-11484-1			US-PATENT-CLASS-428-109			US-PATENT-CLASS-136-89
		US-PATENT-APPL-SN-356554			US-PATENT-CLASS-428-212			US-PATENT-CLASS-29-572
		US-PATENT-CLASS-117-105.2			US-PATENT-CLASS-428-214			US-PATENT-3,912,540
		US-PATENT-CLASS-117-38			US-PATENT-CLASS-428-416	N76-14601*	c 44	NASA-CASE-MFS-22749-1
		US-PATENT-CLASS-117-46FS			US-PATENT-CLASS-428-447			US-PATENT-APPL-SN-483857
		US-PATENT-CLASS-117-8.5			US-PATENT-CLASS-428-77			US-PATENT-CLASS-136-114
		US-PATENT-CLASS-29-DIG.24			US-PATENT-3,920,339			US-PATENT-CLASS-136-162
		US-PATENT-CLASS-29-DIG.39	N76-14284*	c 31	NASA-CASE-NPO-13435-1			US-PATENT-CLASS-136-182
		US-PATENT-CLASS-29-527.2			US-PATENT-APPL-SN-478803			US-PATENT-CLASS-136-90
		US-PATENT-CLASS-72-46			US-PATENT-CLASS-62-129			US-PATENT-3,912,541
		US-PATENT-3,906,769			US-PATENT-CLASS-62-49	N76-14602*	c 44	NASA-CASE-NPO-13497-1
N75-33342*	c 34	NASA-CASE-MS-14273-1			US-PATENT-CLASS-73-295			US-PATENT-APPL-SN-526448
		US-PATENT-APPL-SN-385522			US-PATENT-CLASS-73-295			US-PATENT-CLASS-126-271
		US-PATENT-CLASS-210-234			US-PATENT-3,914,950			US-PATENT-CLASS-237-1A
		US-PATENT-CLASS-210-259	N76-14321*	c 32	NASA-CASE-LAR-11021-1			US-PATENT-CLASS-350-211
		US-PATENT-CLASS-210-304			US-PATENT-APPL-SN-453115			US-PATENT-3,915,148
		US-PATENT-CLASS-210-333			US-PATENT-CLASS-325-304	N76-14757*	c 52	NASA-CASE-MS-14180-1
		US-PATENT-CLASS-210-340			US-PATENT-CLASS-325-306			US-PATENT-APPL-SN-354406
		US-PATENT-CLASS-210-411			US-PATENT-CLASS-325-372			US-PATENT-CLASS-128-2.06R
		US-PATENT-CLASS-210-425			US-PATENT-CLASS-328-145			US-PATENT-CLASS-128-2.1A
		US-PATENT-CLASS-210-512			US-PATENT-CLASS-343-176			US-PATENT-CLASS-128-2H
		US-PATENT-CLASS-210-82	N76-14371*	c 33	NASA-CASE-KSC-10834-1			US-PATENT-3,910,257
		US-PATENT-3,907,686			US-PATENT-APPL-SN-536535	N76-14804*	c 54	NASA-CASE-MS-14640-1
N75-33367*	c 35	NASA-CASE-LAR-10629-1			US-PATENT-CLASS-178-69.5R			US-PATENT-APPL-SN-526449
		US-PATENT-APPL-SN-402867			US-PATENT-CLASS-178-88			US-PATENT-CLASS-128-2F
		US-PATENT-CLASS-116-114AH			US-PATENT-CLASS-328-190			US-PATENT-CLASS-73-421R
		US-PATENT-CLASS-73-12			US-PATENT-CLASS-328-63			US-PATENT-3,915,012
		US-PATENT-CLASS-73-170R			US-PATENT-3,916,084	N76-14818*	c 60	NASA-CASE-NPO-13422-1
		US-PATENT-CLASS-73-432PS	N76-14372*	c 33	NASA-CASE-LAR-10970-1			US-PATENT-APPL-SN-521601
		US-PATENT-3,896,758			US-PATENT-APPL-SN-527790			US-PATENT-CLASS-340-147C
N75-33368*	c 35	NASA-CASE-LAR-11326-1			US-PATENT-CLASS-343-770			US-PATENT-CLASS-340-147R
		US-PATENT-APPL-SN-491416			US-PATENT-CLASS-343-797			US-PATENT-3,916,380
		US-PATENT-CLASS-195-103.5R			US-PATENT-CLASS-343-846	N76-14931*	c 75	NASA-CASE-MFS-22287-1
		US-PATENT-3,907,646			US-PATENT-3,919,710			US-PATENT-APPL-SN-438147
N75-33369*	c 35	NASA-CASE-LAR-11263-1	N76-14373*	c 33	NASA-CASE-NPO-13451-1			US-PATENT-CLASS-315-111.6
		US-PATENT-APPL-SN-472775			US-PATENT-APPL-SN-501012			US-PATENT-CLASS-73-12
		US-PATENT-CLASS-73-141A			US-PATENT-CLASS-235-925H			US-PATENT-CLASS-89-8
		US-PATENT-3,906,788			US-PATENT-CLASS-307-221R			US-PATENT-3,916,761
N75-33395*	c 37	NASA-CASE-MFS-22283-1			US-PATENT-CLASS-328-37			
		US-PATENT-APPL-SN-387095			US-PATENT-3,911,330			

N76-15189*	c 12	NASA-CASE-MSC-12611-1 US-PATENT-APPL-SN-446560 US-PATENT-CLASS-350-288 US-PATENT-CLASS-350-293 US-PATENT-CLASS-427-162 US-PATENT-CLASS-427-250 US-PATENT-3,927,227						US-PATENT-APPL-SN-500980 US-PATENT-CLASS-250-499 US-PATENT-CLASS-250-500 US-PATENT-3,924,137									US-PATENT-CLASS-244-172 US-PATENT-3,929,306				
			N76-16014*	c 02	NASA-CASE-LAR-11575-1 US-PATENT-APPL-SN-527727 US-PATENT-CLASS-244-139 US-PATENT-3,930,628				N76-17317*	c 34	NASA-CASE-LAR-10799-2 US-PATENT-APPL-SN-301419 US-PATENT-APPL-SN-419319 US-PATENT-CLASS-165-105 US-PATENT-CLASS-165-106 US-PATENT-CLASS-237-60 US-PATENT-CLASS-244-117A US-PATENT-CLASS-244-135R US-PATENT-CLASS-417-209 US-PATENT-3,929,305										
N76-15268*	c 23	NASA-CASE-MFS-22355-1 US-PATENT-APPL-SN-487852 US-PATENT-CLASS-260-32.6N US-PATENT-CLASS-260-32.8N US-PATENT-CLASS-260-346.3 US-PATENT-CLASS-260-47CP US-PATENT-CLASS-260-571 US-PATENT-CLASS-260-78TF US-PATENT-3,925,312		N76-16228*	c 27	NASA-CASE-NPO-12061-1 US-PATENT-APPL-SN-45549 US-PATENT-CLASS-260-879 US-PATENT-CLASS-260-900 US-PATENT-CLASS-260-92.1 US-PATENT-3,931,132						N76-17656*	c 45	NASA-CASE-LAR-11675-1 US-PATENT-APPL-SN-557448 US-PATENT-CLASS-178-DIG.1 US-PATENT-CLASS-178-DIG.8 US-PATENT-CLASS-178-6.8 US-PATENT-CLASS-250-373 US-PATENT-CLASS-340-237S US-PATENT-CLASS-356-207 US-PATENT-3,931,462							
				N76-16229*	c 27	NASA-CASE-LEW-11179-1 US-PATENT-APPL-SN-357312 US-PATENT-CLASS-29-195A US-PATENT-CLASS-427-203 US-PATENT-CLASS-427-204 US-PATENT-CLASS-427-205 US-PATENT-CLASS-427-270 US-PATENT-CLASS-427-275 US-PATENT-CLASS-427-287 US-PATENT-CLASS-428-450 US-PATENT-CLASS-428-457 US-PATENT-CLASS-428-469 US-PATENT-CLASS-428-539 US-PATENT-3,931,447						N76-17951*	c 75	NASA-CASE-MFS-22145-2 US-PATENT-APPL-SN-367606 US-PATENT-APPL-SN-500982 US-PATENT-CLASS-124-1 US-PATENT-CLASS-124-11R US-PATENT-CLASS-89-8 US-PATENT-3,929,119							
N76-15310*	c 27	NASA-CASE-ARC-10714-1 US-PATENT-APPL-SN-398885 US-PATENT-CLASS-260-2.5AK US-PATENT-CLASS-427-196 US-PATENT-CLASS-427-426 US-PATENT-CLASS-428-303 US-PATENT-3,916,060										N76-18117*	c 07	NASA-CASE-LAR-11674-1 US-PATENT-APPL-SN-331759 US-PATENT-APPL-SN-488616 US-PATENT-CLASS-181-33HC US-PATENT-CLASS-239-265.11 US-PATENT-3,938,742							
			N76-15329*	c 32	NASA-CASE-GSC-11968-1 US-PATENT-APPL-SN-512825 US-PATENT-CLASS-343-779 US-PATENT-CLASS-343-837 US-PATENT-CLASS-343-876 US-PATENT-3,927,408		N76-16230*	c 27	NASA-CASE-ARC-10813-1 US-PATENT-APPL-SN-437556 US-PATENT-CLASS-264-331 US-PATENT-CLASS-428-412 US-PATENT-CLASS-428-413 US-PATENT-CLASS-428-447 US-PATENT-CLASS-428-911 US-PATENT-CLASS-428-920 US-PATENT-CLASS-428-921 US-PATENT-3,928,708			N76-18245*	c 25	NASA-CASE-NPO-13063-1 US-PATENT-APPL-SN-227977 US-PATENT-CLASS-23-230M US-PATENT-CLASS-23-230R US-PATENT-CLASS-23-232C US-PATENT-CLASS-23-253R US-PATENT-CLASS-23-254R US-PATENT-CLASS-23-255R US-PATENT-CLASS-235-151.13 US-PATENT-CLASS-73-23.1 US-PATENT-3,860,393							
							N76-16249*	c 32	NASA-CASE-MSC-14557-1 US-PATENT-APPL-SN-428994 US-PATENT-APPL-SN-464720 US-PATENT-CLASS-178-69C US-PATENT-CLASS-178-88 US-PATENT-CLASS-325-321 US-PATENT-3,924,068					N76-18257*	c 26	NASA-CASE-MFS-22907-1 US-PATENT-APPL-SN-518546 US-PATENT-CLASS-324-34R US-PATENT-3,938,037					
N76-15373*	c 33	NASA-CASE-LEW-11938-1 US-PATENT-APPL-SN-544611 US-PATENT-CLASS-317-258 US-PATENT-CLASS-317-261 US-PATENT-3,924,164						N76-16331*	c 33	NASA-CASE-MSC-14649-1 US-PATENT-APPL-SN-505819 US-PATENT-CLASS-324-79D US-PATENT-CLASS-328-134 US-PATENT-3,924,183			N76-18295*	c 32	NASA-CASE-GSC-11862-1 US-PATENT-APPL-SN-500979 US-PATENT-CLASS-343-837 US-PATENT-CLASS-343-840 US-PATENT-CLASS-343-912 US-PATENT-CLASS-343-915 US-PATENT-3,938,162						
			N76-15431*	c 35	NASA-CASE-MSC-13802-2 US-PATENT-APPL-SN-189438 US-PATENT-APPL-SN-475338 US-PATENT-CLASS-250-251 US-PATENT-CLASS-250-287 US-PATENT-CLASS-250-423 US-PATENT-3,916,187			N76-16332*	c 33	NASA-CASE-GSC-11849-1 US-PATENT-APPL-SN-470428 US-PATENT-CLASS-174-145 US-PATENT-CLASS-174-148 US-PATENT-CLASS-339-143C US-PATENT-CLASS-339-198R US-PATENT-CLASS-339-242 US-PATENT-CLASS-339-275R US-PATENT-3,931,456			N76-18345*	c 33	NASA-CASE-NPO-13385-1 US-PATENT-APPL-SN-501011 US-PATENT-CLASS-340-347AD US-PATENT-3,938,188						
									N76-16390*	c 35	NASA-CASE-NPO-13388-1 US-PATENT-APPL-SN-522552 US-PATENT-CLASS-324-43R US-PATENT-3,924,176			N76-18353*	c 33	NASA-CASE-GSC-11925-1 US-PATENT-APPL-SN-538983 US-PATENT-CLASS-360-26 US-PATENT-CLASS-360-51 US-PATENT-3,938,182					
N76-15432*	c 35	NASA-CASE-LAR-11435-1 US-PATENT-APPL-SN-522556 US-PATENT-CLASS-310-8.2 US-PATENT-CLASS-73-1R US-PATENT-3,924,444								N76-16391*	c 35	NASA-CASE-NPO-10166-2 US-PATENT-APPL-SN-192803 US-PATENT-APPL-SN-668116 US-PATENT-CLASS-360-10 US-PATENT-CLASS-360-101 US-PATENT-CLASS-360-35 US-PATENT-CLASS-360-9 US-PATENT-3,924,267			N76-18364*	c 34	NASA-CASE-LAR-11570-1 US-PATENT-APPL-SN-482967 US-PATENT-CLASS-244-23D US-PATENT-CLASS-60-316 US-PATENT-3,940,097				
			N76-15433*	c 35	NASA-CASE-GSC-11892-1 US-PATENT-APPL-SN-502135 US-PATENT-CLASS-250-336 US-PATENT-CLASS-250-385 US-PATENT-CLASS-250-489 US-PATENT-3,927,324						N76-16392*	c 35	NASA-CASE-LAR-11458-1 US-PATENT-APPL-SN-504225 US-PATENT-CLASS-294-1R US-PATENT-CLASS-294-19R US-PATENT-3,929,364			N76-18374*	c 34	NASA-CASE-MFS-22938-1 US-PATENT-APPL-SN-542754 US-PATENT-CLASS-250-335 US-PATENT-3,940,621			
													N76-18400*	c 35	NASA-CASE-LAR-10208-1 US-PATENT-APPL-SN-483858 US-PATENT-CLASS-73-103 US-PATENT-CLASS-73-95 US-PATENT-3,938,373						
N76-15434*	c 35	NASA-CASE-LEW-11072-2 US-PATENT-APPL-SN-254323 US-PATENT-CLASS-136-211 US-PATENT-CLASS-136-212 US-PATENT-CLASS-136-225 US-PATENT-3,925,104																			
			N76-15435*	c 35	NASA-CASE-NPO-13506-1 US-PATENT-APPL-SN-483851 US-PATENT-CLASS-343-909 US-PATENT-3,924,239																
N76-15436*	c 35	NASA-CASE-GSC-11895-1 US-PATENT-APPL-SN-511887 US-PATENT-CLASS-331-3 US-PATENT-CLASS-331-94 US-PATENT-3,924,200																			
N76-15457*	c 37	NASA-CASE-MFS-22707-1 US-PATENT-APPL-SN-535410 US-PATENT-CLASS-214-1R US-PATENT-CLASS-74-384 US-PATENT-CLASS-74-665B US-PATENT-3,922,930																			
N76-15460*	c 37	NASA-CASE-MFS-22022-1 US-PATENT-APPL-SN-405341 US-PATENT-CLASS-214-1CM US-PATENT-3,923,166																			
N76-15461*	c 37	NASA-CASE-LEW-11076-4 US-PATENT-APPL-SN-238264 US-PATENT-APPL-SN-346483 US-PATENT-APPL-SN-445178 US-PATENT-CLASS-308-122 US-PATENT-CLASS-308-160 US-PATENT-CLASS-308-72 US-PATENT-CLASS-308-73 US-PATENT-CLASS-308-9 US-PATENT-3,926,482																			

				US-PATENT-CLASS-332-7.51	N76-19436*	c 37	.....	NASA-CASE-MFS-20607-1		US-PATENT-CLASS-33-1G		
				US-PATENT-CLASS-350-150				US-PATENT-APPL-SN-478800		US-PATENT-CLASS-33-174B		
				US-PATENT-CLASS-350-160				US-PATENT-CLASS-222-145		US-PATENT-3,945,879		
				US-PATENT-CLASS-423-352				US-PATENT-CLASS-259-4AC	N76-21742*	c 45	.....	NASA-CASE-NPO-13474-1
				US-PATENT-CLASS-423-644				US-PATENT-3,941,355				US-PATENT-APPL-SN-521817
				US-PATENT-3,806,834								US-PATENT-CLASS-23-254E
N76-18428*	c 36	.....		NASA-CASE-NPO-13544-1	N76-19437*	c 37	.....	NASA-CASE-MSC-12615-1				US-PATENT-CLASS-250-574
				US-PATENT-APPL-SN-533555				US-PATENT-APPL-SN-491417				US-PATENT-CLASS-356-37
				US-PATENT-CLASS-331-94.5C				US-PATENT-CLASS-244-117A				US-PATENT-3,945,801
				US-PATENT-CLASS-350-96WG				US-PATENT-CLASS-244-163	N76-21914*	c 60	.....	NASA-CASE-NPO-13139-1
				US-PATENT-3,939,439				US-PATENT-CLASS-29-432				US-PATENT-APPL-SN-393524
N76-18454*	c 37	.....		NASA-CASE-MFS-23047-1				US-PATENT-CLASS-29-433				US-PATENT-CLASS-235-153AE
				US-PATENT-APPL-SN-521602				US-PATENT-CLASS-29-526				US-PATENT-CLASS-340-172.5
				US-PATENT-CLASS-173-132				US-PATENT-CLASS-52-705				US-PATENT-3,950,729
				US-PATENT-CLASS-29-81D				US-PATENT-CLASS-52-758F				
				US-PATENT-CLASS-72-453	N76-19785*	c 52	.....	US-PATENT-3,936,927	N76-22154*	c 02	.....	NASA-CASE-LAR-10585-1
				US-PATENT-CLASS-73-399				US-PATENT-CLASS-11667-1				US-PATENT-APPL-SN-197183
				US-PATENT-3,937,055				US-PATENT-APPL-SN-583487				US-PATENT-CLASS-244-35R
N76-18455*	c 37	.....		NASA-CASE-MSC-14435-1				US-PATENT-CLASS-128-DIG.20				US-PATENT-CLASS-244-40R
				US-PATENT-APPL-SN-450500				US-PATENT-CLASS-128-26				US-PATENT-3,952,971
				US-PATENT-CLASS-228-193				US-PATENT-3,937,215	N76-22245*	c 17	.....	NASA-CASE-GSC-11868-1
				US-PATENT-CLASS-228-206	N76-19888*	c 66	.....	NASA-CASE-MFS-22631-1				US-PATENT-APPL-SN-565290
				US-PATENT-CLASS-228-214				US-PATENT-APPL-SN-531572				US-PATENT-CLASS-178-69.5
				US-PATENT-CLASS-228-238				US-PATENT-CLASS-340-38P				US-PATENT-CLASS-328-155
				US-PATENT-3,937,387				US-PATENT-CLASS-356-162				US-PATENT-CLASS-340-147SY
N76-18456*	c 37	.....		NASA-CASE-LAR-11224-1				US-PATENT-CLASS-356-167				US-PATENT-CLASS-340-207P
				US-PATENT-APPL-SN-450502				US-PATENT-CLASS-356-71				US-PATENT-3,953,674
				US-PATENT-CLASS-134-21				US-PATENT-3,930,735	N76-22284*	c 19	.....	NASA-CASE-MFS-22905-1
				US-PATENT-CLASS-134-37	N76-19935*	c 74	.....	NASA-CASE-MFS-21672-1				US-PATENT-APPL-SN-518545
				US-PATENT-CLASS-19-205				US-PATENT-APPL-SN-354060				US-PATENT-CLASS-188-1B
				US-PATENT-CLASS-209-250				US-PATENT-CLASS-356-123				US-PATENT-CLASS-248-22
				US-PATENT-CLASS-209-300				US-PATENT-CLASS-356-124				US-PATENT-CLASS-248-358R
				US-PATENT-CLASS-209-305				US-PATENT-3,938,892				US-PATENT-3,952,980
				US-PATENT-3,937,661	N76-20114*	c 04	.....	NASA-CASE-LAR-11387-1	N76-22296*	c 20	.....	NASA-CASE-MFS-19220-1
N76-18457*	c 37	.....		NASA-CASE-NPO-13402-1				US-PATENT-APPL-SN-531647				US-PATENT-APPL-SN-571821
				US-PATENT-APPL-SN-387342				US-PATENT-CLASS-33-356				US-PATENT-CLASS-254-124
				US-PATENT-CLASS-123-DIG.12				US-PATENT-CLASS-75-178R				US-PATENT-CLASS-254-93R
				US-PATENT-CLASS-123-119E				US-PATENT-3,943,763				US-PATENT-CLASS-89-1.801
				US-PATENT-CLASS-123-120	N76-20480*	c 37	.....	NASA-CASE-NPO-13059-1				US-PATENT-3,952,998
				US-PATENT-CLASS-123-121				NASA-CASE-NPO-13436-1	N76-22309*	c 24	.....	NASA-CASE-LEW-11930-1
				US-PATENT-CLASS-123-89A				US-PATENT-APPL-SN-513690				US-PATENT-APPL-SN-513611
				US-PATENT-3,906,913				US-PATENT-CLASS-81-56				US-PATENT-CLASS-252-12
N76-18458*	c 37	.....		NASA-CASE-LEW-11860-1				US-PATENT-CLASS-81-57.31				US-PATENT-3,953,343
				US-PATENT-APPL-SN-527728				US-PATENT-3,942,398	N76-22323*	c 25	.....	NASA-CASE-ARC-10760-1
				US-PATENT-CLASS-204-157.1H	N76-20958*	c 74	.....	NASA-CASE-ARC-10631-1				US-PATENT-APPL-SN-526438
				US-PATENT-CLASS-250-527				US-PATENT-APPL-SN-514546				US-PATENT-CLASS-250-343
				US-PATENT-3,939,048				US-PATENT-CLASS-250-343				US-PATENT-CLASS-250-344
N76-18459*	c 37	.....		NASA-CASE-GSC-11551-1				US-PATENT-CLASS-250-573				US-PATENT-CLASS-250-432R
				US-PATENT-APPL-SN-440917				US-PATENT-3,943,368	N76-22376*	c 27	.....	NASA-CASE-ARC-10721-1
				US-PATENT-CLASS-308-10	N76-20994*	c 76	.....	NASA-CASE-NPO-13443-1				US-PATENT-APPL-SN-427775
				US-PATENT-3,937,533				US-PATENT-APPL-SN-522551				US-PATENT-CLASS-264-60
N76-18641*	c 44	.....		NASA-CASE-NPO-13237-1				US-PATENT-CLASS-324-158D				US-PATENT-CLASS-264-63
				US-PATENT-APPL-SN-378127				US-PATENT-CLASS-324-158R				US-PATENT-CLASS-264-66
				US-PATENT-CLASS-136-83R				US-PATENT-CLASS-324-158T				US-PATENT-3,952,083
				US-PATENT-CLASS-136-86S				US-PATENT-CLASS-324-60C				
				US-PATENT-3,894,887				US-PATENT-3,943,442	N76-22377*	c 27	.....	NASA-CASE-MSC-14270-1
N76-18642*	c 44	.....		NASA-CASE-NPO-13464-1	N76-21250*	c 17	.....	NASA-CASE-MSC-12593-1				US-PATENT-APPL-SN-482104
				US-PATENT-APPL-SN-428444				US-PATENT-APPL-SN-419747				US-PATENT-CLASS-106-54
				US-PATENT-CLASS-123-3				US-PATENT-CLASS-325-14				US-PATENT-CLASS-427-376
				US-PATENT-CLASS-23-281				US-PATENT-CLASS-343-100SA				US-PATENT-CLASS-427-379
				US-PATENT-CLASS-423-650				US-PATENT-CLASS-343-100ST				US-PATENT-CLASS-427-380
				US-PATENT-CLASS-48-116				US-PATENT-CLASS-343-112TC				US-PATENT-CLASS-427-402
				US-PATENT-CLASS-48-117				US-PATENT-3,949,400				US-PATENT-CLASS-428-332
				US-PATENT-CLASS-48-63	N76-21275*	c 20	.....	NASA-CASE-MFS-21311-1				US-PATENT-CLASS-428-428
				US-PATENT-CLASS-48-75				US-PATENT-APPL-SN-493359				US-PATENT-CLASS-428-450
				US-PATENT-CLASS-48-95				US-PATENT-CLASS-244-3.22				US-PATENT-CLASS-428-538
				US-PATENT-3,920,416				US-PATENT-3,948,470				US-PATENT-CLASS-428-920
N76-18643*	c 44	.....		NASA-CASE-NPO-11961-1	N76-21276*	c 20	.....	NASA-CASE-LEW-11876-1				US-PATENT-3,953,646
				US-PATENT-APPL-SN-378126				US-PATENT-APPL-SN-542157	N76-22509*	c 35	.....	NASA-CASE-LAR-11434-1
				US-PATENT-CLASS-136-30				US-PATENT-CLASS-29-25.18				US-PATENT-APPL-SN-464722
				US-PATENT-CLASS-136-6LF				US-PATENT-3,947,933				US-PATENT-CLASS-209-127R
				US-PATENT-CLASS-320-21	N76-21365*	c 32	.....	NASA-CASE-NPO-13568-1				US-PATENT-CLASS-317-246
				US-PATENT-CLASS-320-22				US-PATENT-APPL-SN-534265				US-PATENT-CLASS-324-61R
				US-PATENT-3,912,999				US-PATENT-CLASS-343-761				US-PATENT-CLASS-324-71CP
N76-18800*	c 60	.....		NASA-CASE-NPO-13067-1				US-PATENT-CLASS-343-781				US-PATENT-3,953,792
				US-PATENT-APPL-SN-274348				US-PATENT-CLASS-343-786	N76-22540*	c 37	.....	NASA-CASE-MFS-22636-1
				US-PATENT-CLASS-340-172.5				US-PATENT-3,949,404				US-PATENT-APPL-SN-536762
				US-PATENT-3,829,839	N76-21366*	c 32	.....	NASA-CASE-MFS-22729-1				US-PATENT-CLASS-114-16.6
N76-18913*	c 74	.....		NASA-CASE-GSC-11877-1				US-PATENT-APPL-SN-533608				US-PATENT-CLASS-244-137P
				US-PATENT-APPL-SN-482953				US-PATENT-CLASS-235-156				US-PATENT-CLASS-244-158
				US-PATENT-CLASS-235-184				US-PATENT-CLASS-325-42				US-PATENT-CLASS-244-161
				US-PATENT-CLASS-250-199				US-PATENT-CLASS-333-18				US-PATENT-3,952,976
				US-PATENT-3,937,945				US-PATENT-3,949,206	N76-22541*	c 37	.....	NASA-CASE-LEW-11676-1
N76-19338*	c 33	.....		NASA-CASE-NPO-13519-1				NASA-CASE-ARC-10711-2				US-PATENT-APPL-SN-551184
				US-PATENT-APPL-SN-536761				US-PATENT-APPL-SN-493363				US-PATENT-CLASS-277-4
				US-PATENT-CLASS-128-2S				US-PATENT-APPL-SN-596788				US-PATENT-CLASS-277-41
				US-PATENT-CLASS-33-155R				US-PATENT-CLASS-317-246				US-PATENT-CLASS-277-74
				US-PATENT-CLASS-33-174D				US-PATENT-CLASS-73-398C				US-PATENT-CLASS-277-93R
				US-PATENT-CLASS-73-88.5SD				US-PATENT-3,948,102				US-PATENT-3,953,038
				US-PATENT-3,937,212				NASA-CASE-LAR-11465-1	N76-22657*	c 44	.....	NASA-CASE-MFS-22743-1
N76-19339*	c 33	.....		NASA-CASE-ARC-10810-1				US-PATENT-APPL-SN-502137				US-PATENT-APPL-SN-518684
				US-PATENT-APPL-SN-489009				US-PATENT-CLASS-156-286				US-PATENT-CLASS-126-271
				US-PATENT-CLASS-204-195R				US-PATENT-CLASS-156-382				US-PATENT-3,951,129
				US-PATENT-CLASS-215-247				US-PATENT-CLASS-156-556	N76-22914*	c 54	.....	NASA-CASE-GSC-12082-1
				US-PATENT-CLASS-324-30B				US-PATENT-CLASS-248-362				US-PATENT-APPL-SN-676958
				US-PATENT-3,938,035				US-PATENT-CLASS-248-363	N76-22993*	c 74	.....	NASA-CASE-ARC-10932-1
				US-PATENT-3,938,035				US-PATENT-CLASS-269-21				US-PATENT-APPL-SN-681001

N76-23273*	c 09	NASA-CASE-MFS-23099-1 US-PATENT-APPL-SN-607969 US-PATENT-CLASS-73-147 US-PATENT-3,952,590	N76-25049*	c 76	NASA-CASE-LEW-12094-1 US-PATENT-APPL-SN-508784 US-PATENT-CLASS-148-175 US-PATENT-CLASS-156-610 US-PATENT-CLASS-156-612 US-PATENT-CLASS-156-613 US-PATENT-CLASS-252-62.3 US-PATENT-CLASS-423-345 US-PATENT-CLASS-423-346 US-PATENT-3,956,032 NASA-CASE-MFS-23551-1 US-PATENT-APPL-SN-114772 US-PATENT-CLASS-244-79 US-PATENT-CLASS-74-5.34 US-PATENT-3,739,646	N76-29347*	c 17	NASA-CASE-ARC-10849-1 US-PATENT-APPL-SN-563049 US-PATENT-CLASS-340-189M US-PATENT-CLASS-340-206 US-PATENT-CLASS-73-493 US-PATENT-CLASS-73-517R US-PATENT-3,972,038
N76-23426*	c 27	NASA-CASE-MSC-14270-2 US-PATENT-APPL-SN-482105 US-PATENT-CLASS-106-54 US-PATENT-CLASS-427-376 US-PATENT-CLASS-427-379 US-PATENT-CLASS-427-380 US-PATENT-CLASS-427-402 US-PATENT-CLASS-428-332 US-PATENT-CLASS-428-428 US-PATENT-CLASS-428-450 US-PATENT-CLASS-428-538 US-PATENT-CLASS-428-920 US-PATENT-3,955,034	N76-26175*	c 04	NASA-CASE-MFS-23551-1 US-PATENT-APPL-SN-114772 US-PATENT-CLASS-244-79 US-PATENT-CLASS-74-5.34 US-PATENT-3,739,646	N76-29379*	c 25	NASA-CASE-LEW-11390-3 US-PATENT-APPL-SN-247434 US-PATENT-APPL-SN-380046 US-PATENT-CLASS-176-11 US-PATENT-CLASS-176-14 US-PATENT-CLASS-176-16 US-PATENT-CLASS-250-400 US-PATENT-CLASS-250-429 US-PATENT-CLASS-250-492R US-PATENT-3,971,697
N76-23570*	c 37	NASA-CASE-LEW-11169-1 US-PATENT-APPL-SN-446568 US-PATENT-CLASS-164-132 US-PATENT-3,957,104	N76-27232*	c 07	NASA-CASE-LAR-11476-1 US-PATENT-APPL-SN-592159 US-PATENT-CLASS-73-557 US-PATENT-3,964,319	N76-29551*	c 35	NASA-CASE-LAR-10907-1 US-PATENT-APPL-SN-559845 US-PATENT-CLASS-250-340 US-PATENT-CLASS-250-353 US-PATENT-3,971,940
N76-23675*	c 44	NASA-CASE-MFS-21628-2 US-PATENT-APPL-SN-421702 US-PATENT-APPL-SN-561020 US-PATENT-CLASS-126-270 US-PATENT-CLASS-165-133 US-PATENT-3,957,030	N76-27383*	c 25	NASA-CASE-LEW-11390-2 US-PATENT-APPL-SN-247434 US-PATENT-APPL-SN-340863 US-PATENT-CLASS-176-11 US-PATENT-CLASS-176-16 US-PATENT-CLASS-423-249 US-PATENT-3,966,547	N76-29552*	c 35	NASA-CASE-MSC-12617-1 US-PATENT-APPL-SN-513576 US-PATENT-CLASS-235-61INV US-PATENT-CLASS-235-78M US-PATENT-CLASS-235-88M US-PATENT-3,971,915
N76-23850*	c 60	NASA-CASE-MSC-14082-1 US-PATENT-APPL-SN-315070 US-PATENT-CLASS-340-347DD US-PATENT-CLASS-340-347P US-PATENT-3,958,238	N76-27472*	c 33	NASA-CASE-GSC-11924-1 US-PATENT-APPL-SN-582318 US-PATENT-CLASS-343-755 US-PATENT-CLASS-343-779 US-PATENT-CLASS-343-854 US-PATENT-3,965,475	N76-29575*	c 36	NASA-CASE-NPO-13346-1 US-PATENT-APPL-SN-533556 US-PATENT-CLASS-330-4.3 US-PATENT-CLASS-331-94.5C US-PATENT-3,972,008
N76-24280*	c 09	NASA-CASE-ARC-10808-1 US-PATENT-APPL-SN-505881 US-PATENT-CLASS-178-DIG.35 US-PATENT-CLASS-178-7.89 US-PATENT-CLASS-35-12N US-PATENT-3,956,833	N76-27473*	c 33	NASA-CASE-HQN-10876-1 US-PATENT-APPL-SN-555336 US-PATENT-CLASS-250-336 US-PATENT-CLASS-250-372 US-PATENT-3,965,354	N76-29588*	c 37	NASA-CASE-LEW-11949-1 US-PATENT-APPL-SN-590182 US-PATENT-CLASS-308-160 US-PATENT-CLASS-308-163 US-PATENT-CLASS-308-170 US-PATENT-3,971,602
N76-24363*	c 24	NASA-CASE-GSC-11786-1 US-PATENT-APPL-SN-401919 US-PATENT-CLASS-106-306 US-PATENT-CLASS-250-372 US-PATENT-CLASS-252-300 US-PATENT-CLASS-350-1 US-PATENT-3,957,675	N76-27515*	c 34	NASA-CASE-NPO-13391-1 US-PATENT-APPL-SN-446567 US-PATENT-CLASS-165-105 US-PATENT-CLASS-29-182 US-PATENT-CLASS-29-193 US-PATENT-CLASS-55-523 US-PATENT-CLASS-55-526 US-PATENT-CLASS-75-225 US-PATENT-3,964,902	N76-29590*	c 37	NASA-CASE-NPO-13613-1 US-PATENT-APPL-SN-574208 US-PATENT-CLASS-62-6 US-PATENT-3,971,230
N76-24405*	c 27	NASA-CASE-MSC-14331-1 US-PATENT-APPL-SN-374421 US-PATENT-CLASS-106-15FP US-PATENT-CLASS-260-DIG.24 US-PATENT-CLASS-260-33.8F US-PATENT-CLASS-260-45.7 US-PATENT-CLASS-260-92.1 US-PATENT-CLASS-526-1 US-PATENT-CLASS-526-255 US-PATENT-3,956,233	N76-27517*	c 34	NASA-CASE-ARC-10755-2 US-PATENT-APPL-SN-424013 US-PATENT-APPL-SN-545284 US-PATENT-CLASS-73-147 US-PATENT-CLASS-73-189 US-PATENT-CLASS-73-194R US-PATENT-3,964,306	N76-29699*	c 44	NASA-CASE-HQN-10862-1 US-PATENT-APPL-SN-604374 US-PATENT-CLASS-136-143 US-PATENT-CLASS-136-30 US-PATENT-3,972,727
N76-24523*	c 35	NASA-CASE-LAR-11500-1 US-PATENT-APPL-SN-534266 US-PATENT-CLASS-73-1B US-PATENT-CLASS-73-15.6 US-PATENT-3,956,919	N76-27567*	c 37	NASA-CASE-LAR-11709-1 US-PATENT-APPL-SN-548468 US-PATENT-CLASS-339-17M US-PATENT-CLASS-339-18C US-PATENT-3,964,813	N76-29700*	c 44	NASA-CASE-NPO-13342-2 US-PATENT-APPL-SN-390049 US-PATENT-APPL-SN-548559 US-PATENT-CLASS-123-1A US-PATENT-CLASS-123-3 US-PATENT-CLASS-23-281 US-PATENT-CLASS-423-650 US-PATENT-CLASS-48-215 US-PATENT-CLASS-48-95 US-PATENT-3,955,941
N76-24524*	c 35	NASA-CASE-NPO-13462-1 US-PATENT-APPL-SN-545282 US-PATENT-CLASS-73-189 US-PATENT-CLASS-73-204 US-PATENT-3,956,932	N76-27568*	c 37	NASA-CASE-LAR-11726-1 US-PATENT-APPL-SN-538047 US-PATENT-CLASS-219-118 US-PATENT-CLASS-219-92 US-PATENT-3,967,091	N76-29701*	c 44	NASA-CASE-NPO-13567-1 US-PATENT-APPL-SN-566493 US-PATENT-CLASS-417-141 US-PATENT-CLASS-417-207 US-PATENT-CLASS-417-209 US-PATENT-CLASS-417-379 US-PATENT-CLASS-60-517 US-PATENT-CLASS-62-6 US-PATENT-3,972,651
N76-24525*	c 35	NASA-CASE-ARC-10816-1 US-PATENT-APPL-SN-552544 US-PATENT-CLASS-128-DIG.4 US-PATENT-CLASS-128-2.05V US-PATENT-CLASS-128-2.1E US-PATENT-CLASS-128-2.1Z US-PATENT-3,957,037	N76-27664*	c 44	NASA-CASE-MFS-23059-1 US-PATENT-APPL-SN-537024 US-PATENT-CLASS-136-86A US-PATENT-3,964,928	N76-29704*	c 44	NASA-CASE-NPO-13464-2 US-PATENT-APPL-SN-428444 US-PATENT-APPL-SN-553687 US-PATENT-CLASS-252-373 US-PATENT-CLASS-42-215 US-PATENT-CLASS-423-650 US-PATENT-CLASS-431-163 US-PATENT-CLASS-431-210 US-PATENT-CLASS-431-4 US-PATENT-CLASS-48-197R US-PATENT-3,971,847
N76-24553*	c 36	NASA-CASE-NPO-13531-1 US-PATENT-APPL-SN-531565 US-PATENT-CLASS-331-94.5C US-PATENT-CLASS-350-96WG US-PATENT-3,958,188	N76-28563*	c 38	NASA-CASE-NPO-12142-1 US-PATENT-APPL-SN-637249 US-PATENT-CLASS-73-88.5 US-PATENT-3,545,262	N76-29891*	c 51	NASA-CASE-GSC-11917-2 US-PATENT-APPL-SN-475337 US-PATENT-APPL-SN-555641 US-PATENT-CLASS-195-103.5R US-PATENT-3,971,703
N76-24575*	c 37	NASA-CASE-LAR-10073-1 US-PATENT-APPL-SN-436317 US-PATENT-CLASS-156-242 US-PATENT-CLASS-156-286 US-PATENT-CLASS-264-102 US-PATENT-CLASS-264-267 US-PATENT-CLASS-428-117 US-PATENT-3,956,050	N76-28635*	c 44	NASA-CASE-GSC-12022-1 NASA-CASE-GSC-12023-1 US-PATENT-APPL-SN-576488 US-PATENT-CLASS-136-89 US-PATENT-CLASS-148-174 US-PATENT-CLASS-148-175 US-PATENT-CLASS-156-612 US-PATENT-CLASS-156-613 US-PATENT-CLASS-156-614 US-PATENT-CLASS-357-30 US-PATENT-CLASS-357-59 US-PATENT-CLASS-427-113 US-PATENT-CLASS-427-248 US-PATENT-CLASS-427-249 US-PATENT-CLASS-427-250 US-PATENT-CLASS-427-86 US-PATENT-3,961,997	N76-29894*	c 52	NASA-CASE-ARC-10583-1 US-PATENT-APPL-SN-301418 US-PATENT-CLASS-128-2.1A US-PATENT-CLASS-128-2H US-PATENT-CLASS-128-2P US-PATENT-3,971,362
N76-24696*	c 44	NASA-CASE-MFS-22744-1 US-PATENT-APPL-SN-518544 US-PATENT-CLASS-126-270 US-PATENT-CLASS-126-271 US-PATENT-CLASS-350-293 US-PATENT-CLASS-350-299 US-PATENT-3,958,553	N76-29217*	c 05	NASA-CASE-ARC-10470-3 US-PATENT-APPL-SN-206279 US-PATENT-APPL-SN-321180	N76-29895*	c 52	NASA-CASE-NPO-13644-1 US-PATENT-APPL-SN-574218 US-PATENT-CLASS-128-2.05R US-PATENT-CLASS-128-2S

			US-PATENT-CLASS-338-6				US-PATENT-APPL-SN-537480				US-PATENT-CLASS-324-72
			US-PATENT-3,971,363				US-PATENT-CLASS-23-230R				US-PATENT-3,984,730
N76-29896*	c 52		NASA-CASE-NPO-13643-1				US-PATENT-CLASS-23-232E	N77-10463*	c 34		NASA-CASE-MFS-22991-1
			US-PATENT-APPL-SN-578241				US-PATENT-CLASS-23-232R				US-PATENT-APPL-SN-521006
			US-PATENT-CLASS-128-2.05E				US-PATENT-3,977,831				US-PATENT-CLASS-165-164
			US-PATENT-CLASS-128-2.06E				US-PATENT-APPL-SN-262596				US-PATENT-CLASS-165-170
			US-PATENT-CLASS-128-2S				US-PATENT-CLASS-340-347SY	N77-10492*	c 35		US-PATENT-3,983,933
			US-PATENT-CLASS-128-418				US-PATENT-3,976,997				NASA-CASE-NPO-13479-1
			US-PATENT-CLASS-128-419P				NASA-CASE-MS-12640-1				US-PATENT-APPL-SN-500981
			US-PATENT-CLASS-73-398AR				US-PATENT-APPL-SN-591568				US-PATENT-CLASS-250-290
			US-PATENT-3,971,364				US-PATENT-CLASS-350-162SF				US-PATENT-CLASS-250-291
N76-30053*	c 74		NASA-CASE-GSC-11782-1				US-PATENT-3,977,771	N77-10493*	c 35		US-PATENT-3,984,681
			US-PATENT-APPL-SN-463925				NASA-CASE-MFS-16609-3				NASA-CASE-MFS-23178-1
			US-PATENT-CLASS-250-199				US-PATENT-APPL-SN-307714				US-PATENT-APPL-SN-637247
			US-PATENT-3,971,930				US-PATENT-APPL-SN-511894				US-PATENT-CLASS-250-338
N76-30131*	c 91		NASA-CASE-MS-12423-1				US-PATENT-APPL-SN-82279				US-PATENT-CLASS-250-339
			US-PATENT-APPL-SN-448320				US-PATENT-CLASS-325-114				US-PATENT-CLASS-250-347
			US-PATENT-CLASS-73-170R				US-PATENT-CLASS-325-115				US-PATENT-CLASS-356-106R
			US-PATENT-CLASS-73-425.2				US-PATENT-CLASS-325-186	N77-10584*	c 43		US-PATENT-3,984,686
			US-PATENT-CLASS-73-432R				US-PATENT-CLASS-343-705				NASA-CASE-MS-14472-1
			US-PATENT-3,971,256				US-PATENT-3,978,410				US-PATENT-APPL-SN-502138
N76-30793*	c 52		US-PATENT-APPL-SN-452768				NASA-CASE-ARC-10592-2				US-PATENT-CLASS-235-181
			US-PATENT-CLASS-351-23				US-PATENT-APPL-SN-414043				US-PATENT-CLASS-340-146.3P
			US-PATENT-CLASS-351-30				US-PATENT-CLASS-260-240G				US-PATENT-CLASS-340-146.3Q
			US-PATENT-CLASS-351-36				US-PATENT-CLASS-260-566B	N77-10635*	c 44		US-PATENT-3,984,671
			US-PATENT-RE-28,921				US-PATENT-3,965,096				NASA-CASE-MFS-22458-1
N76-31365*	c 31		NASA-CASE-ARC-10445-1				NASA-CASE-NPO-13553-1				US-PATENT-APPL-SN-571458
			US-PATENT-APPL-SN-491418				US-PATENT-APPL-SN-616333				US-PATENT-CLASS-136-89
			US-PATENT-CLASS-313-250				US-PATENT-CLASS-343-882				US-PATENT-CLASS-29-572
			US-PATENT-CLASS-313-306				US-PATENT-CLASS-343-915	N77-10636*	c 44		US-PATENT-3,984,256
			US-PATENT-CLASS-313-309				US-PATENT-3,978,490				NASA-CASE-NPO-13560-1
			US-PATENT-CLASS-313-338				NASA-CASE-ARC-10994-1				NASA-CASE-NPO-13561-1
			US-PATENT-3,978,364				US-PATENT-APPL-SN-728369				US-PATENT-APPL-SN-487156
N76-31372*	c 32		NASA-CASE-NPO-13465-1				NASA-CASE-LAR-11645-1				US-PATENT-CLASS-123-3
			US-PATENT-APPL-SN-531575				US-PATENT-APPL-SN-473973				US-PATENT-CLASS-23-281
			US-PATENT-CLASS-179-1SA				US-PATENT-CLASS-244-113				US-PATENT-CLASS-252-373
			US-PATENT-3,978,287				US-PATENT-CLASS-244-130				US-PATENT-CLASS-423-650
N76-31409*	c 33		NASA-CASE-NPO-12134-1				US-PATENT-3,984,070				US-PATENT-CLASS-431-11
			US-PATENT-APPL-SN-536785				NASA-CASE-NPO-13528-1				US-PATENT-CLASS-431-116
			US-PATENT-CLASS-313-94				US-PATENT-APPL-SN-521620				US-PATENT-CLASS-431-162
			US-PATENT-CLASS-357-63				US-PATENT-CLASS-73-147				US-PATENT-CLASS-431-170
			US-PATENT-3,978,360				US-PATENT-CLASS-73-149				US-PATENT-CLASS-431-41
N76-31489*	c 35		NASA-CASE-GSC-11893-1				US-PATENT-3,983,749				US-PATENT-CLASS-48-116
			US-PATENT-APPL-SN-585420				NASA-CASE-MFS-20855-1				US-PATENT-CLASS-48-117
			US-PATENT-CLASS-73-9				US-PATENT-APPL-SN-243374				US-PATENT-CLASS-48-197R
			US-PATENT-3,977,231				US-PATENT-CLASS-244-13D				US-PATENT-CLASS-48-212
N76-31490*	c 35		NASA-CASE-NPO-13604-1				US-PATENT-3,744,739				US-PATENT-CLASS-48-61
			US-PATENT-APPL-SN-574219				NASA-CASE-MFS-22787-1				US-PATENT-3,982,910
			US-PATENT-CLASS-356-106S				US-PATENT-APPL-SN-511346	N77-10753*	c 47		NASA-CASE-MFS-23362-1
			US-PATENT-CLASS-356-114				US-PATENT-CLASS-244-169				US-PATENT-APPL-SN-637268
			US-PATENT-CLASS-356-209				US-PATENT-CLASS-244-171				US-PATENT-CLASS-250-338
			US-PATENT-CLASS-356-244				US-PATENT-CLASS-244-3.21				US-PATENT-CLASS-250-339
			US-PATENT-3,977,787				US-PATENT-3,984,072				US-PATENT-CLASS-250-347
N76-31512*	c 36		NASA-CASE-NPO-13490-1				NASA-CASE-LEW-12082-1				US-PATENT-CLASS-356-106R
			US-PATENT-APPL-SN-549418				US-PATENT-APPL-SN-612964				US-PATENT-3,984,685
			US-PATENT-CLASS-330-4				US-PATENT-CLASS-313-231.4	N77-10780*	c 52		NASA-CASE-ARC-10855-1
			US-PATENT-CLASS-331-94				US-PATENT-CLASS-313-240				US-PATENT-APPL-SN-617612
			US-PATENT-3,978,417				US-PATENT-CLASS-313-361				US-PATENT-CLASS-128-2H
N76-31524*	c 37		NASA-CASE-NPO-13535-1				US-PATENT-CLASS-315-111.3				US-PATENT-CLASS-73-343R
			US-PATENT-APPL-SN-563050				US-PATENT-CLASS-60-202				US-PATENT-3,983,753
			US-PATENT-CLASS-264-129				US-PATENT-3,983,695	N77-10899*	c 74		NASA-CASE-MS-19442-1
			US-PATENT-CLASS-264-161				NASA-CASE-LAR-11995-1				US-PATENT-APPL-SN-558600
			US-PATENT-CLASS-264-219				US-PATENT-APPL-SN-238826				US-PATENT-CLASS-356-237
			US-PATENT-CLASS-264-304				US-PATENT-CLASS-102-99				US-PATENT-CLASS-356-239
			US-PATENT-CLASS-264-305				US-PATENT-CLASS-264-3R				US-PATENT-3,985,454
			US-PATENT-CLASS-264-308				US-PATENT-CLASS-86-1R	N77-11397*	c 37		NASA-CASE-LAR-11549-1
			US-PATENT-CLASS-264-310				US-PATENT-3,983,780				US-PATENT-APPL-SN-537979
			US-PATENT-CLASS-264-318				NASA-CASE-NPO-13459-1				US-PATENT-CLASS-219-118
			US-PATENT-CLASS-264-334				US-PATENT-APPL-SN-598967				US-PATENT-CLASS-219-92
			US-PATENT-CLASS-427-230				US-PATENT-CLASS-62-217				US-PATENT-3,988,561
			US-PATENT-3,978,187				US-PATENT-CLASS-62-514JT	N77-12239*	c 32		NASA-CASE-MS-12506-1
N76-31562*	c 39		NASA-CASE-MS-19372-1				US-PATENT-3,983,714				US-PATENT-APPL-SN-545283
			US-PATENT-APPL-SN-517995				NASA-CASE-LAR-11827-1				US-PATENT-CLASS-340-347DD
			US-PATENT-CLASS-182-178				US-PATENT-APPL-SN-412379				US-PATENT-3,988,729
			US-PATENT-CLASS-29-467				US-PATENT-APPL-SN-561764	N77-12240*	c 32		NASA-CASE-NPO-13543-1
			US-PATENT-CLASS-29-526				US-PATENT-CLASS-178-88				NASA-CASE-NPO-13545-1
			US-PATENT-CLASS-52-236				US-PATENT-CLASS-235-150.1				US-PATENT-APPL-SN-589173
			US-PATENT-CLASS-52-637				US-PATENT-CLASS-235-156				US-PATENT-CLASS-325-41
			US-PATENT-CLASS-52-648				US-PATENT-CLASS-325-323				US-PATENT-CLASS-340-146.1AL
			US-PATENT-CLASS-52-651				US-PATENT-CLASS-325-349				US-PATENT-CLASS-340-146.1AQ
			US-PATENT-CLASS-52-726				US-PATENT-CLASS-325-476				US-PATENT-CLASS-340-146.1AV
			US-PATENT-CLASS-52-745				US-PATENT-3,984,634	N77-12402*	c 37		US-PATENT-3,988,677
			US-PATENT-CLASS-52-749				NASA-CASE-NPO-13512-1				NASA-CASE-MFS-23062-1
			US-PATENT-3,977,147				US-PATENT-APPL-SN-533734				US-PATENT-APPL-SN-591569
N76-31666*	c 44		NASA-CASE-NPO-13087-2				US-PATENT-CLASS-321-19				US-PATENT-CLASS-60-527
			US-PATENT-APPL-SN-296622				US-PATENT-CLASS-321-2				US-PATENT-3,987,630
			US-PATENT-APPL-SN-462341				US-PATENT-CLASS-323-DIG.1	N77-12721*	c 60		NASA-CASE-NPO-13428-1
			US-PATENT-CLASS-136-206				US-PATENT-CLASS-323-17				NASA-CASE-NPO-13447-1
			US-PATENT-CLASS-136-89				US-PATENT-CLASS-323-22T				US-PATENT-APPL-SN-495022
			US-PATENT-3,966,499				US-PATENT-CLASS-323-23				US-PATENT-CLASS-179-15BA
N76-31667*	c 44		NASA-CASE-MFS-23167-1				US-PATENT-3,984,799				US-PATENT-CLASS-328-111
			US-PATENT-APPL-SN-602618				NASA-CASE-GSC-11963-1				US-PATENT-CLASS-340-172.5
			US-PATENT-CLASS-165-10				US-PATENT-APPL-SN-595197	N77-13217*	c 27		US-PATENT-3,988,716
			US-PATENT-CLASS-60-659				US-PATENT-CLASS-244-1A				NASA-CASE-NPO-13666-1
			US-PATENT-3,977,197				US-PATENT-CLASS-244-42CG				US-PATENT-APPL-SN-633877
N76-31714*	c 45		NASA-CASE-LAR-11405-1				US-PATENT-CLASS-317-2D				US-PATENT-CLASS-29-182.5

N77-13315*	c 33	US-PATENT-3,990,860	N77-14581*	c 44	US-PATENT-3,996,067	N77-18154*	c 07	US-PATENT-APPL-SN-565289
		NASA-CASE-NPO-11515-1			NASA-CASE-LEW-12220-1			US-PATENT-CLASS-235-92CA
		US-PATENT-APPL-SN-139596			US-PATENT-APPL-SN-606891			US-PATENT-CLASS-235-92CT
		US-PATENT-CLASS-307-233			US-PATENT-CLASS-320-2			US-PATENT-CLASS-235-92DN
		US-PATENT-CLASS-307-295			US-PATENT-CLASS-429-23			US-PATENT-CLASS-235-92R
N77-13418*	c 37	US-PATENT-CLASS-328-133	N77-14735*	c 52	US-PATENT-CLASS-429-34	N77-18307*	c 32	US-PATENT-4,001,552
		US-PATENT-3,750,035			US-PATENT-3,996,064			NASA-CASE-ARC-10761-1
		NASA-CASE-ARC-10905-1			NASA-CASE-MFS-23225-1			US-PATENT-APPL-SN-612899
		US-PATENT-APPL-SN-618594			US-PATENT-APPL-SN-612965			US-PATENT-CLASS-137-15.1
		US-PATENT-CLASS-219-300			US-PATENT-CLASS-3-1.2			US-PATENT-CLASS-244-53B
N77-14025*	c 07	US-PATENT-CLASS-219-304	N77-14736*	c 52	US-PATENT-CLASS-3-14	N77-18382*	c 34	US-PATENT-4,007,891
		US-PATENT-CLASS-239-171			US-PATENT-3,995,324			NASA-CASE-MFS-23303-1
		US-PATENT-CLASS-252-359A			NASA-CASE-ARC-11007-1			US-PATENT-APPL-SN-676957
		US-PATENT-3,990,987			US-PATENT-APPL-SN-652948			US-PATENT-CLASS-333-70R
		NASA-CASE-LEW-12419-1			US-PATENT-CLASS-128-2H			US-PATENT-CLASS-333-75
N77-14292*	c 32	US-PATENT-APPL-SN-579375	N77-14737*	c 52	US-PATENT-CLASS-128-379	N77-18417*	c 35	US-PATENT-CLASS-333-76
		US-PATENT-CLASS-416-153			US-PATENT-CLASS-128-400			US-PATENT-CLASS-333-82B
		US-PATENT-CLASS-416-160			US-PATENT-CLASS-128-402			US-PATENT-4,007,434
		US-PATENT-CLASS-416-162			US-PATENT-3,995,621			NASA-CASE-LAR-10805-2
		US-PATENT-CLASS-416-165			NASA-CASE-MS-14276-1			US-PATENT-APPL-SN-428992
N77-14333*	c 33	US-PATENT-CLASS-416-167	N77-14738*	c 52	US-PATENT-APPL-SN-557430	N77-18891*	c 73	US-PATENT-APPL-SN-578240
		US-PATENT-CLASS-60-226R			US-PATENT-CLASS-250-363R			US-PATENT-CLASS-244-117A
		US-PATENT-3,994,128			US-PATENT-CLASS-250-444			US-PATENT-CLASS-427-160
		NASA-CASE-LAR-11607-1			US-PATENT-CLASS-250-498			US-PATENT-CLASS-427-322
		US-PATENT-APPL-SN-617895			US-PATENT-3,996,471			US-PATENT-CLASS-428-35
N77-14334*	c 33	US-PATENT-CLASS-325-145	N77-14751*	c 60	NASA-CASE-KSC-10849-1	N77-18893*	c 74	US-PATENT-CLASS-428-421
		US-PATENT-CLASS-332-22			US-PATENT-APPL-SN-613734			US-PATENT-CLASS-428-461
		US-PATENT-CLASS-332-23R			US-PATENT-CLASS-128-418			US-PATENT-CLASS-428-474
		US-PATENT-3,996,532			US-PATENT-CLASS-3-1.1			US-PATENT-4,008,348
		NASA-CASE-GSC-11789-1			US-PATENT-CLASS-339-252R			NASA-CASE-ARC-10898-1
N77-14335*	c 33	US-PATENT-APPL-SN-538982	N77-17029*	c 05	US-PATENT-3,995,644	N77-19056*	c 04	US-PATENT-APPL-SN-625732
		US-PATENT-CLASS-317-31			NASA-CASE-GSC-11839-1			US-PATENT-CLASS-73-12
		US-PATENT-CLASS-321-13			US-PATENT-APPL-SN-468614			US-PATENT-CLASS-73-432SD
		US-PATENT-3,996,506			US-PATENT-CLASS-235-152			US-PATENT-CLASS-73-71.6
		NASA-CASE-GSC-12018-1			US-PATENT-CLASS-250-227			US-PATENT-4,007,623
N77-14406*	c 35	US-PATENT-APPL-SN-635531	N77-17143*	c 20	US-PATENT-CLASS-340-172.5	N77-19170*	c 24	NASA-CASE-NPO-13121-1
		US-PATENT-CLASS-329-122			US-PATENT-CLASS-350-96R			US-PATENT-APPL-SN-294727
		US-PATENT-CLASS-329-124			US-PATENT-3,996,455			US-PATENT-CLASS-310-4R
		US-PATENT-CLASS-331-23			NASA-CASE-ARC-10807-1			US-PATENT-CLASS-313-311
		US-PATENT-CLASS-331-36C			US-PATENT-APPL-SN-513612			US-PATENT-CLASS-346R
N77-14407*	c 35	US-PATENT-CLASS-332-30V	N77-17161*	c 23	US-PATENT-CLASS-416-104	N77-19171*	c 24	US-PATENT-4,008,407
		US-PATENT-3,997,848			US-PATENT-CLASS-416-138			NASA-CASE-MS-14683-1
		NASA-CASE-MFS-22560-1			US-PATENT-CLASS-416-141			US-PATENT-APPL-SN-612967
		US-PATENT-APPL-SN-589233			US-PATENT-3,999,886			US-PATENT-CLASS-358-44
		US-PATENT-CLASS-250-214A			NASA-CASE-LEW-12760-1			US-PATENT-4,004,292
N77-14408*	c 35	US-PATENT-CLASS-330-14	N77-17351*	c 33	US-PATENT-APPL-SN-569925	N77-19353*	c 34	NASA-CASE-LAR-11387-2
		US-PATENT-CLASS-330-28			US-PATENT-CLASS-60-226A			US-PATENT-APPL-SN-531647
		US-PATENT-CLASS-330-59			US-PATENT-CLASS-60-228			US-PATENT-APPL-SN-623156
		US-PATENT-3,996,462			US-PATENT-4,005,574			US-PATENT-CLASS-33-356
		NASA-CASE-NPO-13663-1			NASA-CASE-XLA-01349			US-PATENT-CLASS-73-178R
N77-14409*	c 35	US-PATENT-APPL-SN-634205	N77-17354*	c 33	US-PATENT-APPL-SN-256493	N77-19416*	c 36	US-PATENT-4,006,631
		US-PATENT-CLASS-250-289			US-PATENT-APPL-SN-54552			NASA-CASE-ARC-10979-1
		US-PATENT-CLASS-250-298			US-PATENT-CLASS-102-49.3			US-PATENT-APPL-SN-608483
		US-PATENT-3,996,464			US-PATENT-CLASS-264-3R			US-PATENT-CLASS-124-6
		NASA-CASE-LAR-11648-1			US-PATENT-CLASS-86-1R			US-PATENT-CLASS-244-63
N77-14409*	c 35	US-PATENT-APPL-SN-645571	N77-17426*	c 35	US-PATENT-CLASS-86-20R	N77-19457*	c 37	US-PATENT-3,989,206
		US-PATENT-CLASS-73-133R			US-PATENT-4,000,682			NASA-CASE-LEW-12550-1
		US-PATENT-3,995,476			NASA-CASE-MS-14428-1			US-PATENT-APPL-SN-596905
		NASA-CASE-ARC-10448-3			US-PATENT-APPL-SN-450504			US-PATENT-CLASS-416-224
		US-PATENT-APPL-SN-221670			US-PATENT-CLASS-23-230B			US-PATENT-CLASS-416-230
N77-14411*	c 35	US-PATENT-APPL-SN-318848	N77-17464*	c 37	US-PATENT-CLASS-23-230M	N77-19458*	c 37	US-PATENT-4,006,999
		US-PATENT-CLASS-250-396			US-PATENT-CLASS-23-230R			NASA-CASE-LEW-12619-1
		US-PATENT-3,996,468			US-PATENT-CLASS-23-231			US-PATENT-APPL-SN-462424
		NASA-CASE-NPO-13540-1			US-PATENT-CLASS-23-232C			US-PATENT-CLASS-204-16
		US-PATENT-APPL-SN-526450			US-PATENT-CLASS-23-232R			US-PATENT-CLASS-204-40
N77-14417*	c 37	US-PATENT-CLASS-136-232	N77-17495*	c 38	US-PATENT-CLASS-23-254R	N77-19548*	c 37	US-PATENT-CLASS-204-9
		US-PATENT-CLASS-136-233			US-PATENT-CLASS-55-197			US-PATENT-CLASS-29-527.2
		US-PATENT-3,996,070			US-PATENT-CLASS-55-67			US-PATENT-3,989,602
		NASA-CASE-NPO-13683-1			US-PATENT-CLASS-55-74			NASA-CASE-ARC-10912-1
		US-PATENT-APPL-SN-599284			US-PATENT-CLASS-73-23.1			US-PATENT-APPL-SN-623187
N77-14477*	c 37	US-PATENT-CLASS-250-343	N77-17495*	c 38	US-PATENT-CLASS-73-61.1C	N77-19548*	c 37	US-PATENT-CLASS-62-100
		US-PATENT-CLASS-356-201			US-PATENT-4,003,257			US-PATENT-CLASS-62-121
		US-PATENT-CLASS-356-204			NASA-CASE-MFS-23181-1			US-PATENT-CLASS-62-269
		US-PATENT-CLASS-356-97			US-PATENT-APPL-SN-566495			US-PATENT-CLASS-62-315
		US-PATENT-3,995,960			US-PATENT-CLASS-331-114			US-PATENT-4,007,601
N77-14478*	c 37	NASA-CASE-FRC-10081-1	N77-17495*	c 38	US-PATENT-CLASS-331-177V	N77-19548*	c 37	NASA-CASE-MS-14653-1
		US-PATENT-APPL-SN-598504			US-PATENT-CLASS-332-18			US-PATENT-APPL-SN-521816
		US-PATENT-CLASS-280-432			US-PATENT-CLASS-332-30V			US-PATENT-CLASS-177-1
		US-PATENT-3,995,877			US-PATENT-4,003,004			US-PATENT-CLASS-177-208
		NASA-CASE-LAR-11658-1			NASA-CASE-LEW-11881-1			US-PATENT-CLASS-73-432R
N77-14479*	c 37	US-PATENT-APPL-SN-625759	N77-17354*	c 33	US-PATENT-APPL-SN-598968	N77-19416*	c 36	US-PATENT-3,988,933
		US-PATENT-CLASS-83-451			US-PATENT-CLASS-307-229			NASA-CASE-XNP-04167-3
		US-PATENT-CLASS-83-467R			US-PATENT-CLASS-307-230			US-PATENT-APPL-SN-170544
		US-PATENT-3,995,522			US-PATENT-CLASS-328-161			US-PATENT-APPL-SN-479357
		NASA-CASE-GSC-11960-1			US-PATENT-4,001,602			US-PATENT-CLASS-331-94.5D
N77-14580*	c 44	US-PATENT-APPL-SN-629456	N77-17426*	c 35	NASA-CASE-MFS-22671-2	N77-19457*	c 37	US-PATENT-CLASS-331-94.5G
		US-PATENT-CLASS-242-187			US-PATENT-APPL-SN-419831			US-PATENT-CLASS-331-94.5PE
		US-PATENT-CLASS-242-193			US-PATENT-APPL-SN-561956			US-PATENT-4,007,430
		US-PATENT-CLASS-242-204			US-PATENT-CLASS-360-25			NASA-CASE-MFS-15218-1
		US-PATENT-CLASS-242-210			US-PATENT-CLASS-360-31			US-PATENT-APPL-SN-387094
N77-14580*	c 44	US-PATENT-CLASS-242-57	N77-17464*	c 37	US-PATENT-4,003,084	N77-19458*	c 37	US-PATENT-CLASS-197-188
		US-PATENT-3,995,789			NASA-CASE-GSC-11978-1			US-PATENT-CLASS-197-190
		NASA-CASE-LEW-11496-1			US-PATENT-APPL-SN-593142			US-PATENT-3,989,136
		US-PATENT-APPL-SN-645508			US-PATENT-CLASS-308-10			NASA-CASE-GSC-11883-1
		US-PATENT-CLASS-136-89			US-PATENT-4,000,929			NASA-CASE-GSC-11974-1
N77-14580*	c 44	US-PATENT-CLASS-204-192	N77-17495*	c 38	NASA-CASE-GSC-11902-1	N77-19458*	c 37	NASA-CASE-GSC-11975-1



		US-PATENT-APPL-SN-596787			US-PATENT-APPL-SN-841278			US-PATENT-CLASS-60-39.28R
		US-PATENT-CLASS-310-4A			US-PATENT-CLASS-313-175			US-PATENT-CLASS-60-39.66
		US-PATENT-CLASS-337-334			US-PATENT-CLASS-313-180			US-PATENT-4,020,632
		US-PATENT-CLASS-340-224			US-PATENT-CLASS-313-184	N77-23482*	c 37	NASA-CASE-LAR-11563-1
		US-PATENT-CLASS-60-527			US-PATENT-CLASS-315-108			US-PATENT-APPL-SN-672815
		US-PATENT-CLASS-75-122.7			US-PATENT-CLASS-315-110			US-PATENT-CLASS-29-DIG.35
		US-PATENT-CLASS-75-170			US-PATENT-3,621,330			US-PATENT-CLASS-29-447
		US-PATENT-4,010,455	N77-21392*	c 35	NASA-CASE-NPO-10711-1			US-PATENT-CLASS-403-273
N77-19571*	c 44	NASA-CASE-LEW-11549-1			US-PATENT-APPL-SN-844315			US-PATENT-CLASS-53-9
		US-PATENT-APPL-SN-510677			US-PATENT-CLASS-179-100.2C			US-PATENT-4,017,959
		US-PATENT-CLASS-136-89			US-PATENT-3,697,705	N77-23483*	c 37	NASA-CASE-MFS-23088-1
		US-PATENT-3,989,541	N77-21393*	c 35	NASA-CASE-NPO-10819-1			US-PATENT-APPL-SN-602617
N77-19760*	c 60	NASA-CASE-ARC-10899-1			US-PATENT-APPL-SN-757017			US-PATENT-CLASS-213-81
		US-PATENT-APPL-SN-576774			US-PATENT-CLASS-338-25			US-PATENT-CLASS-214-1CM
		US-PATENT-CLASS-178-69.5R			US-PATENT-3,555,483			US-PATENT-CLASS-244-161
		US-PATENT-CLASS-179-158S			US-PATENT-MFS-23074-1			US-PATENT-4,018,409
		US-PATENT-CLASS-340-172.5	N77-21844*	c 54	NASA-CASE-MFS-23074-1	N77-24328*	c 32	NASA-CASE-ARC-10984-1
		US-PATENT-3,990,049			US-PATENT-APPL-SN-623188			US-PATENT-APPL-SN-690815
N77-20162*	c 20	NASA-CASE-LEW-12048-1			US-PATENT-CLASS-188-291			US-PATENT-CLASS-358-133
		US-PATENT-APPL-SN-665033			US-PATENT-CLASS-254-158			US-PATENT-CLASS-358-138
		US-PATENT-CLASS-313-230	N77-21941*	c 74	US-PATENT-4,018,423			US-PATENT-4,025,950
		US-PATENT-CLASS-313-231.3			NASA-CASE-NPO-11429-1	N77-24331*	c 32	NASA-CASE-MSC-14840-1
		US-PATENT-CLASS-313-360			US-PATENT-APPL-SN-95189			US-PATENT-APPL-SN-692414
		US-PATENT-CLASS-315-111.3			US-PATENT-CLASS-240-41.35R			US-PATENT-CLASS-178-88
		US-PATENT-CLASS-315-111.6			US-PATENT-CLASS-240-41R			US-PATENT-CLASS-325-346
		US-PATENT-CLASS-60-202			US-PATENT-CLASS-240-46.13			US-PATENT-CLASS-329-104
N77-20201*	c 26	US-PATENT-4,011,719			US-PATENT-CLASS-356-236			US-PATENT-CLASS-329-122
		NASA-CASE-LEW-12245-1	N77-22386*	c 33	US-PATENT-3,711,701			US-PATENT-4,027,265
		US-PATENT-APPL-SN-584094			NASA-CASE-NPO-10870-1	N77-24375*	c 33	NASA-CASE-MSC-12709-1
		US-PATENT-CLASS-148-12.7N			NASA-CASE-NPO-11191-1			US-PATENT-APPL-SN-630583
		US-PATENT-CLASS-148-162			NASA-CASE-NPO-11403-1			US-PATENT-CLASS-307-225R
		US-PATENT-CLASS-148-2			US-PATENT-APPL-SN-108810			US-PATENT-CLASS-328-38
		US-PATENT-CLASS-148-20.3			US-PATENT-CLASS-313-146			US-PATENT-CLASS-328-39
		US-PATENT-CLASS-148-32.5			US-PATENT-CLASS-313-182			US-PATENT-CLASS-328-4-8
		US-PATENT-CLASS-75-170			US-PATENT-CLASS-313-60			US-PATENT-CLASS-328-63
N77-20289*	c 32	US-PATENT-4,012,237	N77-22449*	c 35	US-PATENT-3,736,453			US-PATENT-4,025,866
		NASA-CASE-NPO-13753-1			NASA-CASE-LAR-11825-1	N77-24423*	c 34	NASA-CASE-LAR-12045-1
		US-PATENT-APPL-SN-658449			US-PATENT-APPL-SN-632112			US-PATENT-APPL-SN-682416
		US-PATENT-CLASS-325-4			US-PATENT-CLASS-73-88R			US-PATENT-CLASS-259/4R
		US-PATENT-CLASS-343-100ST	N77-22450*	c 35	US-PATENT-4,018,085			US-PATENT-CLASS-261-DIG.75
		US-PATENT-CLASS-343-6.BR			NASA-CASE-MFS-23281-1			US-PATENT-CLASS-261-123
		US-PATENT-CLASS-343-6.5R			US-PATENT-APPL-SN-657995			US-PATENT-4,026,527
N77-20399*	c 35	US-PATENT-4,012,696			US-PATENT-CLASS-73-95	N77-24454*	c 35	NASA-CASE-ARC-10900-1
		NASA-CASE-ARC-10716-1			US-PATENT-4,018,080			US-PATENT-APPL-SN-630579
		US-PATENT-APPL-SN-403695	N77-22479*	c 37	NASA-CASE-NPO-10316-1			US-PATENT-CLASS-338-229
		US-PATENT-CLASS-235-150.2			US-PATENT-APPL-SN-703107			US-PATENT-CLASS-338-28
		US-PATENT-CLASS-235-150.25			US-PATENT-CLASS-60-53			US-PATENT-4,025,891
		US-PATENT-CLASS-244-165			US-PATENT-3,478,514	N77-24455*	c 35	NASA-CASE-GSC-12077-1
		US-PATENT-CLASS-244-171			NASA-CASE-NPO-13058-1			US-PATENT-APPL-SN-635519
		US-PATENT-CLASS-244-3.21	N77-22480*	c 37	NASA-CASE-NPO-13096-1			US-PATENT-CLASS-65-108
		US-PATENT-4,012,018			US-PATENT-APPL-SN-403154			US-PATENT-CLASS-65-108
N77-20400*	c 35	NASA-CASE-ARC-10911-1			US-PATENT-CLASS-214-16.1CB			US-PATENT-CLASS-654
		US-PATENT-APPL-SN-610802			US-PATENT-3,896,955			US-PATENT-CLASS-6554
		US-PATENT-CLASS-338-28	N77-22482*	c 37	NASA-CASE-MSC-19536-1			US-PATENT-CLASS-6564
		US-PATENT-CLASS-73-204			US-PATENT-APPL-SN-658450	N77-25499*	c 36	NASA-CASE-GSC-11571-1
		US-PATENT-4,011,756			US-PATENT-CLASS-74-96			US-PATENT-APPL-SN-646704
N77-20401*	c 35	NASA-CASE-MFS-23267-1			US-PATENT-4,018,092			US-PATENT-CLASS-331-94.5S
		US-PATENT-APPL-SN-653422	N77-22606*	c 44	NASA-CASE-LEW-12364-1			US-PATENT-4,025,875
		US-PATENT-CLASS-126-270			US-PATENT-APPL-SN-707124	N77-25501*	c 36	NASA-CASE-ARC-10970-1
		US-PATENT-CLASS-126-271			US-PATENT-CLASS-253-317			US-PATENT-APPL-SN-691046
		US-PATENT-CLASS-250-203R			US-PATENT-CLASS-429-105			US-PATENT-CLASS-250-574
		US-PATENT-4,011,854			US-PATENT-CLASS-429-107			US-PATENT-CLASS-350-100
N77-20882*	c 74	NASA-CASE-LAR-11782-1			US-PATENT-CLASS-429-190			US-PATENT-CLASS-350-102
		US-PATENT-APPL-SN-608482			US-PATENT-4,018,971			US-PATENT-CLASS-356-28
		US-PATENT-CLASS-350-145	N77-22607*	c 44	NASA-CASE-LAR-11361-1			US-PATENT-4,026,655
		US-PATENT-CLASS-350-174			US-PATENT-APPL-SN-669928	N77-25502*	c 36	NASA-CASE-NPO-13147-1
		US-PATENT-4,012,123			US-PATENT-CLASS-23-277R			US-PATENT-APPL-SN-317310
N77-21267*	c 32	NASA-CASE-LAR-11390-1			US-PATENT-CLASS-23-281			US-PATENT-CLASS-330-4.3
		US-PATENT-APPL-SN-662176			US-PATENT-CLASS-423-648R			US-PATENT-CLASS-331-94.5D
		US-PATENT-CLASS-340-5H			US-PATENT-CLASS-55-158			US-PATENT-CLASS-331-94.5P
		US-PATENT-CLASS-343-18B			US-PATENT-4,019,868			US-PATENT-4,027,273
		US-PATENT-CLASS-343-5CM	N77-22794*	c 51	NASA-CASE-GSC-12039-1	N77-25769*	c 51	NASA-CASE-LAR-10773-3
		US-PATENT-CLASS-343-5MM			US-PATENT-APPL-SN-572991			US-PATENT-APPL-SN-125235
		US-PATENT-4,019,179			US-PATENT-CLASS-195-103.5K			US-PATENT-APPL-SN-314656
N77-21314*	c 33	NASA-CASE-NPO-10189-1			US-PATENT-CLASS-195-103.5R			US-PATENT-APPL-SN-623238
		NASA-CASE-NPO-10781-1			US-PATENT-4,014,745			US-PATENT-CLASS-195-1.8
		US-PATENT-APPL-SN-744522	N77-22950*	c 74	NASA-CASE-ARC-10976-1			US-PATENT-4,018,649
		US-PATENT-CLASS-307-232			US-PATENT-APPL-SN-665032	N77-25772*	c 52	NASA-CASE-KSC-11030-1
		US-PATENT-CLASS-307-238			US-PATENT-CLASS-356-171			US-PATENT-APPL-SN-709849
		US-PATENT-CLASS-307-280			US-PATENT-4,018,533			US-PATENT-CLASS-128-1R
		US-PATENT-CLASS-329-119	N77-22951*	c 74	NASA-CASE-NPO-13722-1			US-PATENT-CLASS-3-1
		US-PATENT-CLASS-329-205			US-PATENT-APPL-SN-616472			US-PATENT-CLASS-339,12R
		US-PATENT-CLASS-332-16			US-PATENT-CLASS-250-203R			US-PATENT-4,025,964
		US-PATENT-CLASS-332-30			US-PATENT-CLASS-250-211K	N77-26385*	c 33	NASA-CASE-LEW-11978-1
		US-PATENT-CLASS-332-52			US-PATENT-CLASS-356-141			US-PATENT-APPL-SN-708658
		US-PATENT-3,582,828			US-PATENT-CLASS-356-152			US-PATENT-CLASS-204-32A
N77-21315*	c 33	NASA-CASE-NPO-11510-1			US-PATENT-CLASS-356-172			US-PATENT-CLASS-29-597
		US-PATENT-APPL-SN-173178			US-PATENT-4,018,532			US-PATENT-CLASS-29-622
		US-PATENT-APPL-SN-385059	N77-23106*	c 07	NASA-CASE-LEW-12830-1			US-PATENT-CLASS-29-628
		US-PATENT-CLASS-313-161			US-PATENT-APPL-SN-596641			US-PATENT-CLASS-29-630E
		US-PATENT-CLASS-313-184			US-PATENT-APPL-SN-655149			US-PATENT-4,023,266
		US-PATENT-CLASS-313-224			US-PATENT-CLASS-123-122E	N77-26386*	c 33	NASA-CASE-GSC-11824-1
		US-PATENT-CLASS-313-32			US-PATENT-CLASS-123-41.33			US-PATENT-APPL-SN-583486
		US-PATENT-CLASS-315-344			US-PATENT-CLASS-137-101			US-PATENT-CLASS-318-138
		US-PATENT-3,881,132			US-PATENT-CLASS-415-180			US-PATENT-CLASS-318-227
N77-21316*	c 33	NASA-CASE-NPO-10790-1			US-PATENT-CLASS-60-39.03			US-PATENT-CLASS-318-254

N77-26387*	c 33	US-PATENT-4,027,212 NASA-CASE-LAR-11389-1 US-PATENT-APPL-SN-229143 US-PATENT-CLASS-310-111 US-PATENT-CLASS-310-168 US-PATENT-CLASS-322-96 US-PATENT-3,849,720	N77-28225*	c 24	US-PATENT-4,033,119 NASA-CASE-MS-C-12631-1 US-PATENT-APPL-SN-568541 US-PATENT-CLASS-156-229 US-PATENT-CLASS-244-123 US-PATENT-CLASS-428-141 US-PATENT-CLASS-428-161 US-PATENT-CLASS-428-425 US-PATENT-CLASS-428-457 US-PATENT-CLASS-428-458 US-PATENT-4,032,089	N77-30309*	c 32	NASA-CASE-GSC-11898-1 US-PATENT-APPL-SN-566494 US-PATENT-CLASS-179-1SA US-PATENT-CLASS-179-1SP US-PATENT-4,039,754
N77-26477*	c 36	NASA-CASE-NPO-13550-1 US-PATENT-APPL-SN-483301 US-PATENT-CLASS-250-281 US-PATENT-CLASS-250-282 US-PATENT-CLASS-250-283 US-PATENT-CLASS-250-423P US-PATENT-4,031,389	N77-28265*	c 26	NASA-CASE-LEW-11573-1 US-PATENT-APPL-SN-625733 US-PATENT-CLASS-228-190 US-PATENT-CLASS-228-194 US-PATENT-CLASS-228-232 US-PATENT-4,033,504	N77-30365*	c 33	NASA-CASE-NPO-13812-1 US-PATENT-APPL-SN-694855 US-PATENT-CLASS-307-64 US-PATENT-CLASS-363-53 US-PATENT-CLASS-363-70 US-PATENT-4,039,925
N77-26919*	c 71	NASA-CASE-NPO-13673-1 US-PATENT-APPL-SN-613004 US-PATENT-CLASS-330-5.5 US-PATENT-CLASS-331-107A US-PATENT-CLASS-333-72 US-PATENT-4,025,876	N77-28346*	c 32	NASA-CASE-GSC-12053-1 US-PATENT-APPL-SN-667930 US-PATENT-CLASS-250-199 US-PATENT-CLASS-250-238 US-PATENT-4,033,882	N77-30399*	c 34	NASA-CASE-MFS-19287-1 US-PATENT-APPL-SN-641802 US-PATENT-CLASS-137-207 US-PATENT-CLASS-137-209 US-PATENT-CLASS-60-259 US-PATENT-CLASS-62-55 US-PATENT-4,039,000
N77-26942*	c 74	NASA-CASE-GSC-12058-1 US-PATENT-APPL-SN-680938 US-PATENT-CLASS-250-199 US-PATENT-4,025,783	N77-28385*	c 33	NASA-CASE-LEW-12444-1 US-PATENT-APPL-SN-583485 US-PATENT-CLASS-123-148CB US-PATENT-CLASS-123-148E US-PATENT-CLASS-315-176 US-PATENT-4,033,316	N77-30436*	c 35	NASA-CASE-MFS-23175-1 US-PATENT-APPL-SN-667928 US-PATENT-CLASS-324-163 US-PATENT-CLASS-324-165 US-PATENT-CLASS-324-174 US-PATENT-CLASS-340-271 US-PATENT-CLASS-340-347P US-PATENT-CLASS-340-347SY US-PATENT-4,039,946
N77-27116*	c 07	NASA-CASE-LEW-12608-1 US-PATENT-APPL-SN-680067 US-PATENT-CLASS-416-220R US-PATENT-CLASS-416-221 US-PATENT-4,033,705	N77-28486*	c 37	NASA-CASE-LEW-11158-1 US-PATENT-APPL-SN-663008 US-PATENT-CLASS-308-5R US-PATENT-CLASS-308-73 US-PATENT-CLASS-308-9 US-PATENT-4,035,037	N77-30749*	c 54	NASA-CASE-KSC-11004-1 US-PATENT-APPL-SN-710032 US-PATENT-CLASS-3-2 US-PATENT-CLASS-3-21 US-PATENT-4,038,705
N77-27131*	c 09	NASA-CASE-LAR-11883-1 US-PATENT-APPL-SN-662175 US-PATENT-CLASS-73-15R US-PATENT-4,027,524	N77-28487*	c 37	NASA-CASE-MS-C-14905-1 US-PATENT-APPL-SN-708795 US-PATENT-CLASS-128-DIG.12 US-PATENT-CLASS-128-214F US-PATENT-CLASS-222-61 US-PATENT-CLASS-222-95 US-PATENT-4,033,479	N77-31308*	c 27	NASA-CASE-NPO-11609-2 US-PATENT-APPL-SN-228229 US-PATENT-APPL-SN-674700 US-PATENT-CLASS-210-DIG.2 US-PATENT-CLASS-210-40 US-PATENT-CLASS-260-2.5A US-PATENT-CLASS-260-2.5AM US-PATENT-CLASS-260-2.5AY US-PATENT-CLASS-260-77.5AP US-PATENT-4,039,489
N77-27187*	c 24	NASA-CASE-MFS-22926-1 US-PATENT-APPL-SN-557565 US-PATENT-CLASS-164-60 US-PATENT-CLASS-75-135 US-PATENT-CLASS-75-139 US-PATENT-CLASS-75-65R US-PATENT-4,029,500	N77-28511*	c 39	NASA-CASE-MFS-23299-1 US-PATENT-APPL-SN-700673 US-PATENT-CLASS-73-67.7 US-PATENT-CLASS-73-88R US-PATENT-4,033,182	N77-31350*	c 32	NASA-CASE-GSC-12075-1 US-PATENT-APPL-SN-562499 US-PATENT-CLASS-343-17.7 US-PATENT-4,042,926
N77-27188*	c 24	NASA-CASE-LEW-12118-1 US-PATENT-APPL-SN-616332 US-PATENT-CLASS-428-301 US-PATENT-CLASS-428-328 US-PATENT-CLASS-428-368 US-PATENT-CLASS-428-418 US-PATENT-CLASS-428-457 US-PATENT-CLASS-428-902 US-PATENT-CLASS-428-911 US-PATENT-4,029,838	N77-28716*	c 52	NASA-CASE-LEW-12258-1 US-PATENT-APPL-SN-676433 US-PATENT-CLASS-128-1R US-PATENT-CLASS-128-303R US-PATENT-4,033,349	N77-31404*	c 33	NASA-CASE-ARC-10897-1 US-PATENT-APPL-SN-625781 US-PATENT-CLASS-323-93 US-PATENT-CLASS-324-60 US-PATENT-CLASS-340-200 US-PATENT-CLASS-340-347SH US-PATENT-4,040,041
N77-27345*	c 34	NASA-CASE-ARC-10974-1 US-PATENT-APPL-SN-667010 US-PATENT-CLASS-73-189 US-PATENT-CLASS-73-228 US-PATENT-4,028,939	N77-28717*	c 52	NASA-CASE-MS-C-14623-1 US-PATENT-APPL-SN-637269 US-PATENT-CLASS-128-DIG.4 US-PATENT-CLASS-128-2.1E US-PATENT-CLASS-128-410 US-PATENT-4,033,334	N77-31465*	c 35	NASA-CASE-MFS-23118-1 US-PATENT-APPL-SN-691256 US-PATENT-CLASS-356-212 US-PATENT-4,040,750
N77-27366*	c 35	NASA-CASE-GSC-12059-1 US-PATENT-APPL-SN-680957 US-PATENT-CLASS-331-94.5D US-PATENT-CLASS-331-94.5T US-PATENT-CLASS-350-253 US-PATENT-4,030,047	N77-28932*	c 74	NASA-CASE-GSC-11989-1 US-PATENT-APPL-SN-645500 US-PATENT-CLASS-350-162SF US-PATENT-CLASS-350-202 US-PATENT-CLASS-350-299 US-PATENT-4,035,062	N77-31497*	c 37	NASA-CASE-NPO-13671-1 US-PATENT-APPL-SN-564622 US-PATENT-CLASS-123-DIG.8 US-PATENT-CLASS-123-119A US-PATENT-CLASS-123-122AB US-PATENT-CLASS-123-3 US-PATENT-CLASS-123-37 US-PATENT-CLASS-123-59E US-PATENT-4,041,910
N77-27367*	c 35	NASA-CASE-NPO-11103-1 US-PATENT-APPL-SN-3654 US-PATENT-CLASS-73-84 US-PATENT-3,623,359	N77-28933*	c 74	NASA-CASE-NPO-13707-1 US-PATENT-APPL-SN-617202 US-PATENT-CLASS-350-288 US-PATENT-CLASS-350-310 US-PATENT-CLASS-350-320 US-PATENT-4,035,065	N77-31601*	c 44	NASA-CASE-LEW-12567-1 US-PATENT-APPL-SN-717319 US-PATENT-CLASS-136-89AC US-PATENT-CLASS-136-89P US-PATENT-CLASS-52-173R US-PATENT-CLASS-52-51 US-PATENT-4,040,867
N77-27368*	c 35	NASA-CASE-MS-C-12327-1 US-PATENT-APPL-SN-19572 US-PATENT-CLASS-73-362AR US-PATENT-3,613,454	N77-29260*	c 26	NASA-CASE-MFS-23405-1 US-PATENT-APPL-SN-718267 US-PATENT-CLASS-228-124 US-PATENT-CLASS-228-263 US-PATENT-4,033,503	N77-32148*	c 07	NASA-CASE-LEW-12312-1 US-PATENT-APPL-SN-654787 US-PATENT-CLASS-416-135 US-PATENT-CLASS-416-190 US-PATENT-CLASS-416-193A US-PATENT-CLASS-416-241A US-PATENT-4,045,149
N77-27400*	c 37	NASA-CASE-GSC-11063-1 US-PATENT-APPL-SN-41431 US-PATENT-CLASS-318-267 US-PATENT-CLASS-318-468 US-PATENT-CLASS-318-470 US-PATENT-CLASS-318-675 US-PATENT-3,628,113	N77-30236*	c 27	NASA-CASE-NPO-13620-1 US-PATENT-APPL-SN-666992 US-PATENT-CLASS-210-24 US-PATENT-CLASS-536-105 US-PATENT-CLASS-536-536.85 US-PATENT-CLASS-536-56 US-PATENT-CLASS-536-58 US-PATENT-CLASS-536-84 US-PATENT-4,041,233	N77-32255*	c 25	NASA-CASE-NPO-13566-1 US-PATENT-APPL-SN-653316 US-PATENT-CLASS-204-DIG.11 US-PATENT-CLASS-204-157.1R US-PATENT-CLASS-204-158R US-PATENT-CLASS-204-162R US-PATENT-CLASS-250-527 US-PATENT-4,045,359
N77-27677*	c 51	NASA-CASE-LAR-11649-1 US-PATENT-APPL-SN-626942 US-PATENT-CLASS-118-313 US-PATENT-CLASS-118-6 US-PATENT-CLASS-118-7 US-PATENT-CLASS-118-9 US-PATENT-CLASS-23-253A US-PATENT-CLASS-23-259 US-PATENT-CLASS-23-292 US-PATENT-CLASS-424-3 US-PATENT-CLASS-427-4 US-PATENT-CLASS-8-3 US-PATENT-CLASS-8-94.11 US-PATENT-4,029,470	N77-30237*	c 27	NASA-CASE-MFS-23345-1 US-PATENT-APPL-SN-696989 US-PATENT-CLASS-106-292 US-PATENT-CLASS-106-296 US-PATENT-CLASS-106-299 US-PATENT-4,039,347	N77-32279*	c 26	NASA-CASE-LEW-12906-1 US-PATENT-APPL-SN-691936 US-PATENT-CLASS-148-32 US-PATENT-CLASS-75-170 US-PATENT-4,045,255
N77-28118*	c 07	NASA-CASE-LAR-11310-1 US-PATENT-APPL-SN-394898 US-PATENT-CLASS-415-145 US-PATENT-CLASS-60-226R US-PATENT-CLASS-60-263	N77-30308*	c 32	NASA-CASE-GSC-12017-1 US-PATENT-APPL-SN-645510 US-PATENT-CLASS-325-30 US-PATENT-CLASS-325-42 US-PATENT-CLASS-325-473 US-PATENT-CLASS-325-65 US-PATENT-4,041,391	N77-32280*	c 26	NASA-CASE-LEW-12270-1 US-PATENT-APPL-SN-645507 US-PATENT-CLASS-148-32.5

		US-PATENT-CLASS-75-170			US-PATENT-CLASS-340-347AD			US-PATENT-CLASS-3-1.2
		US-PATENT-4,046,560			US-PATENT-CLASS-350-96R			US-PATENT-CLASS-3-15
N77-32308*	c 27	NASA-CASE-GSC-12110-1	N77-32919*	c 76	NASA-CASE-MFS-23001-1	N78-10709*	c 60	US-PATENT-CLASS-3-29
		US-PATENT-APPL-SN-682435			US-PATENT-APPL-SN-610801			US-PATENT-4,051,558
		US-PATENT-CLASS-156-645			US-PATENT-CLASS-156-DIG.62			NASA-CASE-GSC-11839-2
		US-PATENT-CLASS-156-663			US-PATENT-CLASS-156-601			US-PATENT-APPL-SN-468614
		US-PATENT-4,046,619			US-PATENT-CLASS-156-619			US-PATENT-APPL-SN-657996
N77-32342*	c 32	NASA-CASE-NPO-13587-1			US-PATENT-CLASS-156-620			US-PATENT-CLASS-340-173LM
		US-PATENT-APPL-SN-589119			US-PATENT-4,046,617			US-PATENT-CLASS-350-96R
		US-PATENT-CLASS-343-10	N78-10214*	c 24	NASA-CASE-LAR-11898-1			US-PATENT-CLASS-356-169
		US-PATENT-CLASS-343-100CL			US-PATENT-APPL-SN-723264	N78-10837*	c 71	US-PATENT-4,052,705
		US-PATENT-CLASS-343-5CM			US-PATENT-CLASS-428-116			NASA-CASE-NPO-13802-1
		US-PATENT-CLASS-343-5DP			US-PATENT-CLASS-428-138			US-PATENT-APPL-SN-658133
		US-PATENT-4,045,795			US-PATENT-CLASS-428-73			US-PATENT-CLASS-264-23
N77-32413*	c 34	NASA-CASE-GSC-11998-1			US-PATENT-CLASS-428-902			US-PATENT-CLASS-264-345
		US-PATENT-APPL-SN-579989			US-PATENT-4,052,523			US-PATENT-CLASS-65-DIG.4
		US-PATENT-CLASS-165-105			NASA-CASE-LEW-12137-1			US-PATENT-CLASS-65-DIG.7
		US-PATENT-4,046,190	N78-10224*	c 25	US-PATENT-APPL-SN-672210			US-PATENT-CLASS-65-102
N77-32454*	c 35	NASA-CASE-LEW-12050-1			US-PATENT-CLASS-165-105			US-PATENT-CLASS-65-2
		US-PATENT-APPL-SN-629457			US-PATENT-CLASS-431-158			US-PATENT-CLASS-65-48
		US-PATENT-CLASS-136-202			US-PATENT-CLASS-431-352			US-PATENT-CLASS-65-87
		US-PATENT-CLASS-136-236R			US-PATENT-CLASS-60-39.51R			US-PATENT-CLASS-73-505
		US-PATENT-CLASS-136-240			US-PATENT-4,052,144			US-PATENT-4,052,181
		US-PATENT-4,045,247	N78-10225*	c 25	NASA-CASE-MSC-14831-1	N78-12390*	c 35	NASA-CASE-MSC-14773-1
N77-32455*	c 35	NASA-CASE-NPO-13792-1			US-PATENT-APPL-SN-685027			US-PATENT-APPL-SN-612966
		US-PATENT-APPL-SN-677351			US-PATENT-CLASS-204-292			US-PATENT-CLASS-137-187
		US-PATENT-CLASS-324-57H			US-PATENT-CLASS-210-63R			US-PATENT-CLASS-210-222
		US-PATENT-CLASS-324-59			US-PATENT-CLASS-210-71			US-PATENT-CLASS-55-100
		US-PATENT-4,045,728			US-PATENT-CLASS-252-472			US-PATENT-CLASS-55-26-9
N77-32456*	c 35	NASA-CASE-GSC-12143-1			US-PATENT-CLASS-427-229			US-PATENT-CLASS-55-3
		US-PATENT-APPL-SN-743249			US-PATENT-4,052,302			US-PATENT-CLASS-62-50
		US-PATENT-CLASS-250-288			NASA-CASE-MSC-14916-1			US-PATENT-CLASS-62-514R
		US-PATENT-CLASS-73-421.5R	N78-10375*	c 33	US-PATENT-APPL-SN-739914			US-PATENT-4,027,494
		US-PATENT-4,046,012			US-PATENT-CLASS-179-107R	N78-13320*	c 33	NASA-CASE-MFS-23274-1
N77-32478*	c 36	NASA-CASE-LEW-12164-1			US-PATENT-CLASS-179-175.1A			US-PATENT-APPL-SN-714158
		US-PATENT-APPL-SN-511334			US-PATENT-CLASS-330-2			US-PATENT-CLASS-307-306
		US-PATENT-CLASS-350-162SF			US-PATENT-4,049,930			US-PATENT-CLASS-338-32S
		US-PATENT-4,043,674	N78-10376*	c 33	NASA-CASE-MFS-23280-1			US-PATENT-CLASS-357-4
N77-32499*	c 37	NASA-CASE-MSC-19535-1			US-PATENT-APPL-SN-706425			US-PATENT-CLASS-357-73
		US-PATENT-APPL-SN-641784			US-PATENT-CLASS-318-200			US-PATENT-CLASS-357-73
		US-PATENT-CLASS-292-110			US-PATENT-CLASS-318-227			US-PATENT-4,055,847
		US-PATENT-4,045,063			US-PATENT-CLASS-318-230	N78-13400*	c 35	NASA-CASE-ARC-10639-1
N77-32500*	c 37	NASA-CASE-LEW-12527-1			US-PATENT-4,052,648			US-PATENT-APPL-SN-643043
		US-PATENT-APPL-SN-595747			NASA-CASE-NPO-13872-1			US-PATENT-CLASS-250-336
		US-PATENT-CLASS-290-52	N78-10377*	c 33	US-PATENT-APPL-SN-742034			US-PATENT-CLASS-250-343
		US-PATENT-CLASS-308-195			US-PATENT-CLASS-363-57			US-PATENT-CLASS-250-351
		US-PATENT-CLASS-308-72			US-PATENT-CLASS-363-89			US-PATENT-4,055,764
		US-PATENT-4,046,434			US-PATENT-4,052,659	N78-13436*	c 37	NASA-CASE-LEW-12083-1
N77-32501*	c 37	NASA-CASE-LEW-12477-1			NASA-CASE-MSC-14757-1			US-PATENT-APPL-SN-659882
		US-PATENT-APPL-SN-595745	N78-10428*	c 35	US-PATENT-APPL-SN-625734			US-PATENT-CLASS-250-499
		US-PATENT-CLASS-290-52			US-PATENT-CLASS-141-197			US-PATENT-CLASS-313-61S
		US-PATENT-CLASS-308-195			US-PATENT-CLASS-141-4			US-PATENT-CLASS-427-124
		US-PATENT-4,046,435			US-PATENT-CLASS-417-225			US-PATENT-CLASS-427-126
N77-32580*	c 44	NASA-CASE-NPO-13675-1			US-PATENT-CLASS-60-560			US-PATENT-CLASS-427-248E
		US-PATENT-APPL-SN-658132			US-PATENT-CLASS-60-574			US-PATENT-CLASS-427-250
		US-PATENT-CLASS-204-157.1R			US-PATENT-4,051,877			US-PATENT-CLASS-427-255
		US-PATENT-CLASS-250-527	N78-10429*	c 35	NASA-CASE-NPO-13772-1			US-PATENT-4,055,686
		US-PATENT-4,045,315			US-PATENT-APPL-SN-675351	N78-13526*	c 44	NASA-CASE-NPO-13482-1
N77-32581*	c 44	NASA-CASE-NPO-13510-1			US-PATENT-CLASS-250-310			US-PATENT-APPL-SN-495021
		US-PATENT-APPL-SN-536786			US-PATENT-CLASS-250-398			US-PATENT-CLASS-136-895J
		US-PATENT-CLASS-126-263			US-PATENT-4,052,614			US-PATENT-CLASS-357-15
		US-PATENT-CLASS-165-107			NASA-CASE-LEW-12321-1			US-PATENT-CLASS-357-16
		US-PATENT-CLASS-165-2	N78-10467*	c 37	US-PATENT-APPL-SN-596641			US-PATENT-CLASS-357-30
		US-PATENT-CLASS-62-4			US-PATENT-CLASS-123-122E			US-PATENT-4,053,918
		US-PATENT-4,044,821			US-PATENT-CLASS-123-41.33	N78-13874*	c 74	NASA-CASE-GSC-12088-1
N77-32582*	c 44	NASA-CASE-NPO-13810-1			US-PATENT-CLASS-137-104			US-PATENT-APPL-SN-648700
		US-PATENT-APPL-SN-681096			US-PATENT-CLASS-415-180			US-PATENT-CLASS-356-103
		US-PATENT-CLASS-126-270			US-PATENT-CLASS-60-39.28R			US-PATENT-CLASS-356-104
		US-PATENT-CLASS-126-271			US-PATENT-CLASS-60-39.66			US-PATENT-4,053,229
		US-PATENT-CLASS-52-117			US-PATENT-4,041,697	N78-14096*	c 24	NASA-CASE-ARC-11042-1
		US-PATENT-CLASS-60-641			NASA-CASE-LEW-12313-1			US-PATENT-APPL-SN-734902
		US-PATENT-4,044,753	N78-10468*	c 37	US-PATENT-APPL-SN-581751			US-PATENT-CLASS-252-8.1
N77-32583*	c 44	NASA-CASE-NPO-13736-1			US-PATENT-CLASS-416-135			US-PATENT-CLASS-60-836
		US-PATENT-APPL-SN-681017			US-PATENT-CLASS-416-141			US-PATENT-4,061,579
		US-PATENT-CLASS-350-295			US-PATENT-CLASS-416-220R	N78-14104*	c 25	NASA-CASE-ARC-10991-1
		US-PATENT-CLASS-350-320			US-PATENT-CLASS-416-248			US-PATENT-APPL-SN-744574
		US-PATENT-CLASS-427-130			US-PATENT-4,047,840			US-PATENT-CLASS-204-180G
		US-PATENT-CLASS-427-47			NASA-CASE-NPO-13731-1			US-PATENT-CLASS-204-299R
		US-PATENT-CLASS-52-2	N78-10493*	c 39	US-PATENT-APPL-SN-653682			US-PATENT-4,061,561
		US-PATENT-4,046,462			US-PATENT-CLASS-73-15.6	N78-14164*	c 27	NASA-CASE-NPO-13867-1
N77-32721*	c 54	NASA-CASE-ARC-10756-1			US-PATENT-CLASS-73-91			US-PATENT-APPL-SN-692284
		US-PATENT-APPL-SN-436313			US-PATENT-4,030,348			US-PATENT-CLASS-260-DIG.15
		US-PATENT-CLASS-2-2.1A	N78-10529*	c 43	NASA-CASE-GSC-11976-1			US-PATENT-CLASS-427-164
		US-PATENT-CLASS-214-1BC			US-PATENT-APPL-SN-677352			US-PATENT-CLASS-428-411
		US-PATENT-CLASS-214-1CM			US-PATENT-CLASS-324-58.58			US-PATENT-CLASS-428-522
		US-PATENT-4,046,262			US-PATENT-4,052,666			US-PATENT-CLASS-428-922
N77-32722*	c 54	NASA-CASE-MSC-14771-1			NASA-CASE-NPO-13734-1			US-PATENT-CLASS-96-87A
		US-PATENT-APPL-SN-688854	N78-10554*	c 44	US-PATENT-APPL-SN-680939			US-PATENT-4,061,834
		US-PATENT-CLASS-165-166			US-PATENT-CLASS-126-271	N78-14364*	c 35	NASA-CASE-ARC-11046-1
		US-PATENT-CLASS-55-179			US-PATENT-CLASS-237-1A			US-PATENT-APPL-SN-712415
		US-PATENT-CLASS-55-269			US-PATENT-CLASS-350-293			US-PATENT-CLASS-340-275S
		US-PATENT-4,046,529			US-PATENT-CLASS-350-299			US-PATENT-CLASS-73-18C
N77-32731*	c 60	NASA-CASE-GSC-11839-3			US-PATENT-4,051,834			US-PATENT-4,061,029
		US-PATENT-APPL-SN-468614	N78-10686*	c 52	NASA-CASE-ARC-10916-1	N78-14380*	c 36	NASA-CASE-MFS-19259-1
		US-PATENT-APPL-SN-657997			US-PATENT-APPL-SN-701448			US-PATENT-APPL-SN-732630
		US-PATENT-CLASS-250-199						

N78-14452*	c 43	US-PATENT-CLASS-250-571	N78-15880*	c 74	US-PATENT-CLASS-428-428	N78-17215*	c 27	US-PATENT-APPL-SN-759220		
		US-PATENT-CLASS-356-159			US-PATENT-4,062,996			US-PATENT-CLASS-260-67		
		US-PATENT-CLASS-356-160			NASA-CASE-MFS-22409-2			US-PATENT-3,538,053		
		US-PATENT-CLASS-356-199			US-PATENT-APPL-SN-445398			NASA-CASE-NPO-13764-1		
		US-PATENT-4,061,427			US-PATENT-APPL-SN-636193			US-PATENT-APPL-SN-674194		
N78-14625*	c 44	NASA-CASE-LEW-12217-1	N78-16369*	c 37	US-PATENT-CLASS-250-272	N78-17237*	c 31	US-PATENT-CLASS-128-92C		
		US-PATENT-APPL-SN-763753			US-PATENT-CLASS-250-320			US-PATENT-CLASS-128-92G		
		US-PATENT-CLASS-166-248			US-PATENT-4,063,088			US-PATENT-CLASS-260-42.17		
		US-PATENT-CLASS-166-259			NASA-CASE-NPO-13619-1			US-PATENT-CLASS-3-1.9		
		US-PATENT-4,061,190			US-PATENT-APPL-SN-572990			US-PATENT-4,064,566		
N78-14773*	c 52	NASA-CASE-LEW-12039-1	N78-16387*	c 39	US-PATENT-CLASS-185-38	N78-17238*	c 31	NASA-CASE-LEW-11981-1		
		US-PATENT-APPL-SN-687822			US-PATENT-CLASS-74-81			US-PATENT-APPL-SN-672220		
		US-PATENT-CLASS-320-15			US-PATENT-CLASS-74-83			US-PATENT-CLASS-313-22		
		US-PATENT-CLASS-320-18			US-PATENT-4,062,245			US-PATENT-CLASS-62-376		
		US-PATENT-CLASS-320-40			NASA-CASE-LAR-11490-1			US-PATENT-CLASS-62-514R		
N78-14784*	c 54	US-PATENT-CLASS-320-6	N78-17031*	c 04	US-PATENT-APPL-SN-707125	N78-17293*	c 33	US-PATENT-4,068,495		
		US-PATENT-4,061,955			US-PATENT-CLASS-358-106			NASA-CASE-NPO-11978		
		NASA-CASE-LEW-12668-1			US-PATENT-4,063,282			US-PATENT-APPL-SN-264688		
		US-PATENT-APPL-SN-677353			NASA-CASE-XNP-01458			US-PATENT-CLASS-313-175		
		US-PATENT-CLASS-128-305			US-PATENT-APPL-SN-160093			US-PATENT-CLASS-313-176		
N78-14867*	c 71	US-PATENT-4,061,146	N78-17055*	c 07	US-PATENT-CLASS-235-70	N78-17294*	c 33	US-PATENT-CLASS-313-180		
		NASA-CASE-MSC-14632-1			US-PATENT-3,229,905			US-PATENT-CLASS-313-184		
		US-PATENT-APPL-SN-571459			NASA-CASE-LEW-12317-1			US-PATENT-CLASS-313-224		
		US-PATENT-CLASS-204-180P			US-PATENT-APPL-SN-581750			US-PATENT-3,769,544		
		US-PATENT-CLASS-204-301			US-PATENT-CLASS-60-204			NASA-CASE-XLE-06094		
N78-14889*	c 74	US-PATENT-CLASS-210-192	N78-17056*	c 07	US-PATENT-CLASS-60-226R	N78-17295*	c 33	US-PATENT-APPL-SN-523632		
		US-PATENT-CLASS-210-96M			US-PATENT-CLASS-60-271			US-PATENT-CLASS-315-22		
		US-PATENT-CLASS-23-253A			US-PATENT-4,068,469			US-PATENT-3,423,627		
		US-PATENT-4,061,570			NASA-CASE-LEW-12390-1			NASA-CASE-MSC-11235		
		NASA-CASE-LAR-12106-1			US-PATENT-APPL-SN-522109			US-PATENT-APPL-SN-698239		
N78-15180*	c 24	US-PATENT-APPL-SN-740156	N78-17140*	c 17	US-PATENT-CLASS-60-226R	N78-17296*	c 33	US-PATENT-CLASS-307-270		
		US-PATENT-CLASS-330-52			US-PATENT-CLASS-74-385			US-PATENT-CLASS-307-297		
		US-PATENT-CLASS-73-646			US-PATENT-CLASS-74-417			US-PATENT-CLASS-323-4		
		US-PATENT-4,061,041			US-PATENT-4,068,470			US-PATENT-CLASS-328-172		
		NASA-CASE-KSC-11047-1			NASA-CASE-HQN-10880-1			US-PATENT-3,573,504		
N78-15210*	c 25	US-PATENT-APPL-SN-715485	N78-17149*	c 24	US-PATENT-APPL-SN-595254	N78-17335*	c 34	NASA-CASE-XGS-09186		
		US-PATENT-CLASS-179-91R			US-PATENT-CLASS-325-118			US-PATENT-APPL-SN-669911		
		US-PATENT-CLASS-250-199			US-PATENT-CLASS-325-66			US-PATENT-CLASS-323-18		
		US-PATENT-CLASS-358-142			US-PATENT-CLASS-343-112R			US-PATENT-3,475,675		
		US-PATENT-4,061,577			US-PATENT-CLASS-343-225			NASA-CASE-GSC-10135		
N78-15276*	c 27	NASA-CASE-ARC-10913-1	N78-17150*	c 24	US-PATENT-CLASS-362-269	N78-17336*	c 34	US-PATENT-APPL-SN-764823		
		US-PATENT-APPL-SN-698646			US-PATENT-4,067,015			US-PATENT-CLASS-307-53		
		US-PATENT-CLASS-106-15FP			NASA-CASE-LAR-11898-2			US-PATENT-CLASS-307-69		
		US-PATENT-CLASS-260-2.5N			US-PATENT-APPL-SN-723264			US-PATENT-CLASS-320-53		
		US-PATENT-CLASS-260-2.5R			US-PATENT-APPL-SN-799024			US-PATENT-CLASS-323-19		
N78-15323*	c 32	US-PATENT-CLASS-428-117	N78-17205*	c 27	US-PATENT-CLASS-156-245	N78-17337*	c 34	US-PATENT-3,600,599		
		US-PATENT-CLASS-428-290			US-PATENT-CLASS-156-285			NASA-CASE-LEW-12508-1		
		US-PATENT-CLASS-428-71			US-PATENT-CLASS-156-289			US-PATENT-APPL-SN-746580		
		US-PATENT-CLASS-428-73			US-PATENT-CLASS-428-116			US-PATENT-CLASS-62-3		
		US-PATENT-CLASS-428-920			US-PATENT-CLASS-428-902			US-PATENT-4,069,028		
N78-15323*	c 32	US-PATENT-4,061,812	N78-17206*	c 27	US-PATENT-4,063,981	N78-17357*	c 35	NASA-CASE-ARC-10198		
		NASA-CASE-LAR-12046-1			NASA-CASE-LAR-12019-1			US-PATENT-APPL-SN-42088		
		US-PATENT-APPL-SN-755310			US-PATENT-APPL-SN-792067			US-PATENT-CLASS-165-105		
		US-PATENT-CLASS-23-230PC			US-PATENT-CLASS-156-154			US-PATENT-CLASS-165-134		
		US-PATENT-CLASS-23-232E			US-PATENT-CLASS-156-264			US-PATENT-3,777,811		
N78-15461*	c 35	US-PATENT-CLASS-23-232R	N78-17213*	c 27	US-PATENT-CLASS-156-285	N78-17358*	c 35	NASA-CASE-ARC-10199		
		US-PATENT-CLASS-73-23			US-PATENT-CLASS-156-286			US-PATENT-APPL-SN-824628		
		US-PATENT-4,062,650			US-PATENT-CLASS-156-289			US-PATENT-CLASS-165-105		
		NASA-CASE-LEW-12053-1			US-PATENT-CLASS-156-300			US-PATENT-CLASS-165-32		
		US-PATENT-APPL-SN-513613			US-PATENT-CLASS-156-306			US-PATENT-CLASS-165-96		
N78-15512*	c 39	US-PATENT-CLASS-260-2R	N78-17220*	c 27	US-PATENT-CLASS-156-311	N78-17359*	c 35	US-PATENT-CLASS-2-2.1		
		US-PATENT-CLASS-526-193			US-PATENT-CLASS-264-157			US-PATENT-3,543,839		
		US-PATENT-CLASS-526-225			US-PATENT-CLASS-264-90			NASA-CASE-MFS-23194-1		
		US-PATENT-CLASS-544-193			US-PATENT-CLASS-428-294			US-PATENT-APPL-SN-629458		
		US-PATENT-4,061,856			US-PATENT-CLASS-428-302			US-PATENT-CLASS-350-3.5		
N78-15560*	c 44	NASA-CASE-NPO-13836-1	N78-17226*	c 27	US-PATENT-4,065,340	N78-17366*	c 36	US-PATENT-4,065,202		
		US-PATENT-APPL-SN-699002			NASA-CASE-LAR-12181-1			NASA-CASE-MSC-11242		
		US-PATENT-CLASS-178-69.1			US-PATENT-APPL-SN-532784			US-PATENT-APPL-SN-636796		
		US-PATENT-CLASS-325-58			US-PATENT-APPL-SN-734901			US-PATENT-CLASS-73-67.2		
		US-PATENT-CLASS-325-63			US-PATENT-CLASS-156-309			US-PATENT-3,492,858		
N78-15579*	c 74	US-PATENT-CLASS-343-179	N78-17227*	c 27	US-PATENT-CLASS-156-331	N78-17383*	c 37	NASA-CASE-NPO-11150		
		US-PATENT-4,061,974			US-PATENT-CLASS-260-30.4N			US-PATENT-APPL-SN-858950		
		NASA-CASE-NPO-13808-1			US-PATENT-CLASS-260-32.2R			US-PATENT-CLASS-338-100		
		US-PATENT-APPL-SN-675328			US-PATENT-CLASS-260-32.6N			US-PATENT-CLASS-338-36		
		US-PATENT-CLASS-250-322			US-PATENT-CLASS-260-33.4R			US-PATENT-CLASS-338-99		
N78-155879*	c 74	US-PATENT-CLASS-250-416TV	N78-17228*	c 27	US-PATENT-4,065,345	N78-17384*	c 37	US-PATENT-3,641,470		
		US-PATENT-4,063,092			NASA-CASE-LAR-11902-1			NASA-CASE-MFS-22597		
		NASA-CASE-LAR-12016-1			US-PATENT-APPL-SN-672695			US-PATENT-APPL-SN-395895		
		US-PATENT-APPL-SN-754066			US-PATENT-CLASS-106-43			US-PATENT-CLASS-315-108		
		US-PATENT-CLASS-73-579			US-PATENT-CLASS-60-200A			US-PATENT-CLASS-331-94.5G		
N78-15590*	c 44	US-PATENT-CLASS-73-630	N78-17229*	c 27	US-PATENT-CLASS-75-229	N78-17385*	c 37	US-PATENT-CLASS-331-94.5T		
		US-PATENT-CLASS-73-88F			US-PATENT-CLASS-75-239			US-PATENT-3,882,417		
		US-PATENT-4,062,227			US-PATENT-CLASS-75-241			NASA-CASE-MSC-19666-1		
		NASA-CASE-LAR-12009-1			US-PATENT-4,067,742			US-PATENT-APPL-SN-721150		
		US-PATENT-APPL-SN-717320			NASA-CASE-MSC-14331-2			US-PATENT-CLASS-118-50		
N78-15879*	c 74	US-PATENT-CLASS-126-270	N78-17230*	c 27	US-PATENT-APPL-SN-657907	N78-17386*	c 37	US-PATENT-CLASS-118-500		
		US-PATENT-CLASS-126-400			US-PATENT-CLASS-260-75NH			US-PATENT-CLASS-248-36.3		
		US-PATENT-CLASS-237-1A			US-PATENT-CLASS-260-75NK			US-PATENT-CLASS-269-21		
		US-PATENT-4,062,347			US-PATENT-CLASS-260-75NT			US-PATENT-CLASS-279-3		
		NASA-CASE-LAR-10385-3			US-PATENT-CLASS-260-77.5AM			US-PATENT-CLASS-51-235		
N78-15899*	c 74	US-PATENT-APPL-SN-370999	N78-17231*	c 27	US-PATENT-CLASS-260-77.5AN	N78-17387*	c 37	US-PATENT-4,066,039		
		US-PATENT-APPL-SN-38816			US-PATENT-CLASS-260-77.5AP			NASA-CASE-LEW-12916-1		
		US-PATENT-CLASS-350-1			US-PATENT-CLASS-260-77.5AT			US-PATENT-APPL-SN-583056		
		US-PATENT-CLASS-428-334			US-PATENT-CLASS-260-77.55P			US-PATENT-CLASS-60-261		
		US-PATENT-CLASS-428-336			US-PATENT-4,069,212			US-PATENT-CLASS-60-262		
N78-15900*	c 74	US-PATENT-CLASS-428-426	N78-17214*	c 27	NASA-CASE-NPO-10557	N78-17388*	c 37	US-PATENT-CLASS-60-271		

N78-17385*	c 37	US-PATENT-4,064,692	N78-18083*	c 09	US-PATENT-CLASS-60-262	N78-24275*	c 20	NASA-CASE-LAR-12018-1
		NASA-CASE-WOO-00625			US-PATENT-4,069,661			US-PATENT-APPL-SN-678520
		US-PATENT-APPL-SN-362278			NASA-CASE-ARC-10903-1			US-PATENT-CLASS-102-39
N78-17386*	c 37	US-PATENT-CLASS-74-800	N78-18182*	c 26	US-PATENT-APPL-SN-623536	N78-24290*	c 24	US-PATENT-CLASS-102-49.7
		US-PATENT-3,306,134			US-PATENT-CLASS-35-12N			US-PATENT-CLASS-102-70F
		NASA-CASE-NPO-10151			US-PATENT-CLASS-358-104			US-PATENT-CLASS-285-192
N78-17395*	c 38	US-PATENT-APPL-SN-365244	N78-18183*	c 26	US-PATENT-4,055,004	N78-24333*	c 26	US-PATENT-CLASS-60-39.82E
		US-PATENT-CLASS-328-233			NASA-CASE-LEW-12095-1			US-PATENT-4,080,901
		US-PATENT-3,387,218			US-PATENT-APPL-SN-651009			NASA-CASE-MFS-23506-1
N78-17396*	c 38	NASA-CASE-NPO-13283	N78-18308*	c 33	US-PATENT-CLASS-75-124	N78-24365*	c 28	US-PATENT-APPL-SN-760809
		US-PATENT-APPL-SN-401225			US-PATENT-CLASS-75-126D			US-PATENT-CLASS-260-2.5AK
		US-PATENT-CLASS-235-151.3			US-PATENT-CLASS-75-126F			US-PATENT-CLASS-260-2.5AP
N78-17460*	c 44	US-PATENT-CLASS-235-156	N78-18355*	c 34	US-PATENT-CLASS-75-128G	N78-24515*	c 35	US-PATENT-CLASS-260-2.5B
		US-PATENT-CLASS-235-181			US-PATENT-CLASS-75-128T			US-PATENT-CLASS-260-2.5BE
		US-PATENT-CLASS-250-572			US-PATENT-4,055,416			US-PATENT-CLASS-260-2.5EP
N78-17675*	c 54	US-PATENT-CLASS-356-237	N78-18390*	c 35	NASA-CASE-LEW-12905-1	N78-24544*	c 37	US-PATENT-CLASS-260-2.5FP
		US-PATENT-3,908,118			US-PATENT-APPL-SN-684171			US-PATENT-CLASS-260-29.1R
		NASA-CASE-NPO-13282			US-PATENT-CLASS-148-32			US-PATENT-CLASS-260-37EP
N78-17676*	c 54	US-PATENT-APPL-SN-401224	N78-18391*	c 35	US-PATENT-CLASS-148-32.5	N78-24545*	c 37	US-PATENT-CLASS-427-42T
		US-PATENT-CLASS-235-151.3			US-PATENT-CLASS-75-170			US-PATENT-4,077,921
		US-PATENT-CLASS-235-156			US-PATENT-4,055,447			NASA-CASE-MSC-19693-1
N78-17677*	c 54	US-PATENT-CLASS-250-563	N78-18395* #	c 35	NASA-CASE-FRC-10090-1	N78-24545*	c 37	US-PATENT-APPL-SN-708771
		US-PATENT-CLASS-250-572			US-PATENT-APPL-SN-737974			US-PATENT-CLASS-148-12.7A
		US-PATENT-CLASS-356-165			US-PATENT-CLASS-307-265			US-PATENT-CLASS-148-125
N78-17678*	c 54	US-PATENT-CLASS-356-237	N78-18410*	c 36	US-PATENT-CLASS-307-350	N78-24545*	c 37	US-PATENT-4,077,813
		US-PATENT-3,909,602			US-PATENT-CLASS-307-360			NASA-CASE-LEW-12081-1
		NASA-CASE-NPO-13579-1			US-PATENT-CLASS-328-150			US-PATENT-APPL-SN-676432
N78-17679*	c 54	US-PATENT-APPL-SN-598969	N78-18761*	c 54	US-PATENT-4,055,777	N78-24608*	c 44	US-PATENT-CLASS-250-492R
		US-PATENT-CLASS-126-263			NASA-CASE-LEW-12554-1			US-PATENT-CLASS-34-15
		US-PATENT-CLASS-126-271			US-PATENT-APPL-SN-686449			US-PATENT-CLASS-423-648R
N78-17679*	c 54	US-PATENT-CLASS-165-2	N78-18905*	c 74	US-PATENT-CLASS-427-34	N78-24609*	c 44	US-PATENT-CLASS-62-100
		US-PATENT-CLASS-237-1A			US-PATENT-CLASS-427-405			US-PATENT-CLASS-62-48
		US-PATENT-CLASS-60-641			US-PATENT-CLASS-427-419A			US-PATENT-4,077,788
N78-17680*	c 54	US-PATENT-CLASS-62-4	N78-18930*	c 27	US-PATENT-CLASS-427-423	N78-24609*	c 44	NASA-CASE-NPO-13886-1
		US-PATENT-4,065,053			US-PATENT-CLASS-428-633			US-PATENT-APPL-SN-730045
		NASA-CASE-ARC-11101-1			US-PATENT-CLASS-428-652			US-PATENT-CLASS-307-151
N78-17680*	c 54	US-PATENT-APPL-SN-753976	N78-18939*	c 35	US-PATENT-CLASS-428-667	N78-24609*	c 44	US-PATENT-CLASS-343-700MS
		US-PATENT-CLASS-2-2.1A			US-PATENT-4,055,705			US-PATENT-CLASS-361-395
		US-PATENT-CLASS-36-119			NASA-CASE-MFS-23008-1			US-PATENT-4,079,268
N78-17680*	c 54	US-PATENT-CLASS-36-92	N78-18939*	c 35	US-PATENT-APPL-SN-665734	N78-24608*	c 44	NASA-CASE-LAR-11201-1
		US-PATENT-4,064,642			US-PATENT-CLASS-73-DIG.11			US-PATENT-APPL-SN-788705
		NASA-CASE-MFS-23311-1			US-PATENT-CLASS-73-28			US-PATENT-CLASS-416-144
N78-17680*	c 54	US-PATENT-APPL-SN-708800	N78-18939*	c 35	US-PATENT-CLASS-73-432PS	N78-24608*	c 44	US-PATENT-CLASS-416-61
		US-PATENT-CLASS-214-1CM			US-PATENT-CLASS-73-432R			US-PATENT-CLASS-73-456
		US-PATENT-CLASS-3-12.5			US-PATENT-4,055,089			US-PATENT-CLASS-73-756
N78-17680*	c 54	US-PATENT-CLASS-74-515E	N78-18939*	c 35	NASA-CASE-NPO-13687-1	N78-24608*	c 44	US-PATENT-4,082,001
		US-PATENT-4,068,763			US-PATENT-APPL-SN-641803			NASA-CASE-MSC-16000-1
		NASA-CASE-MSC-13054			US-PATENT-CLASS-356-106S			US-PATENT-APPL-SN-739915
N78-17680*	c 54	US-PATENT-APPL-SN-585217	N78-18939*	c 35	US-PATENT-CLASS-356-110	N78-24608*	c 44	US-PATENT-CLASS-29-156.8R
		US-PATENT-CLASS-2-161			US-PATENT-4,053,231			US-PATENT-CLASS-29-23.5
		US-PATENT-3,490,074			NASA-CASE-NPO-13999-1			US-PATENT-CLASS-29-244
N78-17680*	c 54	NASA-CASE-XMS-04670	N78-18410*	c 36	US-PATENT-APPL-SN-858596	N78-24545*	c 37	US-PATENT-CLASS-29-252
		US-PATENT-APPL-SN-535169			NASA-CASE-NPO-13801-1			US-PATENT-4,078,290
		US-PATENT-CLASS-2-2.1			US-PATENT-APPL-SN-708796			NASA-CASE-LEW-12785-1
N78-17680*	c 54	US-PATENT-3,488,771	N78-18761*	c 54	US-PATENT-CLASS-330-4	N78-24545*	c 37	US-PATENT-APPL-SN-739909
		NASA-CASE-XMS-04928			US-PATENT-CLASS-332-7.5			US-PATENT-CLASS-60-39.28R
		US-PATENT-APPL-SN-584914			US-PATENT-4,055,810			US-PATENT-4,078,378
N78-17680*	c 54	US-PATENT-CLASS-98-1	N78-18761*	c 54	NASA-CASE-MSC-10954-1	N78-24608*	c 44	NASA-CASE-GSC-12030-1
		US-PATENT-3,487,765			US-PATENT-APPL-SN-529884			US-PATENT-APPL-SN-710035
		NASA-CASE-XMS-09653			US-PATENT-CLASS-2-2.1			US-PATENT-CLASS-308-10
N78-17680*	c 54	US-PATENT-APPL-SN-538863	N78-18905*	c 74	US-PATENT-3,514,785	N78-24609*	c 44	US-PATENT-CLASS-310-153
		US-PATENT-CLASS-2-6			NASA-CASE-GSC-12010-1			US-PATENT-CLASS-310-154
		US-PATENT-3,359,568			US-PATENT-APPL-SN-680958			US-PATENT-CLASS-310-178
N78-17691*	c 60	NASA-CASE-GSC-12044-1	N78-18761*	c 54	US-PATENT-CLASS-250-213VT	N78-24608*	c 44	US-PATENT-CLASS-310-269
		US-PATENT-APPL-SN-631341			US-PATENT-CLASS-313-442			US-PATENT-4,077,678
		US-PATENT-CLASS-340-347DD			US-PATENT-CLASS-313-94			NASA-CASE-GSC-12022-2
N78-17865*	c 74	US-PATENT-4,069,478	N78-19302*	c 27	US-PATENT-4,070,574	N78-24609*	c 44	US-PATENT-APPL-SN-693074
		NASA-CASE-MSC-12618-1			NASA-CASE-NPO-13690-1			US-PATENT-CLASS-136-89SG
		US-PATENT-APPL-SN-651007			US-PATENT-APPL-SN-633876			US-PATENT-CLASS-148-174
N78-17865*	c 74	US-PATENT-CLASS-350-159	N78-19465*	c 35	US-PATENT-CLASS-106-39.5	N78-25089*	c 07	US-PATENT-CLASS-29-572
		US-PATENT-CLASS-358-225			US-PATENT-CLASS-106-65			US-PATENT-CLASS-357-30
		US-PATENT-CLASS-358-41			US-PATENT-CLASS-106-73.5			US-PATENT-CLASS-357-59
N78-17866*	c 74	US-PATENT-CLASS-358-55	N78-19465*	c 35	US-PATENT-4,072,532	N78-24950*	c 76	US-PATENT-CLASS-427-113
		US-PATENT-4,067,043			NASA-CASE-ARC-10896-1			US-PATENT-CLASS-427-248J
		NASA-CASE-LAR-11711-1			US-PATENT-APPL-SN-615030			US-PATENT-CLASS-427-249
N78-17866*	c 74	US-PATENT-APPL-SN-674195	N78-19466*	c 35	US-PATENT-CLASS-73-23	N78-25090*	c 07	US-PATENT-CLASS-427-86
		US-PATENT-CLASS-250-201			US-PATENT-4,055,072			US-PATENT-4,077,818
		US-PATENT-CLASS-350-204			NASA-CASE-ARC-10820-1			NASA-CASE-MFS-23315-1
N78-17867*	c 74	US-PATENT-CLASS-356-28	N78-19599*	c 44	US-PATENT-APPL-SN-620675	N78-25089*	c 07	US-PATENT-APPL-SN-724874
		US-PATENT-4,063,814			US-PATENT-CLASS-119-51.11			US-PATENT-CLASS-250-277CH
		NASA-CASE-NPO-13759-1			US-PATENT-CLASS-119-72.5			US-PATENT-CLASS-250-280
N78-18066*	c 07	US-PATENT-APPL-SN-718266	N78-19920*	c 73	US-PATENT-CLASS-137-624.11	N78-25119*	c 15	US-PATENT-4,078,175
		US-PATENT-CLASS-250-344			US-PATENT-4,055,147			NASA-CASE-LEW-12452-1
		US-PATENT-CLASS-356-204			NASA-CASE-LEW-12159-1			US-PATENT-APPL-SN-695513
N78-18066*	c 07	US-PATENT-CLASS-356-246	N78-19599*	c 44	US-PATENT-APPL-SN-643041	N78-25090*	c 07	US-PATENT-CLASS-60-226R
		US-PATENT-4,067,653			US-PATENT-CLASS-126-270			US-PATENT-CLASS-60-39.52
		NASA-CASE-LEW-12389-2			US-PATENT-CLASS-427-160			US-PATENT-4,083,181
N78-18067*	c 07	US-PATENT-APPL-SN-628221	N78-19920*	c 73	US-PATENT-CLASS-428-652	N78-25090*	c 07	NASA-CASE-LEW-11855-1
		US-PATENT-CLASS-244-53A			US-PATENT-CLASS-428-667			US-PATENT-APPL-SN-672222
		US-PATENT-CLASS-244-54			US-PATENT-CLASS-428-679			US-PATENT-CLASS-277-134
N78-18067*	c 07	US-PATENT-CLASS-60-226R	N78-19920*	c 73	US-PATENT-4,055,707	N78-25119*	c 15	US-PATENT-CLASS-277-25
		US-PATENT-CLASS-60-39.31			NASA-CASE-HQN-10841-1			US-PATENT-4,084,825
		US-PATENT-4,055,041			US-PATENT-APPL-SN-560891			NASA-CASE-MFS-23564-1
N78-18067*	c 07	NASA-CASE-LEW-12917-1	N78-19920*	c 73	US-PATENT-CLASS-176-39	N78-25119*	c 15	US-PATENT-APPL-SN-739908
		US-PATENT-APPL-SN-583055			US-PATENT-CLASS-330-4.3			US-PATENT-CLASS-244-161
		US-PATENT-CLASS-60-204			US-PATENT-4,075,057			US-PATENT-CLASS-244-167

N78-25148*	c 25	US-PATENT-4,083,520	N78-27176* #	c 20	NASA-CASE-MFS-23642-2	US-PATENT-4,088,951
		NASA-CASE-LEW-12465-1			US-PATENT-APPL-SN-923758	NASA-CASE-NPO-13821-1
N78-25256*	c 31	US-PATENT-APPL-SN-692413	N78-27180*	c 24	NASA-CASE-ARC-11043-1	US-PATENT-APPL-SN-688852
		US-PATENT-CLASS-250-423P			US-PATENT-APPL-SN-753964	US-PATENT-CLASS-343-113R
N78-25319*	c 33	US-PATENT-CLASS-250-528			US-PATENT-CLASS-260-33.6EP	US-PATENT-CLASS-343-119
		US-PATENT-CLASS-250-531			US-PATENT-CLASS-260-33.6PQ	US-PATENT-CLASS-343-16M
N78-25350*	c 34	US-PATENT-CLASS-55-100			US-PATENT-CLASS-260-33.8EP	US-PATENT-4,088,999
		US-PATENT-CLASS-55-101			US-PATENT-CLASS-260-33.8UA	NASA-CASE-NPO-13114-2
N78-25351*	c 34	US-PATENT-CLASS-55-2			US-PATENT-CLASS-260-37EP	US-PATENT-APPL-SN-294738
		US-PATENT-4,085,332			US-PATENT-CLASS-260-42.43	US-PATENT-APPL-SN-634214
N78-25426*	c 37	NASA-CASE-NPO-13839-1			US-PATENT-CLASS-260-45.7R	US-PATENT-CLASS-176-22
		US-PATENT-APPL-SN-712981			US-PATENT-CLASS-260-45.75W	US-PATENT-CLASS-176-39
N78-25426*	c 37	US-PATENT-CLASS-250-332			US-PATENT-CLASS-260-45.85N	US-PATENT-CLASS-176-39
		US-PATENT-CLASS-313-22			US-PATENT-CLASS-260-45.9R	US-PATENT-4,085,004
N78-25527*	c 44	US-PATENT-CLASS-62-514R			US-PATENT-CLASS-427-386	NASA-CASE-NPO-11954-1
		US-PATENT-4,077,231			US-PATENT-CLASS-427-388A	US-PATENT-APPL-SN-229287
N78-25529*	c 44	NASA-CASE-NPO-13909-1			US-PATENT-CLASS-428-313	US-PATENT-CLASS-179-100.2CH
		US-PATENT-APPL-SN-744477			US-PATENT-CLASS-428-332	US-PATENT-CLASS-340-174.1M
N78-25530*	c 44	US-PATENT-CLASS-324-57DE			US-PATENT-CLASS-428-921	US-PATENT-CLASS-340-174YC
		US-PATENT-CLASS-324-57SS			US-PATENT-4,088,806	US-PATENT-CLASS-350-151
N78-25530*	c 44	US-PATENT-CLASS-324-58A			NASA-CASE-ARC-11040-2	US-PATENT-CLASS-375,570
		US-PATENT-4,084,132			US-PATENT-APPL-SN-920878	NASA-CASE-MSC-19706-1
N78-25530*	c 44	NASA-CASE-MSC-19568-1			NASA-CASE-LEW-10518-3	US-PATENT-APPL-SN-767911
		US-PATENT-APPL-SN-681000			US-PATENT-APPL-SN-394207	US-PATENT-CLASS-239-265.25
N78-25530*	c 44	US-PATENT-CLASS-428-913			US-PATENT-CLASS-176-11	US-PATENT-CLASS-73-147
		US-PATENT-CLASS-428-913			US-PATENT-CLASS-176-16	US-PATENT-4,091,665
N78-25530*	c 44	US-PATENT-CLASS-428-94			US-PATENT-CLASS-250-400	NASA-CASE-ARC-11008-1
		US-PATENT-CLASS-428-95			US-PATENT-CLASS-250-429	US-PATENT-APPL-SN-708951
N78-25530*	c 44	US-PATENT-CLASS-428-96			US-PATENT-CLASS-250-492B	US-PATENT-CLASS-260-2.5N
		US-PATENT-CLASS-428-97			US-PATENT-4,088,532	US-PATENT-CLASS-260-47CP
N78-25530*	c 44	US-PATENT-CLASS-49-DIG.1			NASA-CASE-MFS-23312-1	US-PATENT-CLASS-260-63N
		US-PATENT-CLASS-49-479			US-PATENT-APPL-SN-699012	US-PATENT-CLASS-260-78.41
N78-25530*	c 44	US-PATENT-CLASS-49-485			US-PATENT-CLASS-29-571	US-PATENT-4,092,274
		US-PATENT-4,078,110			US-PATENT-CLASS-29-578	NASA-CASE-ARC-11057-1
N78-25530*	c 44	NASA-CASE-LEW-12718-1			US-PATENT-CLASS-357-91	US-PATENT-APPL-SN-807762
		US-PATENT-APPL-SN-779428			US-PATENT-4,087,902	US-PATENT-CLASS-350-165
N78-25530*	c 44	US-PATENT-CLASS-137-484.2			NASA-CASE-LEW-11877-1	US-PATENT-CLASS-350-175NG
		US-PATENT-CLASS-137-501			US-PATENT-APPL-SN-708660	US-PATENT-CLASS-427-164
N78-25530*	c 44	US-PATENT-CLASS-137-505.16			US-PATENT-CLASS-431-10	US-PATENT-CLASS-427-40
		US-PATENT-4,084,612			US-PATENT-CLASS-431-328	US-PATENT-CLASS-427-41
N78-25530*	c 44	NASA-CASE-NPO-13948-1			US-PATENT-CLASS-431-7	US-PATENT-CLASS-428-411
		US-PATENT-APPL-SN-752748			US-PATENT-CLASS-60-39.65	US-PATENT-CLASS-428-412
N78-25530*	c 44	US-PATENT-CLASS-204-195W			US-PATENT-CLASS-60-39.69R	US-PATENT-CLASS-428-422
		US-PATENT-CLASS-73-336.5			US-PATENT-4,087,962	US-PATENT-CLASS-428-447
N78-25530*	c 44	US-PATENT-4,083,765			NASA-CASE-LAR-11973-1	US-PATENT-CLASS-428-515
		NASA-CASE-MSC-12731-1			US-PATENT-APPL-SN-821681	US-PATENT-CLASS-428-523
N78-25530*	c 44	US-PATENT-APPL-SN-690816			US-PATENT-CLASS-73-170A	US-PATENT-CLASS-428-538
		US-PATENT-CLASS-137-505.25			US-PATENT-CLASS-73-425.4R	US-PATENT-4,091,166
N78-25530*	c 44	US-PATENT-CLASS-137-625.3			US-PATENT-CLASS-73-61R	NASA-CASE-NPO-14103-1
		US-PATENT-CLASS-137-625.38			US-PATENT-4,089,209	US-PATENT-APPL-SN-797210
N78-25530*	c 44	US-PATENT-4,083,380			NASA-CASE-NPO-13945-1	US-PATENT-CLASS-149-105
		NASA-CASE-LEW-12552-1			US-PATENT-APPL-SN-704180	US-PATENT-CLASS-149-111
N78-25530*	c 44	US-PATENT-APPL-SN-770869			US-PATENT-CLASS-331-94.5G	US-PATENT-CLASS-149-19.4
		US-PATENT-CLASS-136-89CC			US-PATENT-CLASS-331-94.5P	US-PATENT-CLASS-149-19.8
N78-25530*	c 44	US-PATENT-CLASS-29-572			US-PATENT-CLASS-331-94.5PE	US-PATENT-CLASS-149-88
		US-PATENT-CLASS-357-30			US-PATENT-4,088,965	US-PATENT-CLASS-149-92
N78-25530*	c 44	US-PATENT-CLASS-357-65			NASA-CASE-MSC-16270-1	US-PATENT-CLASS-149-93
		US-PATENT-CLASS-357-67			US-PATENT-APPL-SN-837260	US-PATENT-4,092,188
N78-25530*	c 44	US-PATENT-CLASS-427-261			US-PATENT-CLASS-269-21	NASA-CASE-NPO-14022-1
		US-PATENT-CLASS-427-75			US-PATENT-CLASS-269-266	US-PATENT-APPL-SN-780728
N78-25530*	c 44	US-PATENT-4,082,569			US-PATENT-4,088,312	US-PATENT-CLASS-343-781CA
		NASA-CASE-LEW-12185-1			NASA-CASE-LAR-11889-2	US-PATENT-CLASS-343-782
N78-25530*	c 44	US-PATENT-APPL-SN-746269			US-PATENT-APPL-SN-862182	US-PATENT-CLASS-343-837
		US-PATENT-CLASS-136-89H			US-PATENT-APPL-SN-807703	US-PATENT-4,092,648
N78-25530*	c 44	US-PATENT-CLASS-136-89P			US-PATENT-CLASS-308-10	NASA-CASE-GSC-11883-2
		US-PATENT-CLASS-29-572			US-PATENT-CLASS-73-178R	US-PATENT-APPL-SN-596787
N78-25530*	c 44	US-PATENT-CLASS-29-628			US-PATENT-4,088,018	US-PATENT-APPL-SN-747675
		US-PATENT-4,083,097			NASA-CASE-ARC-10981-1	US-PATENT-CLASS-60-527
N78-25530*	c 44	NASA-CASE-LEW-12541-1			US-PATENT-APPL-SN-738218	US-PATENT-CLASS-74-100R
		US-PATENT-APPL-SN-790637			US-PATENT-CLASS-248-178	US-PATENT-4,010,455
N78-25530*	c 44	US-PATENT-CLASS-136-89CC			US-PATENT-CLASS-248-186	US-PATENT-4,092,874
		US-PATENT-CLASS-136-89H			US-PATENT-4,088,291	NASA-CASE-NPO-13581-2
N78-25530*	c 44	US-PATENT-CLASS-136-89P			NASA-CASE-NPO-12148-1	US-PATENT-APPL-SN-590975
		US-PATENT-CLASS-156-633			US-PATENT-APPL-SN-709415	US-PATENT-APPL-SN-811815
N78-25530*	c 44	US-PATENT-CLASS-29-572			US-PATENT-CLASS-136-89P	US-PATENT-CLASS-126-271
		US-PATENT-4,084,985			US-PATENT-4,089,705	US-PATENT-CLASS-237-1A
N78-25530*	c 44	NASA-CASE-LEW-12649-1			NASA-CASE-ARC-10917-1	US-PATENT-4,091,800
		US-PATENT-APPL-SN-720521			US-PATENT-APPL-SN-672223	NASA-CASE-NPO-13813-1
N78-25530*	c 44	US-PATENT-CLASS-427-385B			US-PATENT-CLASS-119-29	NASA-CASE-NPO-13914-1
		US-PATENT-CLASS-427-385C			US-PATENT-4,088,094	US-PATENT-APPL-SN-765139
N78-25530*	c 44	US-PATENT-CLASS-429-254			NASA-CASE-LAR-11869-1	US-PATENT-CLASS-126-270
		US-PATENT-4,085,241			US-PATENT-APPL-SN-740155	US-PATENT-CLASS-126-271
N78-25531*	c 44	NASA-CASE-MFS-23270-1			US-PATENT-CLASS-356-120	US-PATENT-CLASS-350-299
		US-PATENT-APPL-SN-744573			US-PATENT-CLASS-356-167	US-PATENT-4,091,798
N78-25531*	c 44	US-PATENT-CLASS-320-13			US-PATENT-4,088,408	NASA-CASE-NPO-13937-1
		US-PATENT-CLASS-320-15			NASA-CASE-MFS-22906-1	US-PATENT-APPL-SN-718137
N78-25531*	c 44	US-PATENT-CLASS-320-32			US-PATENT-APPL-SN-684807	US-PATENT-CLASS-201-17
		US-PATENT-CLASS-320-39			US-PATENT-CLASS-29-81C	US-PATENT-CLASS-44-1R
N78-25531*	c 44	US-PATENT-CLASS-320-9			US-PATENT-CLASS-313-231.3	US-PATENT-CLASS-44-2
		US-PATENT-4,084,124			US-PATENT-CLASS-315-111.2	US-PATENT-4,081,250
N78-27121*	c 07	NASA-CASE-LAR-11919-1			US-PATENT-4,088,926	NASA-CASE-ARC-11058-1
		US-PATENT-APPL-SN-672221			NASA-CASE-KSC-11035-1	US-PATENT-APPL-SN-753965
N78-27121*	c 07	US-PATENT-CLASS-239-265.25			US-PATENT-APPL-SN-780874	US-PATENT-CLASS-2-2.1A
		US-PATENT-CLASS-239-265.33			US-PATENT-CLASS-324-130	US-PATENT-CLASS-285-235
N78-27121*	c 07	US-PATENT-CLASS-60-230			US-PATENT-CLASS-324-32	US-PATENT-4,091,464
		US-PATENT-4,088,270			US-PATENT-CLASS-324-74	NASA-CASE-ARC-11100-1



		US-PATENT-APPL-SN-780569	N78-32340*	c 33	NASA-CASE-GSC-12146-1	US-PATENT-CLASS-123-3
		US-PATENT-CLASS-2-2.1A			US-PATENT-APPL-SN-782480	US-PATENT-4,112,675
		US-PATENT-4,091,465			US-PATENT-CLASS-325-159	N78-33913* c 74 NASA-CASE-NPO-10233-1
N78-32086*	c 05	NASA-CASE-LAR-11932-1			US-PATENT-CLASS-325-187	US-PATENT-APPL-SN-716885
		US-PATENT-APPL-SN-718244			US-PATENT-CLASS-333-17R	US-PATENT-CLASS-250-218
		US-PATENT-CLASS-244-218			US-PATENT-CLASS-333-81R	US-PATENT-CLASS-250-227
		US-PATENT-CLASS-244-45A			US-PATENT-4,092,617	US-PATENT-CLASS-250-239
		US-PATENT-CLASS-244-46	N78-32341*	c 33	NASA-CASE-LEW-12791-1	US-PATENT-CLASS-356-208
		US-PATENT-4,093,156			US-PATENT-APPL-SN-801432	US-PATENT-3,573,470
N78-32168* #	c 15	NASA-CASE-LAR-12264-1			US-PATENT-CLASS-363-101	N79-10057* c 07 NASA-CASE-LEW-12232-1
		US-PATENT-APPL-SN-943087			US-PATENT-CLASS-363-16	US-PATENT-APPL-SN-776029
N78-32179*	c 20	NASA-CASE-NPO-11458A			US-PATENT-CLASS-363-60	US-PATENT-CLASS-415-115
		US-PATENT-APPL-SN-48621			US-PATENT-4,092,712	US-PATENT-CLASS-415-116
		US-PATENT-CLASS-102-103	N78-32395*	c 35	NASA-CASE-ARC-11036-1	US-PATENT-CLASS-60-39.14
		US-PATENT-CLASS-149-19.4			US-PATENT-APPL-SN-740457	US-PATENT-4,117,669
		US-PATENT-CLASS-149-42			US-PATENT-CLASS-33-366	N79-10162* c 25 NASA-CASE-ARC-11053-1
		US-PATENT-CLASS-149-43			US-PATENT-4,094,073	US-PATENT-APPL-SN-814378
		US-PATENT-CLASS-149-44	N78-32396*	c 35	NASA-CASE-MFS-23363-1	US-PATENT-CLASS-23-252R
		US-PATENT-CLASS-149-76			US-PATENT-APPL-SN-730046	US-PATENT-CLASS-423-581
		US-PATENT-CLASS-149-83			US-PATENT-CLASS-324-173	US-PATENT-4,101,644
		US-PATENT-CLASS-149-85			US-PATENT-CLASS-324-207	N79-10163* c 25 NASA-CASE-NPO-13274-1
		US-PATENT-4,116,131			US-PATENT-4,093,917	US-PATENT-APPL-SN-406296
N78-32229*	c 26	NASA-CASE-ARC-10992-1	N78-32397*	c 35	NASA-CASE-LAR-11617-2	US-PATENT-CLASS-204-180S
		US-PATENT-APPL-SN-760810			US-PATENT-APPL-SN-547072	US-PATENT-CLASS-204-299
		US-PATENT-CLASS-204-164			US-PATENT-APPL-SN-668771	US-PATENT-3,932,262
		US-PATENT-CLASS-204-175			US-PATENT-CLASS-324-249	N79-10262* c 32 NASA-CASE-NPO-13941-1
		US-PATENT-CLASS-423-582			US-PATENT-4,088,954	US-PATENT-APPL-SN-774384
		US-PATENT-CLASS-423-583	N78-32447*	c 38	NASA-CASE-MFS-23114-1	US-PATENT-CLASS-307-233R
		US-PATENT-4,094,758			US-PATENT-APPL-SN-686331	US-PATENT-CLASS-324-77B
N78-32256*	c 27	NASA-CASE-MSC-14903-1			US-PATENT-CLASS-350-3.5	US-PATENT-CLASS-324-77C
		US-PATENT-APPL-SN-706424			US-PATENT-CLASS-356-72	US-PATENT-4,118,666
		US-PATENT-CLASS-260-2P			US-PATENT-CLASS-356-73	N79-10263* c 32 NASA-CASE-MSC-12743-1
		US-PATENT-CLASS-260-551P			US-PATENT-CLASS-73-603	US-PATENT-APPL-SN-765167
		US-PATENT-CLASS-260-606-5P			US-PATENT-4,093,382	US-PATENT-CLASS-325-41
		US-PATENT-CLASS-260-959	N78-32539*	c 44	NASA-CASE-LAR-11208-1	US-PATENT-CLASS-340-146.1AX
		US-PATENT-CLASS-526-13			US-PATENT-APPL-SN-710036	US-PATENT-CLASS-340-146.1E
		US-PATENT-CLASS-526-23			US-PATENT-CLASS-417-88	US-PATENT-4,100,531
		US-PATENT-CLASS-526-27			US-PATENT-CLASS-60-39.07	N79-10264* c 32 NASA-CASE-MFS-22234-1
		US-PATENT-CLASS-526-275			US-PATENT-CLASS-60-39.14	US-PATENT-APPL-SN-730778
		US-PATENT-CLASS-526-276			US-PATENT-CLASS-60-39.33	US-PATENT-CLASS-343-6R
		US-PATENT-CLASS-526-278			US-PATENT-CLASS-98-1.5	US-PATENT-CLASS-343-9
		US-PATENT-CLASS-526-49			US-PATENT-4,091,613	US-PATENT-4,118,701
		US-PATENT-CLASS-526-50	N78-32542*	c 44	NASA-CASE-KSC-11034-1	N79-10337* c 33 NASA-CASE-KSC-11018-1
		US-PATENT-CLASS-544-195			US-PATENT-APPL-SN-782481	US-PATENT-APPL-SN-782693
		US-PATENT-4,092,466			US-PATENT-CLASS-60-641	US-PATENT-CLASS-324-133
N78-32260*	c 27	NASA-CASE-ARC-11051-1			US-PATENT-CLASS-60-671	US-PATENT-CLASS-324-72
		US-PATENT-APPL-SN-736910			US-PATENT-4,087,975	US-PATENT-CLASS-324-96
		US-PATENT-CLASS-106-48	N78-32720*	c 54	NASA-CASE-MSC-14805-1	US-PATENT-4,100,487
		US-PATENT-CLASS-106-54			US-PATENT-APPL-SN-688856	N79-10338* c 33 NASA-CASE-GSC-12228-1
		US-PATENT-CLASS-427-215			US-PATENT-CLASS-340-213R	US-PATENT-APPL-SN-858764
		US-PATENT-CLASS-427-376A			US-PATENT-CLASS-340-262	US-PATENT-CLASS-324-57F
		US-PATENT-CLASS-427-376B			US-PATENT-CLASS-340-279	US-PATENT-CLASS-324-83D
		US-PATENT-CLASS-427-379			US-PATENT-CLASS-340-285	US-PATENT-CLASS-324-85
		US-PATENT-CLASS-427-380			US-PATENT-CLASS-340-309.1	US-PATENT-CLASS-328-163
		US-PATENT-CLASS-428-312			US-PATENT-4,092,633	US-PATENT-4,118,665
		US-PATENT-CLASS-428-325	N78-32721*	c 54	NASA-CASE-ARC-11059-1	N79-10339* c 33 NASA-CASE-LEW-12013-1
		US-PATENT-CLASS-428-331			US-PATENT-APPL-SN-753978	US-PATENT-APPL-SN-768795
		US-PATENT-CLASS-428-341			US-PATENT-CLASS-128-142.7	US-PATENT-CLASS-301-82
		US-PATENT-CLASS-428-406			US-PATENT-CLASS-62-259	US-PATENT-CLASS-315-3.5
		US-PATENT-CLASS-428-427			US-PATENT-4,095,593	US-PATENT-CLASS-315-3.6
		US-PATENT-CLASS-428-428	N78-32848*	c 73	NASA-CASE-GSC-12083-1	US-PATENT-CLASS-330-43
		US-PATENT-CLASS-428-446			US-PATENT-APPL-SN-643897	US-PATENT-4,118,671
		US-PATENT-CLASS-428-920			US-PATENT-CLASS-350-170	N79-10389* c 35 NASA-CASE-MFS-23461-1
		US-PATENT-CLASS-65-30R			US-PATENT-CLASS-350-173	US-PATENT-APPL-SN-694406
		US-PATENT-CLASS-65-60D			US-PATENT-CLASS-350-174	US-PATENT-CLASS-250-475
		US-PATENT-4,093,771			US-PATENT-CLASS-350-286	US-PATENT-CLASS-252-301.1R
N78-32261*	c 27	NASA-CASE-LAR-11828-1			US-PATENT-CLASS-350-320	US-PATENT-CLASS-252-301.16
		US-PATENT-APPL-SN-448321			US-PATENT-4,093,354	US-PATENT-CLASS-96-27R
		US-PATENT-APPL-SN-562992	N78-32854*	c 74	NASA-CASE-ARC-11039-1	US-PATENT-CLASS-96-60R
		US-PATENT-CLASS-260-47CP			US-PATENT-APPL-SN-750655	US-PATENT-4,101,780
		US-PATENT-CLASS-260-49			US-PATENT-CLASS-351-166	N79-10390* c 35 NASA-CASE-LAR-12260-1
		US-PATENT-CLASS-260-63N			US-PATENT-CLASS-427-164	US-PATENT-CLASS-73-579
		US-PATENT-CLASS-260-63R			US-PATENT-CLASS-427-302	US-PATENT-CLASS-73-589
		US-PATENT-CLASS-260-65			US-PATENT-CLASS-427-322	US-PATENT-4,117,731
		US-PATENT-CLASS-260-78TF			US-PATENT-CLASS-427-38	N79-10391* c 35 NASA-CASE-NPO-13862-1
		US-PATENT-4,094,862			US-PATENT-CLASS-427-387	US-PATENT-APPL-SN-744577
N78-32262*	c 27	NASA-CASE-MSC-14331-3			US-PATENT-CLASS-427-44	US-PATENT-CLASS-324-77K
		US-PATENT-APPL-SN-657998			US-PATENT-CLASS-427-44	US-PATENT-CLASS-343-17.2PC
		US-PATENT-CLASS-264-130			US-PATENT-CLASS-428-412	US-PATENT-CLASS-343-5CM
		US-PATENT-CLASS-264-184			US-PATENT-CLASS-428-447	US-PATENT-CLASS-343-5W
		US-PATENT-CLASS-264-211			US-PATENT-4,096,315	US-PATENT-4,101,891
		US-PATENT-CLASS-264-236	N78-33101*	c 07	NASA-CASE-LEW-12496-1	N79-10418* c 37 NASA-CASE-LEW-12569-1
		US-PATENT-4,094,943			US-PATENT-APPL-SN-668971	US-PATENT-APPL-SN-792069
N78-32338*	c 33	NASA-CASE-GSC-12137-1			US-PATENT-CLASS-29-463	US-PATENT-CLASS-308-DIG.1
		US-PATENT-APPL-SN-808510			US-PATENT-CLASS-416-214A	US-PATENT-CLASS-308-121
		US-PATENT-CLASS-329-124			US-PATENT-CLASS-416-244A	US-PATENT-CLASS-308-160
		US-PATENT-CLASS-331-12			US-PATENT-CLASS-74-572	US-PATENT-CLASS-308-163
		US-PATENT-CLASS-331-4			US-PATENT-4,097,194	US-PATENT-CLASS-308-172
		US-PATENT-CLASS-331-64	N78-33228*	c 27	NASA-CASE-NPO-08835-1	US-PATENT-CLASS-308-5R
		US-PATENT-4,092,606			US-PATENT-APPL-SN-588721	US-PATENT-CLASS-308-9
N78-32339*	c 33	NASA-CASE-GSC-12145-1			US-PATENT-CLASS-260-28.5	US-PATENT-4,099,799
		US-PATENT-APPL-SN-769149			US-PATENT-3,527,724	N79-10419* c 37 NASA-CASE-FRC-10111-1
		US-PATENT-CLASS-307-229	N78-33526*	c 44	NASA-CASE-NPO-13763-1	US-PATENT-APPL-SN-713027
		US-PATENT-CLASS-307-230			US-PATENT-APPL-SN-718268	US-PATENT-CLASS-30-90.6
		US-PATENT-CLASS-328-145			US-PATENT-CLASS-123-DIG.12	US-PATENT-CLASS-81-9.5R
		US-PATENT-4,091,329			US-PATENT-CLASS-123-1A	US-PATENT-4,117,749

N79-10420*	c 37	NASA-CASE-NPO-14014-1 US-PATENT-APPL-SN-826204 US-PATENT-CLASS-188-1C US-PATENT-CLASS-256-1 US-PATENT-CLASS-256-13.1 US-PATENT-4,118,014	US-PATENT-CLASS-325-4 US-PATENT-CLASS-325-67 US-PATENT-CLASS-343-17.7 US-PATENT-4,119,964	US-PATENT-CLASS-427-84 US-PATENT-4,122,214
N79-10421*	c 37	NASA-CASE-MFS-23620-1 US-PATENT-APPL-SN-799023 US-PATENT-CLASS-219-124.2.2 US-PATENT-CLASS-219-124.32 US-PATENT-CLASS-219-125.1 US-PATENT-CLASS-228-8 US-PATENT-4,118,620	N79-11313* c 33 NASA-CASE-MSC-14641-1 US-PATENT-APPL-SN-858765 US-PATENT-CLASS-307-232 US-PATENT-CLASS-328-133 US-PATENT-CLASS-331-1A US-PATENT-CLASS-331-14 US-PATENT-CLASS-331-23 US-PATENT-CLASS-331-27 US-PATENT-4,119,926	N79-11865* c 74 NASA-CASE-MFS-23513-1 US-PATENT-APPL-SN-755323 US-PATENT-CLASS-356-124 US-PATENT-CLASS-356-210 US-PATENT-4,102,580
N79-10422*	c 37	NASA-CASE-MFS-23051-1 US-PATENT-APPL-SN-632111 US-PATENT-CLASS-15-230.16 US-PATENT-CLASS-15-230.17 US-PATENT-CLASS-29-125 US-PATENT-CLASS-428-133 US-PATENT-CLASS-74-572 US-PATENT-4,098,142	N79-11314* c 33 NASA-CASE-NPO-13064-1 US-PATENT-APPL-SN-297436 US-PATENT-CLASS-357-22 US-PATENT-3,860,946	N79-11920* c 76 NASA-CASE-NPO-13918-1 US-PATENT-APPL-SN-706073 US-PATENT-CLASS-156-DIG.64 US-PATENT-CLASS-156-DIG.65 US-PATENT-CLASS-156-DIG.88 US-PATENT-CLASS-156-608 US-PATENT-CLASS-156-617SP US-PATENT-4,121,965
N79-10513*	c 44	NASA-CASE-NPO-13732-1 US-PATENT-APPL-SN-765138 US-PATENT-CLASS-429-13 US-PATENT-CLASS-429-41 US-PATENT-CLASS-429-42 US-PATENT-4,100,331	N79-11315* c 33 NASA-CASE-KSC-11031-1 US-PATENT-APPL-SN-782482 US-PATENT-CLASS-324-102 US-PATENT-CLASS-324-113 US-PATENT-CLASS-324-133 US-PATENT-4,105,966	N79-12061* c 05 NASA-CASE-FRC-10092-1 US-PATENT-APPL-SN-831634 US-PATENT-CLASS-244-48 US-PATENT-CLASS-244-82 US-PATENT-CLASS-244-90R US-PATENT-4,124,180
N79-10693*	c 51	NASA-CASE-MSC-16098-1 US-PATENT-APPL-SN-792068 US-PATENT-CLASS-210-23F US-PATENT-CLASS-210-433M US-PATENT-CLASS-210-96M US-PATENT-4,118,315	N79-11402* c 37 NASA-CASE-MSC-16043-1 US-PATENT-APPL-SN-750792 US-PATENT-CLASS-137-61.06 US-PATENT-CLASS-137-637.05 US-PATENT-CLASS-251-149.9 US-PATENT-CLASS-285-326 US-PATENT-CLASS-285-359 US-PATENT-4,103,712	N79-12221* c 27 NASA-CASE-MSC-12619-2 US-PATENT-APPL-SN-555750 US-PATENT-APPL-SN-786913 US-PATENT-CLASS-244-121 US-PATENT-CLASS-244-158 US-PATENT-CLASS-244-160 US-PATENT-CLASS-248-189 US-PATENT-CLASS-428-212 US-PATENT-CLASS-428-280 US-PATENT-CLASS-428-285 US-PATENT-CLASS-428-286 US-PATENT-CLASS-428-332 US-PATENT-CLASS-428-447 US-PATENT-CLASS-428-450 US-PATENT-CLASS-428-77 US-PATENT-CLASS-428-920 US-PATENT-4,124,732
N79-10694*	c 51	NASA-CASE-GSC-12173-1 US-PATENT-APPL-SN-806440 US-PATENT-CLASS-165-2 US-PATENT-CLASS-165-30 US-PATENT-CLASS-195-1.8 US-PATENT-CLASS-219-299 US-PATENT-CLASS-219-302 US-PATENT-CLASS-62-514R US-PATENT-CLASS-62-78 US-PATENT-4,117,881	N79-11403* c 37 NASA-CASE-LEW-12793-1 US-PATENT-APPL-SN-745766 US-PATENT-CLASS-60.39.08 US-PATENT-CLASS-60.39.28R US-PATENT-CLASS-60.39.66 US-PATENT-4,104,873	N79-12321* c 33 NASA-CASE-GSC-12190-1 US-PATENT-APPL-SN-817413 US-PATENT-CLASS-357-22 US-PATENT-CLASS-357-23 US-PATENT-CLASS-357-41 US-PATENT-CLASS-357-45 US-PATENT-CLASS-357-55 US-PATENT-4,119,996
N79-10724*	c 52	NASA-CASE-ARC-10985-1 US-PATENT-APPL-SN-769148 US-PATENT-CLASS-128-2.05R US-PATENT-CLASS-358-111 US-PATENT-CLASS-358-96 US-PATENT-CLASS-364-417 US-PATENT-4,101,961	N79-11404* c 37 NASA-CASE-MFS-23447-1 US-PATENT-APPL-SN-736909 US-PATENT-CLASS-308-194 US-PATENT-CLASS-308-72 US-PATENT-4,105,261	N79-12331* c 33 NASA-CASE-MSC-12662-1 US-PATENT-APPL-SN-540779 US-PATENT-CLASS-428-109 US-PATENT-CLASS-428-247 US-PATENT-CLASS-428-258 US-PATENT-CLASS-428-259 US-PATENT-4,107,363
N79-10969*	c 89	NASA-CASE-MFS-23675-1 US-PATENT-APPL-SN-820498 US-PATENT-CLASS-350-294 US-PATENT-CLASS-350-55 US-PATENT-4,101,195	N79-11405* c 37 NASA-CASE-NPO-13828-1 US-PATENT-APPL-SN-672636 US-PATENT-CLASS-123-148DC US-PATENT-CLASS-123-148E US-PATENT-CLASS-315-209CD US-PATENT-CLASS-315-209SC US-PATENT-CLASS-315-241R US-PATENT-4,122,816	N79-12359* c 34 NASA-CASE-LAR-11729-1 US-PATENT-APPL-SN-856461 US-PATENT-CLASS-73-189 US-PATENT-CLASS-73-194VS US-PATENT-4,122,712
N79-11108*	c 18	NASA-CASE-MFS-23579-1 US-PATENT-APPL-SN-829316 US-PATENT-CLASS-228-13 US-PATENT-CLASS-228-15.1 US-PATENT-CLASS-228-173 US-PATENT-CLASS-244-159 US-PATENT-4,122,991	N79-11467* c 44 NASA-CASE-LEW-12819-1 US-PATENT-APPL-SN-803823 US-PATENT-CLASS-136-89CC US-PATENT-CLASS-136-89SJ US-PATENT-CLASS-357-15 US-PATENT-CLASS-357-16 US-PATENT-CLASS-357-30 US-PATENT-CLASS-357-65 US-PATENT-CLASS-357-67 US-PATENT-4,104,084	N79-12541* c 44 NASA-CASE-NPO-14100-1 US-PATENT-APPL-SN-861391 US-PATENT-CLASS-324-20R US-PATENT-CLASS-324-22 US-PATENT-4,122,383
N79-11151*	c 25	NASA-CASE-NPO-13958-1 US-PATENT-APPL-SN-745384 US-PATENT-CLASS-126-91A US-PATENT-CLASS-431-10 US-PATENT-CLASS-431-208 US-PATENT-CLASS-432-223 US-PATENT-CLASS-432-29 US-PATENT-4,104,018	N79-11468* c 44 NASA-CASE-LEW-12775-1 US-PATENT-APPL-SN-799026 US-PATENT-CLASS-136-89 US-PATENT-CLASS-148-188 US-PATENT-CLASS-29-572 US-PATENT-CLASS-427-75 US-PATENT-4,104,091	N79-12584* c 45 NASA-CASE-MSC-16258-1 US-PATENT-APPL-SN-853705 US-PATENT-CLASS-210-50 US-PATENT-CLASS-210-60 US-PATENT-CLASS-210-63R US-PATENT-CLASS-423-242 US-PATENT-CLASS-55-73 US-PATENT-4,123,355
N79-11152*	c 25	NASA-CASE-NPO-13904-1 US-PATENT-APPL-SN-730468 US-PATENT-CLASS-208-10 US-PATENT-CLASS-208-8 US-PATENT-CLASS-302-66 US-PATENT-CLASS-44-51 US-PATENT-4,121,995	N79-11469* c 44 NASA-CASE-MFS-23518-1 US-PATENT-APPL-SN-829390 US-PATENT-CLASS-204-32 US-PATENT-CLASS-204-33 US-PATENT-CLASS-204-37R US-PATENT-CLASS-204-38B US-PATENT-4,104,134	N79-12694* c 52 NASA-CASE-NPO-13913-1 US-PATENT-APPL-SN-687251 US-PATENT-CLASS-128-2R US-PATENT-CLASS-364-120 US-PATENT-CLASS-364-300 US-PATENT-CLASS-364-415 US-PATENT-CLASS-364-900 US-PATENT-4,122,518
N79-11215* #	c 27	NASA-CASE-ARC-11170-1 US-PATENT-APPL-SN-956161	N79-11470* c 44 NASA-CASE-NPO-14126-1 US-PATENT-APPL-SN-838336 US-PATENT-CLASS-204-157.1R US-PATENT-CLASS-250-527 US-PATENT-4,105,517	N79-12890* c 74 NASA-CASE-KSC-11010-1 US-PATENT-APPL-SN-753977 US-PATENT-CLASS-200-46 US-PATENT-CLASS-200-61 US-PATENT-CLASS-250-214AL US-PATENT-CLASS-250-214R US-PATENT-CLASS-315-153 US-PATENT-4,122,334
N79-11231*	c 28	NASA-CASE-NPO-13858-1 NASA-CASE-NPO-13859-1 US-PATENT-APPL-SN-740153 US-PATENT-CLASS-102-28R US-PATENT-4,103,619	N79-11471* c 44 NASA-CASE-NPO-13817-1 US-PATENT-APPL-SN-801452 US-PATENT-CLASS-126-270 US-PATENT-CLASS-126-271 US-PATENT-CLASS-350-288 US-PATENT-CLASS-350-299 US-PATENT-4,122,833	N79-13214* c 32 NASA-CASE-NPO-14009-1 US-PATENT-APPL-SN-818917 US-PATENT-CLASS-343-117R US-PATENT-CLASS-343-118 US-PATENT-CLASS-343-7.4 US-PATENT-4,122,454
N79-11246*	c 31	NASA-CASE-LAR-12147-1 US-PATENT-APPL-SN-733825 US-PATENT-CLASS-73-159 US-PATENT-CLASS-73-95 US-PATENT-4,103,550	N79-11472* c 44 NASA-CASE-LEW-12552-2 US-PATENT-APPL-SN-844346 US-PATENT-CLASS-29-572 US-PATENT-CLASS-427-123 US-PATENT-CLASS-427-126 US-PATENT-CLASS-427-261 US-PATENT-CLASS-427-343 US-PATENT-CLASS-427-398A US-PATENT-CLASS-427-399 US-PATENT-CLASS-427-75	N79-13288* c 34 NASA-CASE-LEW-12252-1 US-PATENT-APPL-SN-559847 US-PATENT-CLASS-165-169
N79-11264*	c 32	NASA-CASE-MSC-14939-1 US-PATENT-APPL-SN-765165 US-PATENT-CLASS-343-844 US-PATENT-CLASS-343-854 US-PATENT-4,119,972		
N79-11265*	c 32	NASA-CASE-GSC-12150-1 US-PATENT-APPL-SN-736286		

			US-PATENT-CLASS-239-127.1				US-PATENT-CLASS-126-271
			US-PATENT-CLASS-60-267				US-PATENT-CLASS-350-292
			US-PATENT-4,107,919				US-PATENT-CLASS-350-293
N79-13289*	c 34		NASA-CASE-LEW-12441-1				US-PATENT-CLASS-350-320
			US-PATENT-APPL-SN-559846				US-PATENT-4,131,336
			US-PATENT-CLASS-165-146			N79-14749*	c 52
			US-PATENT-CLASS-165-169				NASA-CASE-NPO-13930-1
			US-PATENT-CLASS-239-127.1				US-PATENT-APPL-SN-700467
			US-PATENT-CLASS-60-267	N79-14268*	c 32		US-PATENT-CLASS-128-214D
			US-PATENT-4,108,241				US-PATENT-CLASS-128-272
N79-13364*	c 37		NASA-CASE-LAR-10941-2				US-PATENT-CLASS-150-1
			US-PATENT-APPL-SN-395493				US-PATENT-CLASS-195-1.8
			US-PATENT-CLASS-228-107	N79-14305*	c 33		US-PATENT-CLASS-206-439
			US-PATENT-CLASS-228-2.5				US-PATENT-CLASS-210-DIG.23
			US-PATENT-CLASS-29-421E				US-PATENT-CLASS-222-48
			US-PATENT-4,106,687				US-PATENT-CLASS-55-15-8
N79-13826*	c 72		NASA-CASE-NPO-13993-1			N79-14750*	c 52
			US-PATENT-APPL-SN-782463				US-PATENT-4,132,594
			US-PATENT-CLASS-331-94.5L				NASA-CASE-GSC-12046-1
			US-PATENT-CLASS-331-94.5P				US-PATENT-APPL-SN-680015
			US-PATENT-CLASS-331-94.5PE				US-PATENT-CLASS-195-103.5K
			US-PATENT-4,107,627	N79-14345*	c 35		US-PATENT-CLASS-195-103.5L
N79-13855*	c 74		NASA-CASE-MFS-23052-2				US-PATENT-4,132,599
			US-PATENT-APPL-SN-590183			N79-14751*	c 52
			US-PATENT-APPL-SN-772165				NASA-CASE-NPO-13935-1
			US-PATENT-CLASS-35-12C	N79-14346*	c 35		NASA-CASE-NPO-13944-1
			US-PATENT-CLASS-35-12N				US-PATENT-APPL-SN-741749
			US-PATENT-CLASS-358-104				US-PATENT-CLASS-128-2V
			US-PATENT-4,106,218				US-PATENT-CLASS-73-633
N79-14095*	c 07		NASA-CASE-LEW-13050-1				US-PATENT-CLASS-73-644
			US-PATENT-APPL-SN-513346				US-PATENT-4,130,112
			US-PATENT-CLASS-416-157B	N79-14347*	c 35		NASA-CASE-LEW-12658-1
			US-PATENT-CLASS-416-160				US-PATENT-APPL-SN-702115
			US-PATENT-CLASS-416-162				US-PATENT-CLASS-181-190
			US-PATENT-CLASS-416-167				US-PATENT-CLASS-181-213
			US-PATENT-4,124,330				US-PATENT-CLASS-181-222
N79-14096*	c 07		NASA-CASE-LEW-12389-3				US-PATENT-CLASS-181-293
			US-PATENT-APPL-SN-552108			N79-14891*	c 74
			US-PATENT-APPL-SN-753452				US-PATENT-4,106,587
			US-PATENT-CLASS-137-15.1	N79-14348*	c 35		NASA-CASE-GSC-12225-1
			US-PATENT-CLASS-244-54				US-PATENT-APPL-SN-823566
			US-PATENT-CLASS-415-200				US-PATENT-CLASS-350-157
			US-PATENT-CLASS-415-201				US-PATENT-4,129,357
			US-PATENT-CLASS-60-226A			N79-14906*	c 76
			US-PATENT-CLASS-60-226R				NASA-CASE-MFS-23541-1
			US-PATENT-CLASS-60-39.31				US-PATENT-APPL-SN-814005
			US-PATENT-4,132,069				US-PATENT-CLASS-204-192C
N79-14097*	c 07		NASA-CASE-LEW-12378-1				US-PATENT-4,111,775
			US-PATENT-APPL-SN-573029			N79-15245*	c 33
			US-PATENT-CLASS-239-265.39				NASA-CASE-ARC-10975-1
			US-PATENT-CLASS-60-226A				US-PATENT-APPL-SN-799832
			US-PATENT-4,132,068				US-PATENT-CLASS-250-531
N79-14108*	c 08		NASA-CASE-LAR-11868-2				US-PATENT-CLASS-250-540
			US-PATENT-APPL-SN-851002				US-PATENT-CLASS-250-541
			US-PATENT-APPL-SN-779429				US-PATENT-4,130,490
			US-PATENT-CLASS-244-218			N79-16246*	c 35
			US-PATENT-CLASS-244-46				NASA-CASE-NPO-10872-1
			US-PATENT-CLASS-244-90R				US-PATENT-APPL-SN-805549
			US-PATENT-4,132,375				US-PATENT-CLASS-179-100.2CH
N79-14156*	c 24		NASA-CASE-GSC-12207-1				US-PATENT-CLASS-340-174.1M
			US-PATENT-APPL-SN-844344				US-PATENT-CLASS-346-7AMT
			US-PATENT-CLASS-106-296				US-PATENT-3,626,114
			US-PATENT-CLASS-106-84			N79-16678*	c 76
			US-PATENT-CLASS-252-518				NASA-CASE-NPO-11336-1
			US-PATENT-4,111,851				NASA-CASE-NPO-13247-1
N79-14169*	c 25		NASA-CASE-ARC-11121-1				US-PATENT-APPL-SN-302913
			US-PATENT-APPL-SN-850507				US-PATENT-CLASS-117-107
			US-PATENT-CLASS-204-180G				US-PATENT-CLASS-117-119
			US-PATENT-CLASS-204-180S				US-PATENT-CLASS-117-234
			US-PATENT-CLASS-204-299R				US-PATENT-CLASS-117-235
			US-PATENT-CLASS-23-230B				US-PATENT-CLASS-117-237
			US-PATENT-CLASS-424-12				US-PATENT-CLASS-117-239
			US-PATENT-4,130,471				US-PATENT-CLASS-117-240
N79-14213*	c 27		NASA-CASE-NPO-13690-2				US-PATENT-CLASS-148-121
			US-PATENT-APPL-SN-858766				US-PATENT-CLASS-148-6
			US-PATENT-CLASS-264-60	N79-14526*	c 44		US-PATENT-CLASS-75-134D
			US-PATENT-CLASS-75-203				US-PATENT-3,837,908
			US-PATENT-CLASS-75-205			N79-16915*	c 24
			US-PATENT-CLASS-75-206				NASA-CASE-ARC-11040-1
			US-PATENT-CLASS-75-212				US-PATENT-APPL-SN-778195
			US-PATENT-CLASS-75-226				US-PATENT-CLASS-156-331
			US-PATENT-4,131,459				US-PATENT-CLASS-428-117
N79-14214*	c 27		NASA-CASE-ARC-10892-2				US-PATENT-CLASS-428-119
			US-PATENT-APPL-SN-589172				US-PATENT-CLASS-428-375
			US-PATENT-APPL-SN-767912				US-PATENT-CLASS-428-458
			US-PATENT-CLASS-427-294				US-PATENT-CLASS-428-73
			US-PATENT-CLASS-427-411				US-PATENT-4,135,019
			US-PATENT-CLASS-428-411			N79-17029*	c 31
			US-PATENT-4,132,829				NASA-CASE-GSC-12168-1
N79-14228*	c 28		NASA-CASE-NPO-10866-1				US-PATENT-APPL-SN-838337
			US-PATENT-APPL-SN-849274				US-PATENT-CLASS-165-30
			US-PATENT-CLASS-149-19.9				US-PATENT-CLASS-174-15CA
			US-PATENT-CLASS-149-19.92				US-PATENT-CLASS-250-352
			US-PATENT-CLASS-149-20				US-PATENT-CLASS-62-514R
			US-PATENT-4,111,729				US-PATENT-4,134,447
N79-14267*	c 32		NASA-CASE-NPO-13982-1			N79-17133*	c 33
							NASA-CASE-MFS-23659-1
							US-PATENT-APPL-SN-782462
							US-PATENT-CLASS-323-44F
							US-PATENT-4,135,127
						N79-17192*	c 35
							NASA-CASE-LEW-11583-1
							US-PATENT-APPL-SN-414042
							US-PATENT-CLASS-55-118
							US-PATENT-CLASS-55-122
							US-PATENT-CLASS-55-127

				US-PATENT-CLASS-55-155	US-PATENT-APPL-SN-824024	N79-20857*	c 74	NASA-CASE-GSC-12263-1
				US-PATENT-CLASS-55-241	US-PATENT-CLASS-126-271			US-PATENT-APPL-SN-817415
				US-PATENT-CLASS-55-242	US-PATENT-CLASS-165-105			US-PATENT-CLASS-250-363R
				US-PATENT-CLASS-55-360	US-PATENT-CLASS-60-508			US-PATENT-CLASS-250-483
				US-PATENT-CLASS-55-407	US-PATENT-CLASS-60-572			US-PATENT-4,142,101
				US-PATENT-4,134,744	US-PATENT-CLASS-60-641	N79-21083*	c 09	NASA-CASE-LAR-10135-1
N79-17288*	c 43			NASA-CASE-NPO-13691-1	US-PATENT-4,135,367			US-PATENT-APPL-SN-648034
		N79-18444*	c 44	US-PATENT-APPL-SN-664091	NASA-CASE-LEW-12819-2			US-PATENT-CLASS-73-147
				US-PATENT-CLASS-250-226	US-PATENT-APPL-SN-863770			US-PATENT-3,453,878
				US-PATENT-CLASS-356-300	US-PATENT-CLASS-148-6.3	N79-21084*	c 09	NASA-CASE-XLE-03186-1
				US-PATENT-CLASS-356-407	US-PATENT-CLASS-29-572			US-PATENT-APPL-SN-200770
				US-PATENT-CLASS-356-416	US-PATENT-CLASS-29-578			US-PATENT-CLASS-89-8
				US-PATENT-4,134,683	US-PATENT-CLASS-29-591			US-PATENT-3,224,337
N79-17313*	c 44			NASA-CASE-LEW-12358-1	US-PATENT-4,135,290	N79-21123*	c 20	NASA-CASE-XMF-06884-1
		N79-18580*	c 52	US-PATENT-APPL-SN-776146	NASA-CASE-ARC-11035-1			US-PATENT-APPL-SN-579300
				US-PATENT-CLASS-429-101	US-PATENT-APPL-SN-758721			US-PATENT-CLASS-164-105
				US-PATENT-CLASS-429-33	US-PATENT-CLASS-128-2.05Z			US-PATENT-3,485,290
				US-PATENT-4,133,941	US-PATENT-CLASS-128-2.1A	N79-21124*	c 20	NASA-CASE-XMF-05964-1
N79-17314*	c 44			NASA-CASE-NPO-13652-1	US-PATENT-CLASS-128-2V			US-PATENT-APPL-SN-578397
				US-PATENT-APPL-SN-809890	US-PATENT-4,109,644			US-PATENT-CLASS-60-243
		N79-19186*	c 32	US-PATENT-CLASS-136-89CC	NASA-CASE-WOO-00428-1			US-PATENT-3,390,528
				US-PATENT-CLASS-136-89P	US-PATENT-APPL-SN-112999	N79-21125*	c 20	NASA-CASE-XMF-04592-1
				US-PATENT-CLASS-29-572	US-PATENT-CLASS-117-35			NASA-CASE-XMF-04593-1
				US-PATENT-4,133,697	US-PATENT-3,173,801			US-PATENT-APPL-SN-579376
N79-17747*	c 85	N79-19195* #	c 32	NASA-CASE-NPO-13847-2	NASA-CASE-NPO-14525-1			US-PATENT-CLASS-60-39.74
				NASA-CASE-NPO-13848-2	US-PATENT-APPL-SN-017885			US-PATENT-3,397,537
		N79-19447*	c 44	US-PATENT-APPL-SN-750798	NASA-CASE-XGS-00829-1	N79-21190*	c 27	NASA-CASE-XMF-02526-1
				US-PATENT-CLASS-162-14	US-PATENT-APPL-SN-286824			NASA-CASE-XMF-02527-1
				US-PATENT-CLASS-162-29	US-PATENT-CLASS-269-153			NASA-CASE-XMF-02783-1
				US-PATENT-CLASS-210-28	US-PATENT-3,262,694			US-PATENT-APPL-SN-483817
		N79-20179*	c 20	US-PATENT-CLASS-210-40	NASA-CASE-LEW-12780-1			US-PATENT-CLASS-260-2
				US-PATENT-CLASS-210-45	US-PATENT-APPL-SN-891370			US-PATENT-3,311,571
				US-PATENT-CLASS-210-54	US-PATENT-CLASS-323-15	N79-21191*	c 27	NASA-CASE-XMF-06900-1
				US-PATENT-CLASS-210-66	US-PATENT-CLASS-323-20			US-PATENT-APPL-SN-554959
				US-PATENT-CLASS-210-67	US-PATENT-4,143,314			US-PATENT-CLASS-260-67
		N79-20296*	c 32	US-PATENT-CLASS-210-70	NASA-CASE-GSC-12148-1			US-PATENT-3,419,531
				US-PATENT-CLASS-210-73R	US-PATENT-APPL-SN-786322	N79-21225*	c 31	NASA-CASE-XLE-02367-1
				US-PATENT-4,134,786	US-PATENT-CLASS-325-58			US-PATENT-APPL-SN-400857
N79-17847*	c 05			NASA-CASE-ARC-11045-1	US-PATENT-CLASS-325-63			US-PATENT-CLASS-222-131
				US-PATENT-APPL-SN-818916	US-PATENT-CLASS-343-179			US-PATENT-3,215,313
				US-PATENT-CLASS-416-132R	US-PATENT-4,140,972	N79-21226*	c 31	NASA-CASE-MFS-10946-1
		N79-20297*	c 32	US-PATENT-CLASS-416-138	NASA-CASE-MS-16253-1			US-PATENT-APPL-SN-581843
				US-PATENT-CLASS-416-51	US-PATENT-APPL-SN-831631			US-PATENT-CLASS-156-52
				US-PATENT-CLASS-416-88	US-PATENT-CLASS-358-109			US-PATENT-3,481,802
				US-PATENT-CLASS-416-89	US-PATENT-CLASS-358-81	N79-21227*	c 31	NASA-CASE-XMF-05757-1
				US-PATENT-4,137,010	US-PATENT-CLASS-364-713			US-PATENT-APPL-SN-562558
N79-17916*	c 24			NASA-CASE-LEW-11930-4	US-PATENT-4,139,862			US-PATENT-CLASS-117-43
		N79-20314*	c 33	US-PATENT-APPL-SN-860406	NASA-CASE-GSC-12138-1			US-PATENT-3,511,680
				US-PATENT-CLASS-252-12.2	US-PATENT-APPL-SN-779871	N79-21264*	c 33	NASA-CASE-XMF-05373-1
				US-PATENT-CLASS-308-DIG.8	US-PATENT-CLASS-310-231			US-PATENT-APPL-SN-474815
				US-PATENT-CLASS-308-DIG.9	US-PATENT-CLASS-310-46			US-PATENT-CLASS-335-216
				US-PATENT-CLASS-308-168	US-PATENT-CLASS-310-82			US-PATENT-3,310,765
				US-PATENT-CLASS-308-171	US-PATENT-4,142,119	N79-21265*	c 33	NASA-CASE-XNP-02899-1
		N79-20335*	c 34	US-PATENT-CLASS-308-78	NASA-CASE-NPO-14130-1			US-PATENT-APPL-SN-472643
				US-PATENT-CLASS-308-87R	US-PATENT-APPL-SN-847278			US-PATENT-CLASS-317-245
				US-PATENT-CLASS-427-292	US-PATENT-CLASS-415-1			US-PATENT-3,356,917
				US-PATENT-CLASS-427-327	US-PATENT-CLASS-415-143	N79-21345*	c 37	NASA-CASE-XMS-01295-1
				US-PATENT-CLASS-427-328	US-PATENT-CLASS-60-645			US-PATENT-APPL-SN-77869
				US-PATENT-CLASS-427-34	US-PATENT-CLASS-60-649			US-PATENT-CLASS-55-159
				US-PATENT-CLASS-427-355	US-PATENT-4,141,219			US-PATENT-3,131,040
		N79-20336*	c 34	US-PATENT-CLASS-427-376B	NASA-CASE-LEW-11981-2	N79-21750*	c 52	NASA-CASE-MS-12239-1
				US-PATENT-CLASS-427-376C	US-PATENT-APPL-SN-829315			US-PATENT-APPL-SN-292340
				US-PATENT-4,136,211	US-PATENT-CLASS-250-352			US-PATENT-CLASS-128-2.07
N79-18052*	c 27			NASA-CASE-ARC-10915-2	US-PATENT-CLASS-313-22			US-PATENT-3,396,719
				US-PATENT-APPL-SN-634304	US-PATENT-CLASS-313-35	N79-21910*	c 76	NASA-CASE-XLE-02545-1
				US-PATENT-APPL-SN-779883	US-PATENT-CLASS-62-268			US-PATENT-APPL-SN-430748
				US-PATENT-CLASS-427-40	US-PATENT-CLASS-62-376			US-PATENT-CLASS-156-17
				US-PATENT-CLASS-427-41	US-PATENT-CLASS-62-514R			US-PATENT-3,429,756
				US-PATENT-CLASS-428-412	US-PATENT-4,141,224	N79-22235*	c 25	NASA-CASE-LEW-12513-1
		N79-20377*	c 37	US-PATENT-CLASS-428-447	NASA-CASE-MS-19514-1			US-PATENT-APPL-SN-772167
				US-PATENT-CLASS-428-451	US-PATENT-APPL-SN-772168			US-PATENT-CLASS-195-103.5R
				US-PATENT-4,137,365	US-PATENT-CLASS-74-674			US-PATENT-CLASS-195-127
N79-18193*	c 33			NASA-CASE-KSC-10899-1	US-PATENT-CLASS-74-705			US-PATENT-CLASS-204-1T
				US-PATENT-APPL-SN-814004	US-PATENT-CLASS-74-764			US-PATENT-CLASS-2041-195B
				US-PATENT-CLASS-324-127	US-PATENT-4,141,259			US-PATENT-4,145,255
		N79-20751*	c 60	US-PATENT-CLASS-324-133	NASA-CASE-NPO-13676-1	N79-22271*	c 26	NASA-CASE-LEW-12542-2
				US-PATENT-CLASS-324-52	US-PATENT-APPL-SN-779415			US-PATENT-APPL-SN-803822
				US-PATENT-CLASS-340-650	US-PATENT-CLASS-340-347DD			US-PATENT-APPL-SN-860405
				US-PATENT-CLASS-340-664	US-PATENT-CLASS-364-900			US-PATENT-CLASS-148-12.4
				US-PATENT-4,110,683	US-PATENT-4,139,839			US-PATENT-CLASS-148-12F
N79-18296*	c 35	N79-20827*	c 71	NASA-CASE-LAR-12275-1	NASA-CASE-NPO-14005-1			US-PATENT-CLASS-148-2
				US-PATENT-APPL-SN-885065	US-PATENT-APPL-SN-812447			US-PATENT-4,146,409
				US-PATENT-CLASS-356-28	US-PATENT-CLASS-310-20	N79-22300*	c 27	NASA-CASE-ARC-11060-1
				US-PATENT-CLASS-358-107	US-PATENT-CLASS-310-26			US-PATENT-APPL-SN-843090
				US-PATENT-4,135,817	US-PATENT-CLASS-310-322			US-PATENT-CLASS-260-307G
N79-18307*	c 36			NASA-CASE-LAR-12183-1	US-PATENT-CLASS-310-334			US-PATENT-CLASS-528-401
				US-PATENT-CLASS-331-94.5G	US-PATENT-CLASS-318-116			US-PATENT-CLASS-528-422
				US-PATENT-CLASS-331-94.5P	US-PATENT-CLASS-60-721			US-PATENT-4,145,524
				US-PATENT-CLASS-788-704	US-PATENT-CLASS-73-505	N79-22373*	c 33	NASA-CASE-KSC-11008-1
				US-PATENT-4,110,703	US-PATENT-4,139,806			US-PATENT-APPL-SN-780729
N79-18318*	c 37	N79-20856*	c 74	NASA-CASE-LEW-12131-1	NASA-CASE-NPO-14174-1			US-PATENT-CLASS-324-123C
				US-PATENT-APPL-SN-801290	US-PATENT-APPL-SN-876441			US-PATENT-CLASS-324-99D
				US-PATENT-CLASS-415-174	US-PATENT-CLASS-250-237G			US-PATENT-CLASS-330-2
				US-PATENT-CLASS-415-200	US-PATENT-CLASS-354-77			US-PATENT-CLASS-330-51
				US-PATENT-4,135,851	US-PATENT-CLASS-356-129			US-PATENT-CLASS-330-86
N79-18443*	c 44			NASA-CASE-NPO-14058-1	US-PATENT-4,139,291			US-PATENT-4,109,213

N79-22474*	c 37	NASA-CASE-MFS-23646-1 US-PATENT-APPL-SN-891372 US-PATENT-CLASS-138-96R US-PATENT-CLASS-220-266 US-PATENT-CLASS-239-265.15 US-PATENT-CLASS-239-288 US-PATENT-CLASS-277-192 US-PATENT-4,146,180	N79-22485*	c 34	NASA-CASE-MSC-16841-1 US-PATENT-APPL-SN-893382 US-PATENT-CLASS-210-108 US-PATENT-CLASS-210-142 US-PATENT-CLASS-73-714 US-PATENT-4,151,086	N79-25482*	c 44	NASA-CASE-NPO-14199-1 NASA-CASE-NPO-14200-1 US-PATENT-APPL-SN-891243 US-PATENT-CLASS-136-89CA US-PATENT-CLASS-136-89CC US-PATENT-CLASS-136-89PC US-PATENT-CLASS-136-89SJ US-PATENT-4,153,476
N79-22475*	c 37	NASA-CASE-LEW-11873-1 US-PATENT-APPL-SN-814006 US-PATENT-CLASS-277-62 US-PATENT-CLASS-277-96.1 US-PATENT-4,145,058	N79-24431*	c 44	NASA-CASE-NPO-13652-2 US-PATENT-APPL-SN-848794 US-PATENT-CLASS-228-5.1 US-PATENT-CLASS-228-6 US-PATENT-CLASS-29-57.4 US-PATENT-CLASS-29-572 US-PATENT-CLASS-29-739 US-PATENT-CLASS-29-809 US-PATENT-4,149,665	N79-26075*	c 12	NASA-CASE-MFS-23460-1 US-PATENT-APPL-SN-746578 US-PATENT-CLASS-13-20 US-PATENT-CLASS-13-22 US-PATENT-CLASS-13-2 US-PATENT-CLASS-219-410 US-PATENT-4,158,742
N79-22537*	c 39	NASA-CASE-LAR-12027-1 US-PATENT-APPL-SN-889670 US-PATENT-CLASS-73-770 US-PATENT-CLASS-73-810 US-PATENT-4,145,933	N79-24432*	c 44	NASA-CASE-NPO-13579-3 US-PATENT-APPL-SN-762363 US-PATENT-CLASS-126-270 US-PATENT-CLASS-264-1 US-PATENT-CLASS-264-33 US-PATENT-CLASS-264-34 US-PATENT-CLASS-264-35 US-PATENT-CLASS-264-510 US-PATENT-CLASS-264-516 US-PATENT-CLASS-264-70 US-PATENT-CLASS-264-71 US-PATENT-CLASS-350-292 US-PATENT-CLASS-350-294 US-PATENT-CLASS-350-296 US-PATENT-CLASS-405-229 US-PATENT-CLASS-405-263 US-PATENT-4,149,817	N79-26100*	c 15	NASA-CASE-ARC-11104-1 US-PATENT-APPL-SN-854920 US-PATENT-CLASS-244-121 US-PATENT-CLASS-260-37EP US-PATENT-CLASS-260-830S US-PATENT-CLASS-264-102 US-PATENT-CLASS-264-145 US-PATENT-CLASS-264-151 US-PATENT-CLASS-264-175 US-PATENT-CLASS-264-236 US-PATENT-CLASS-428-220 US-PATENT-CLASS-428-413 US-PATENT-CLASS-428-414 US-PATENT-CLASS-428-421 US-PATENT-CLASS-428-920 US-PATENT-4,156,752
N79-22679*	c 46	NASA-CASE-NPO-14112-1 US-PATENT-APPL-SN-826326 US-PATENT-CLASS-102-21.6 US-PATENT-CLASS-166-63 US-PATENT-CLASS-175-1 US-PATENT-CLASS-181-106 US-PATENT-CLASS-181-117 US-PATENT-4,148,375	N79-24433*	c 44	NASA-CASE-NPO-13579-2 US-PATENT-APPL-SN-762362 US-PATENT-CLASS-126-271 US-PATENT-CLASS-126-400 US-PATENT-CLASS-237-1A US-PATENT-CLASS-350-288 US-PATENT-CLASS-350-299 US-PATENT-4,149,521	N79-26372*	c 35	NASA-CASE-LAR-11889-1 US-PATENT-APPL-SN-662182 US-PATENT-CLASS-308-10 US-PATENT-CLASS-73-178R US-PATENT-4,156,548
N79-23097*	c 08	NASA-CASE-LAR-12215-1 US-PATENT-APPL-SN-858762 US-PATENT-CLASS-244-17.13 US-PATENT-CLASS-244-195 US-PATENT-CLASS-244-83G US-PATENT-CLASS-318-585 US-PATENT-CLASS-318-616 US-PATENT-CLASS-364-434 US-PATENT-4,148,452	N79-24651*	c 54	NASA-CASE-ARC-11058-2 US-PATENT-APPL-SN-753965 US-PATENT-APPL-SN-883094 US-PATENT-CLASS-2-2.1A US-PATENT-CLASS-285-235 US-PATENT-4,091,464 US-PATENT-4,151,612	N79-26439*	c 43	NASA-CASE-MFS-23726-1 US-PATENT-APPL-SN-848418 US-PATENT-CLASS-105-161 US-PATENT-CLASS-299-1 US-PATENT-CLASS-33-1N US-PATENT-CLASS-33-1Q US-PATENT-CLASS-33-174L US-PATENT-CLASS-364-580 US-PATENT-4,156,971
N79-23310*	c 32	NASA-CASE-KSC-11023-1 US-PATENT-APPL-SN-918533 US-PATENT-CLASS-179-1MN US-PATENT-CLASS-179-27CA US-PATENT-CLASS-179-84VF US-PATENT-4,153,818	N79-24652*	c 54	NASA-CASE-NPO-13906-1 US-PATENT-APPL-SN-837259 US-PATENT-CLASS-3-1.1 US-PATENT-CLASS-3-12.5 US-PATENT-CLASS-414-6 US-PATENT-4,149,278	N79-26474*	c 44	NASA-CASE-LEW-13150-1 US-PATENT-APPL-SN-914260 US-PATENT-CLASS-429-101 US-PATENT-CLASS-429-15 US-PATENT-4,159,366
N79-23345*	c 33	NASA-CASE-FRC-10116-1 US-PATENT-APPL-SN-885049 US-PATENT-CLASS-323-22T US-PATENT-4,151,456	N79-24976*	c 05	NASA-CASE-LEW-11890-1 US-PATENT-APPL-SN-891244 US-PATENT-CLASS-137-15.1 US-PATENT-CLASS-244-53B US-PATENT-4,154,256	N79-26475*	c 44	NASA-CASE-MFS-23540-1 US-PATENT-APPL-SN-863773 US-PATENT-CLASS-29-572 US-PATENT-CLASS-29-577 US-PATENT-CLASS-29-578 US-PATENT-CLASS-29-58C US-PATENT-CLASS-357-45 US-PATENT-4,156,305
N79-23481*	c 44	NASA-CASE-MFS-23349-1 US-PATENT-APPL-SN-823061 US-PATENT-CLASS-126-270 US-PATENT-CLASS-126-271 US-PATENT-4,148,295	N79-25142*	c 24	NASA-CASE-MSC-12737-1 US-PATENT-APPL-SN-788045 US-PATENT-CLASS-102-105 US-PATENT-CLASS-244-121 US-PATENT-CLASS-244-163 US-PATENT-CLASS-427-350 US-PATENT-CLASS-427-372A US-PATENT-CLASS-428-137 US-PATENT-CLASS-428-282 US-PATENT-CLASS-428-290 US-PATENT-CLASS-428-332 US-PATENT-CLASS-428-447 US-PATENT-CLASS-428-920 US-PATENT-4,151,800	N79-26771*	c 52	NASA-CASE-ARC-10994-2 US-PATENT-APPL-SN-759965 US-PATENT-CLASS-128-66C US-PATENT-CLASS-73-62E US-PATENT-4,154,230
N79-23555*	c 46	NASA-CASE-NPO-14255-1 US-PATENT-APPL-SN-830458 US-PATENT-CLASS-181-115 US-PATENT-CLASS-181-120 US-PATENT-CLASS-340-12R US-PATENT-4,153,134	N79-25143*	c 24	NASA-CASE-GSC-11577-3 US-PATENT-APPL-SN-322997 US-PATENT-APPL-SN-506803 US-PATENT-APPL-SN-645502 US-PATENT-CLASS-156-89 US-PATENT-CLASS-220-2.2 US-PATENT-CLASS-65-43 US-PATENT-3,859,714 US-PATENT-4,155,475	N79-26772*	c 52	NASA-CASE-KSC-11069-1 US-PATENT-APPL-SN-876438 US-PATENT-CLASS-3-1.5 US-PATENT-CLASS-3-12 US-PATENT-CLASS-3-1 US-PATENT-4,158,895
N79-23753*	c 71	NASA-CASE-NPO-14134-1 US-PATENT-APPL-SN-861392 US-PATENT-CLASS-179-1DM US-PATENT-CLASS-179-1MF US-PATENT-CLASS-181-148 US-PATENT-CLASS-340-8LF US-PATENT-4,149,034	N79-25443*	c 43	NASA-CASE-MFS-23720-3 US-PATENT-APPL-SN-848420 US-PATENT-CLASS-73-12 US-PATENT-CLASS-73-82 US-PATENT-4,154,084	N79-27836*	c 52	NASA-CASE-NPO-13910-1 US-PATENT-APPL-SN-712270 US-PATENT-CLASS-128-329F US-PATENT-CLASS-128-63S US-PATENT-4,154,228
N79-23798*	c 76	NASA-CASE-NPO-13969-1 US-PATENT-APPL-SN-820499 US-PATENT-CLASS-156-DIG-6.8 US-PATENT-CLASS-156-617SP US-PATENT-CLASS-423-345 US-PATENT-4,152,194	N79-25481*	c 44	NASA-CASE-LEW-12972-1 US-PATENT-APPL-SN-897829 US-PATENT-CLASS-429-253 US-PATENT-CLASS-526-7 US-PATENT-CLASS-526-9 US-PATENT-4,154,912	N79-28253*	c 25	NASA-CASE-NPO-13650-1 US-PATENT-APPL-SN-704468 US-PATENT-CLASS-118-4 US-PATENT-CLASS-23-252F US-PATENT-CLASS-240-1 US-PATENT-CLASS-255-1 US-PATENT-CLASS-33-1 US-PATENT-CLASS-34-1 US-PATENT-CLASS-423-33-1 US-PATENT-CLASS-427-9 US-PATENT-4,033,28
N79-24062*	c 24	NASA-CASE-ARC-11169-1 US-PATENT-APPL-SN-940688 US-PATENT-CLASS-428-366 US-PATENT-4,148,962	N79-25482*	c 44	NASA-CASE-MSC-12737-1 US-PATENT-APPL-SN-788045 US-PATENT-CLASS-102-105 US-PATENT-CLASS-244-121 US-PATENT-CLASS-244-163 US-PATENT-CLASS-427-350 US-PATENT-CLASS-427-372A US-PATENT-CLASS-428-137 US-PATENT-CLASS-428-282 US-PATENT-CLASS-428-290 US-PATENT-CLASS-428-332 US-PATENT-CLASS-428-447 US-PATENT-CLASS-428-920 US-PATENT-4,151,800	N79-28307*	c 27	NASA-CASE-LEW-12053-1 US-PATENT-APPL-SN-79626 US-PATENT-CLASS-260-37E US-PATENT-CLASS-260-4 US-PATENT-CLASS-260-5 US-PATENT-CLASS-528-12 US-PATENT-CLASS-528-12 US-PATENT-CLASS-528-12 US-PATENT-CLASS-528-22 US-PATENT-CLASS-528-22
N79-24073*	c 25	NASA-CASE-LAR-11922-1 US-PATENT-APPL-SN-856460 US-PATENT-CLASS-195-127 US-PATENT-CLASS-204-195B US-PATENT-4,149,938						
N79-24203*	c 32	NASA-CASE-LAR-12375-1 US-PATENT-APPL-SN-900842 US-PATENT-CLASS-73-647 US-PATENT-CLASS-73-724 US-PATENT-4,149,423						
N79-24210*	c 32	NASA-CASE-NPO-13641-1 US-PATENT-APPL-SN-777983 US-PATENT-CLASS-343-100TD US-PATENT-4,148,031						
N79-24254*	c 33	NASA-CASE-NPO-14000-1 US-PATENT-APPL-SN-876431 US-PATENT-CLASS-307-82 US-PATENT-CLASS-363-56 US-PATENT-CLASS-363-71 US-PATENT-CLASS-363-97 US-PATENT-4,150,425						
N79-24257*	c 33	NASA-CASE-NPO-14056-1 US-PATENT-APPL-SN-833637						

				US-PATENT-CLASS-528-225	N79-33316*	c 27	NASA-CASE-LAR-12054-1	N80-10799*	c 54	NASA-CASE-MSC-16182-1
				US-PATENT-CLASS-528-227			US-PATENT-APPL-SN-839963			US-PATENT-APPL-SN-780938
				US-PATENT-CLASS-528-229			US-PATENT-CLASS-264-137			US-PATENT-CLASS-128-142R
				US-PATENT-CLASS-528-331			US-PATENT-CLASS-428-474			US-PATENT-CLASS-128-191R
				US-PATENT-CLASS-528-336			US-PATENT-CLASS-528-229			US-PATENT-CLASS-128-212
				US-PATENT-CLASS-528-337			US-PATENT-4,166,170			US-PATENT-4,168,706
				US-PATENT-CLASS-528-338	N79-33392*	c 33	NASA-CASE-XMF-04494-1	N80-14107*	c 05	NASA-CASE-ARC-11106-1
				US-PATENT-CLASS-528-342			US-PATENT-APPL-SN-547643			US-PATENT-APPL-SN-831633
				US-PATENT-CLASS-544-193			US-PATENT-CLASS-200-83			US-PATENT-CLASS-415-199
				US-PATENT-4,159,262			US-PATENT-3,378,657			US-PATENT-CLASS-416-228
N79-28342*	c 28			NASA-CASE-NPO-14260-1	N79-33393*	c 33	NASA-CASE-XMS-01244-1			US-PATENT-CLASS-416-238
				US-PATENT-APPL-SN-861390			US-PATENT-APPL-SN-20370			US-PATENT-4,168,939
				US-PATENT-CLASS-149-19.4			US-PATENT-CLASS-200-114	N80-14183*	c 18	NASA-CASE-GSC-12331-1
				US-PATENT-CLASS-149-19.9			US-PATENT-3,123,692			US-PATENT-APPL-SN-943088
				US-PATENT-CLASS-149-20	N79-33449*	c 35	NASA-CASE-XGS-01245-1			US-PATENT-CLASS-343-880
				US-PATENT-4,158,583			US-PATENT-APPL-SN-134619			US-PATENT-CLASS-343-883
N79-28370*	c 31			NASA-CASE-MFS-23721-1			US-PATENT-CLASS-338-18			US-PATENT-4,176,360
				US-PATENT-APPL-SN-847277			US-PATENT-3,119,086	N80-14188*	c 20	NASA-CASE-XLE-02062-1
				US-PATENT-CLASS-343-14	N79-33450*	c 35	NASA-CASE-XGS-01293-1			US-PATENT-APPL-SN-545793
				US-PATENT-CLASS-343-SNA			US-PATENT-APPL-SN-150690			US-PATENT-CLASS-60-203
				US-PATENT-4,161,731			US-PATENT-CLASS-73-400			US-PATENT-CLASS-60-259
N79-28415*	c 33			NASA-CASE-MSC-16697-1			US-PATENT-3,190,124			US-PATENT-4,171,615
				US-PATENT-APPL-SN-885067	N79-33467*	c 37	NASA-CASE-XMS-01077-1	N80-14229*	c 26	NASA-CASE-NPO-14474-1
				US-PATENT-CLASS-307-119			US-PATENT-APPL-SN-228049			US-PATENT-APPL-SN-918537
				US-PATENT-CLASS-307-98			US-PATENT-CLASS-312-319			US-PATENT-CLASS-423-149
				US-PATENT-CLASS-361-170			US-PATENT-3,123,418			US-PATENT-CLASS-423-293
				US-PATENT-4,161,661	N79-33468*	c 37	NASA-CASE-HQN-00573-1			US-PATENT-CLASS-423-348
N79-28416*	c 33			NASA-CASE-GSC-12171-1			US-PATENT-APPL-SN-129379			US-PATENT-CLASS-423-417
				US-PATENT-APPL-SN-878542			US-PATENT-CLASS-137-14			US-PATENT-CLASS-423-625
				US-PATENT-CLASS-343-909			US-PATENT-3,134,389			US-PATENT-4,172,883
				US-PATENT-4,160,254	N79-33469*	c 37	NASA-CASE-XGS-01286-1	N80-14281*	c 32	NASA-CASE-NPO-13830-1
N79-28527*	c 35			NASA-CASE-NPO-13953-1			US-PATENT-APPL-SN-142583			US-PATENT-APPL-SN-703905
				US-PATENT-APPL-SN-880727			US-PATENT-CLASS-251-172			US-PATENT-APPL-SN-834257
				US-PATENT-CLASS-356-237			US-PATENT-3,233,862			US-PATENT-CLASS-333-81R
				US-PATENT-CLASS-356-404	N79-34011*	c 74	NASA-CASE-NPO-14066-1			US-PATENT-CLASS-343-18A
				US-PATENT-4,160,601			US-PATENT-APPL-SN-827464			US-PATENT-CLASS-343-909
N79-28549*	c 37			NASA-CASE-GSC-12297-1			US-PATENT-CLASS-250-216			US-PATENT-4,164,718
				US-PATENT-APPL-SN-880838			US-PATENT-CLASS-250-551	N80-14330*	c 33	NASA-CASE-NPO-10857-1
				US-PATENT-CLASS-165-105			US-PATENT-4,166,959			US-PATENT-APPL-SN-888362
				US-PATENT-CLASS-357-74	N80-10278*	c 20	NASA-CASE-MFS-23642-1			US-PATENT-CLASS-315-145
				US-PATENT-CLASS-357-79			US-PATENT-APPL-SN-923758			US-PATENT-CLASS-315-260
				US-PATENT-CLASS-357-81			US-PATENT-CLASS-137-177			US-PATENT-CLASS-315-334
				US-PATENT-CLASS-357-82			US-PATENT-CLASS-137-209			US-PATENT-3,635,537
				US-PATENT-CLASS-357-83			US-PATENT-CLASS-137-574	N80-14332*	c 33	NASA-CASE-NPO-14350-1
				US-PATENT-4,161,747			US-PATENT-CLASS-137-576			US-PATENT-APPL-SN-921627
N79-28550*	c 37			NASA-CASE-GSC-12274-1			US-PATENT-CLASS-137-590			US-PATENT-CLASS-250-310
				US-PATENT-APPL-SN-909100			US-PATENT-CLASS-244-135R			US-PATENT-CLASS-250-492A
				US-PATENT-CLASS-251-7			US-PATENT-4,168,718			US-PATENT-CLASS-324-158R
				US-PATENT-CLASS-72-436	N80-10358*	c 27	NASA-CASE-MSC-14903-2			US-PATENT-4,172,228
				US-PATENT-CLASS-72-451			US-PATENT-APPL-SN-706424	N80-14371*	c 35	NASA-CASE-LAR-11690-1
				US-PATENT-CLASS-72-470			US-PATENT-APPL-SN-907435			US-PATENT-APPL-SN-928129
				US-PATENT-4,159,634			US-PATENT-CLASS-260-926			US-PATENT-CLASS-73-655
N79-28551*	c 37			NASA-CASE-ARC-11052-1			US-PATENT-4,092,466			US-PATENT-CLASS-73-661
				US-PATENT-APPL-SN-826202			US-PATENT-4,168,287			US-PATENT-4,171,645
				US-PATENT-CLASS-414-4	N80-10374*	c 28	NASA-CASE-NPO-13849-1	N80-14384*	c 36	NASA-CASE-GSC-12237-1
				US-PATENT-4,160,508			NASA-CASE-NPO-13907-1			US-PATENT-APPL-SN-837795
N79-31228*	c 09			NASA-CASE-LAR-12149-2			US-PATENT-APPL-SN-668783			US-PATENT-CLASS-331-94.5C
				US-PATENT-APPL-SN-829314			US-PATENT-CLASS-123-DIG.12			US-PATENT-CLASS-331-94.5P
				US-PATENT-APPL-SN-928131			US-PATENT-CLASS-123-179R			US-PATENT-4,173,001
				US-PATENT-CLASS-35-12E			US-PATENT-CLASS-123-3	N80-14395*	c 37	NASA-CASE-XNP-08835-1
				US-PATENT-CLASS-35-12H			US-PATENT-CLASS-23-288R			US-PATENT-APPL-SN-534931
				US-PATENT-4,164,079			US-PATENT-CLASS-423-650			US-PATENT-CLASS-204-224
N79-31347*	c 24			NASA-CASE-GSC-12303-1			US-PATENT-CLASS-48-DIG.8			US-PATENT-3,352,774
				US-PATENT-APPL-SN-862880			US-PATENT-CLASS-48-10-3	N80-14397*	c 37	NASA-CASE-MFS-23284-1
				US-PATENT-CLASS-106-74			US-PATENT-CLASS-48-102A			US-PATENT-APPL-SN-753103
				US-PATENT-CLASS-106-84			US-PATENT-CLASS-48-107			US-PATENT-CLASS-204-180G
				US-PATENT-4,162,169			US-PATENT-CLASS-48-117			US-PATENT-CLASS-204-299R
N79-31523*	c 34			NASA-CASE-GSC-12253-1			US-PATENT-CLASS-48-61			US-PATENT-4,040,940
				US-PATENT-APPL-SN-853677			US-PATENT-CLASS-60-300	N80-14398*	c 37	NASA-CASE-GSC-12322-1
				US-PATENT-CLASS-165-105			US-PATENT-CLASS-60-606			US-PATENT-APPL-SN-907436
				US-PATENT-CLASS-165-32			US-PATENT-4,033,133			US-PATENT-CLASS-244-161
				US-PATENT-CLASS-244-1R	N80-10494*	c 37	NASA-CASE-NPO-14384-1			US-PATENT-CLASS-269-156
				US-PATENT-CLASS-244-163			US-PATENT-APPL-SN-880728			US-PATENT-CLASS-294-113
				US-PATENT-4,162,701			US-PATENT-CLASS-210-186			US-PATENT-CLASS-294-86R
N79-31706*	c 43			NASA-CASE-MFS-23725-1			US-PATENT-CLASS-210-340			US-PATENT-CLASS-414-1
				US-PATENT-APPL-SN-848793			US-PATENT-CLASS-239-102			US-PATENT-4,173,324
				US-PATENT-CLASS-250-253			US-PATENT-CLASS-239-302	N80-14423*	c 43	NASA-CASE-MFS-23720-2
				US-PATENT-CLASS-250-272			US-PATENT-CLASS-422-187			US-PATENT-APPL-SN-848421
				US-PATENT-4,165,460			US-PATENT-CLASS-422-199			US-PATENT-CLASS-73-12
N79-31752*	c 44			NASA-CASE-NPO-14205-1			US-PATENT-CLASS-422-208			US-PATENT-CLASS-73-82
				US-PATENT-APPL-SN-920879			US-PATENT-CLASS-422-235			US-PATENT-4,157,655
				US-PATENT-CLASS-106-1			US-PATENT-CLASS-422-242	N80-14472*	c 44	NASA-CASE-LEW-12586-1
				US-PATENT-CLASS-106-1.2			US-PATENT-CLASS-423-350			US-PATENT-APPL-SN-916655
				US-PATENT-CLASS-136-89CC			US-PATENT-4,169,129			US-PATENT-CLASS-307-63
				US-PATENT-CLASS-252-514	N80-10507*	c 39	NASA-CASE-NPO-14192-1			US-PATENT-CLASS-307-66
				US-PATENT-CLASS-29-572			US-PATENT-APPL-SN-830562			US-PATENT-CLASS-323-15
				US-PATENT-CLASS-29-589			US-PATENT-CLASS-181-102			US-PATENT-CLASS-323-19
				US-PATENT-CLASS-357-30			US-PATENT-CLASS-181-105			US-PATENT-4,175,249
				US-PATENT-CLASS-357-65			US-PATENT-CLASS-367-26	N80-14473*	c 44	NASA-CASE-MFS-23727-1
				US-PATENT-CLASS-357-67			US-PATENT-CLASS-467-28			US-PATENT-APPL-SN-856465
				US-PATENT-CLASS-427-88			US-PATENT-4,168,483			US-PATENT-CLASS-126-438
				US-PATENT-4,163,678	N80-10709*	c 46	NASA-CASE-NPO-14231-1			US-PATENT-CLASS-126-442
N79-31753*	c 44			NASA-CASE-NPO-14467-1			US-PATENT-APPL-SN-903019			US-PATENT-CLASS-350-295
				US-PATENT-APPL-SN-946994			US-PATENT-CLASS-175-78			US-PATENT-CLASS-350-296
				US-PATENT-CLASS-136-89PC			US-PATENT-CLASS-73-155			US-PATENT-4,173,397
				US-PATENT-4,162,928			US-PATENT-4,167,111	N80-14474*	c 44	NASA-CASE-NPO-13652-3



				US-PATENT-APPL-SN-809890				US-PATENT-CLASS-73-188				US-PATENT-CLASS-156-278
				US-PATENT-APPL-SN-891358				US-PATENT-CLASS-73-189				US-PATENT-CLASS-156-285
				US-PATENT-CLASS-136-89P				US-PATENT-CLASS-73-212				US-PATENT-CLASS-156-303
				US-PATENT-CLASS-29-572				US-PATENT-4,184,149				US-PATENT-CLASS-156-312
				US-PATENT-CLASS-29-588				NASA-CASE-LEW-12971-1				US-PATENT-4,184,903
				US-PATENT-CLASS-29-627		N80-18039*	c 07	US-PATENT-APPL-SN-858936		N80-18551*	c 44	NASA-CASE-NPO-14096-1
				US-PATENT-4,133,697				US-PATENT-CLASS-60-240				US-PATENT-APPL-SN-928126
				US-PATENT-4,173,820				US-PATENT-CLASS-60-39.03				US-PATENT-CLASS-324-158D
N80-14579*	c 45			NASA-CASE-NPO-14340-1				US-PATENT-CLASS-60-39.27				US-PATENT-CLASS-324-404
				US-PATENT-APPL-SN-946992				US-PATENT-4,184,327				US-PATENT-4,184,111
				US-PATENT-CLASS-210-57		N80-18097*	c 20	NASA-CASE-MS-18179-1		N80-18552*	c 44	NASA-CASE-LAR-11999-1
				US-PATENT-CLASS-210-63Z				US-PATENT-APPL-SN-931218				US-PATENT-APPL-SN-876299
				US-PATENT-CLASS-422-9				US-PATENT-CLASS-60-63Z				US-PATENT-CLASS-250-211K
				US-PATENT-4,172,786				US-PATENT-4,183,217				US-PATENT-CLASS-250-231SE
N80-14603*	c 46			NASA-CASE-NPO-14124-1		N80-18231*	c 31	NASA-CASE-NPO-14382-1				US-PATENT-4,184,072
				US-PATENT-APPL-SN-863024				US-PATENT-APPL-SN-891373		N80-18667*	c 48	NASA-CASE-MFS-23862-1
				US-PATENT-CLASS-343-100ME				US-PATENT-CLASS-261-118				US-PATENT-APPL-SN-951423
				US-PATENT-CLASS-343-112D				US-PATENT-CLASS-422-224				US-PATENT-CLASS-73-170A
				US-PATENT-4,170,776				US-PATENT-CLASS-423-350				US-PATENT-4,184,368
N80-14684*	c 52			NASA-CASE-LEW-12955-1				US-PATENT-4,188,368		N80-18690*	c 52	NASA-CASE-LEW-12723-1
				US-PATENT-APPL-SN-829318				NASA-CASE-NPO-14152-1				US-PATENT-APPL-SN-829317
				US-PATENT-CLASS-128-276		N80-18252*	c 32	US-PATENT-APPL-SN-899828				US-PATENT-CLASS-128-276
				US-PATENT-4,157,718				US-PATENT-CLASS-178-58R				US-PATENT-CLASS-128-760
N80-14687*	c 52			NASA-CASE-NPO-14101-1				US-PATENT-CLASS-179-15BA				US-PATENT-4,184,491
				US-PATENT-APPL-SN-772434				US-PATENT-4,187,394		N80-18691*	c 52	NASA-CASE-ARC-11120-1
				US-PATENT-CLASS-210-22				NASA-CASE-NPO-14328-1				US-PATENT-APPL-SN-796256
				US-PATENT-CLASS-210-321B		N80-18253*	c 32	NASA-CASE-NPO-14579-1				US-PATENT-CLASS-128-748
				US-PATENT-4,094,775				NASA-CASE-NPO-14590-1				US-PATENT-CLASS-128-903
N80-14877*	c 72			NASA-CASE-NPO-14078-1				US-PATENT-APPL-SN-956160				US-PATENT-CLASS-73-724
				US-PATENT-APPL-SN-856466				US-PATENT-CLASS-325-305				US-PATENT-4,186,749
				US-PATENT-CLASS-250-281				US-PATENT-CLASS-325-307				NASA-CASE-GSC-12291-1
				US-PATENT-CLASS-250-282				US-PATENT-CLASS-325-419		N80-18951*	c 76	US-PATENT-APPL-SN-906298
				US-PATENT-CLASS-250-423P				US-PATENT-4,186,347				US-PATENT-CLASS-125-23R
				US-PATENT-4,158,775		N80-18285*	c 33	NASA-CASE-NPO-14229-1				US-PATENT-CLASS-269-21
N80-16116*	c 25			NASA-CASE-ARC-11107-1				US-PATENT-APPL-SN-835419				US-PATENT-CLASS-51-235
				US-PATENT-APPL-SN-883961				US-PATENT-APPL-SN-949886				US-PATENT-CLASS-83-152
				US-PATENT-CLASS-521-124				US-PATENT-CLASS-200-153S				US-PATENT-CLASS-83-870
				US-PATENT-CLASS-521-125				US-PATENT-CLASS-200-304				US-PATENT-4,184,472
				US-PATENT-CLASS-521-127				US-PATENT-CLASS-333-262		N80-20224*	c 02	NASA-CASE-LAR-12261-1
				US-PATENT-CLASS-521-157				US-PATENT-4,187,416				US-PATENT-APPL-SN-964009
				US-PATENT-CLASS-528-73				NASA-CASE-GSC-12347-1				US-PATENT-CLASS-73-147
				US-PATENT-4,177,333		N80-18286*	c 33	US-PATENT-APPL-SN-868249				US-PATENT-CLASS-73-205L
N80-16158*	c 27			NASA-CASE-LAR-12099-1				US-PATENT-CLASS-174-142				US-PATENT-4,188,823
				US-PATENT-APPL-SN-906299				US-PATENT-CLASS-174-73R		N80-20334*	c 25	NASA-CASE-NPO-14079-1
				US-PATENT-CLASS-528-207				US-PATENT-4,185,164				US-PATENT-APPL-SN-958573
				US-PATENT-CLASS-528-208				NASA-CASE-NPO-14224-1				US-PATENT-CLASS-250-307
				US-PATENT-4,180,648		N80-18287*	c 33	US-PATENT-APPL-SN-951829				US-PATENT-CLASS-250-308
N80-16163* #	c 27			NASA-CASE-NPO-14021-2				US-PATENT-CLASS-310-306				US-PATENT-4,194,115
				US-PATENT-APPL-SN-106188				US-PATENT-CLASS-343-100R		N80-20402*	c 28	NASA-CASE-LEW-12081-2
N80-16261* #	c 32			NASA-CASE-NPO-14362-1				US-PATENT-CLASS-343-100ST				US-PATENT-APPL-SN-676432
				US-PATENT-APPL-SN-106118				US-PATENT-4,187,506				US-PATENT-APPL-SN-837794
N80-16321*	c 36			NASA-CASE-LAR-12176-1		N80-18357*	c 35	NASA-CASE-NPO-14501-1				US-PATENT-CLASS-149-1
				US-PATENT-APPL-SN-929083				US-PATENT-APPL-SN-918535				US-PATENT-CLASS-423-648R
				US-PATENT-CLASS-332-751				US-PATENT-CLASS-264-40.4				US-PATENT-4,193,827
				US-PATENT-CLASS-350-359				US-PATENT-CLASS-73-343R		N80-20448*	c 32	NASA-CASE-NPO-14480-1
				US-PATENT-CLASS-356-243				US-PATENT-CLASS-73-56				US-PATENT-APPL-SN-910707
				US-PATENT-CLASS-356-28				US-PATENT-4,185,493				US-PATENT-CLASS-325-14
				US-PATENT-4,176,950		N80-18358*	c 35	NASA-CASE-LAR-12269-1				US-PATENT-CLASS-325-4
N80-16452*	c 44			NASA-CASE-MFS-23518-3				US-PATENT-APPL-SN-934576				US-PATENT-CLASS-325-8
				US-PATENT-APPL-SN-829390				US-PATENT-CLASS-73-4R				US-PATENT-CLASS-325-9
				US-PATENT-APPL-SN-910793				US-PATENT-CLASS-73-40				US-PATENT-4,189,675
				US-PATENT-CLASS-126-417				US-PATENT-4,182,158		N80-20487*	c 33	NASA-CASE-LEW-13148-1
				US-PATENT-CLASS-126-901		N80-18359*	c 35	NASA-CASE-GSC-12219-1				US-PATENT-APPL-SN-964754
				US-PATENT-CLASS-428-629				US-PATENT-APPL-SN-891356				US-PATENT-CLASS-429-101
				US-PATENT-CLASS-428-650				US-PATENT-CLASS-325-363				US-PATENT-CLASS-429-105
				US-PATENT-CLASS-428-658				US-PATENT-CLASS-343-100ME				US-PATENT-CLASS-429-107
				US-PATENT-CLASS-428-675				US-PATENT-CLASS-356-216				US-PATENT-CLASS-429-109
				US-PATENT-CLASS-428-680				US-PATENT-CLASS-73-355R				US-PATENT-4,192,910
				US-PATENT-4,104,134				US-PATENT-4,178,100		N80-20559*	c 35	NASA-CASE-LAR-12304-1
				US-PATENT-4,177,325		N80-18364* #	c 35	NASA-CASE-NPO-13606-2				US-PATENT-APPL-SN-928130
N80-16714*	c 51			NASA-CASE-MS-16260-1				US-PATENT-APPL-SN-065676				US-PATENT-CLASS-29-25.35
				US-PATENT-APPL-SN-876440		N80-18372*	c 36	NASA-CASE-NPO-14254-1				US-PATENT-CLASS-310-311
				US-PATENT-CLASS-23-927				US-PATENT-APPL-SN-876432				US-PATENT-CLASS-310-327
				US-PATENT-CLASS-422-52				US-PATENT-CLASS-330-4				US-PATENT-CLASS-310-334
				US-PATENT-CLASS-435-34				US-PATENT-CLASS-331-94				US-PATENT-CLASS-310-360
				US-PATENT-4,176,007				US-PATENT-CLASS-333-24R				US-PATENT-4,195,244
N80-16715*	c 51			NASA-CASE-MFS-23883-1				US-PATENT-4,187,470		N80-20560*	c 35	NASA-CASE-FRC-10093-1
				US-PATENT-APPL-SN-017888				NASA-CASE-ARC-11157-1				US-PATENT-APPL-SN-878539
				US-PATENT-CLASS-204-180R		N80-18393*	c 37	US-PATENT-APPL-SN-935827				US-PATENT-CLASS-219-85CA
				US-PATENT-CLASS-204-299R				US-PATENT-CLASS-220-423				US-PATENT-CLASS-219-85CM
				US-PATENT-CLASS-424-12				US-PATENT-CLASS-220-445				US-PATENT-CLASS-219-85F
				US-PATENT-4,181,589				US-PATENT-CLASS-220-901				US-PATENT-CLASS-338-2
N80-16725*	c 52			NASA-CASE-NPO-14092-1				US-PATENT-4,184,609				US-PATENT-4,195,279
				US-PATENT-APPL-SN-807597		N80-18400* #	c 37	NASA-CASE-NPO-12131-3		N80-20563*	c 35	NASA-CASE-NPO-14093-1
				US-PATENT-CLASS-128-DIG.9				US-PATENT-APPL-SN-096255				US-PATENT-APPL-SN-880729
				US-PATENT-CLASS-128-348				NASA-CASE-LAR-12344-1				US-PATENT-CLASS-356-346
				US-PATENT-CLASS-128-6		N80-18498*	c 43	US-PATENT-APPL-SN-945041				US-PATENT-4,193,693
				US-PATENT-CLASS-138-103				US-PATENT-CLASS-343-18B		N80-20808*	c 44	NASA-CASE-NPO-14237-1
				US-PATENT-CLASS-138-133				US-PATENT-CLASS-343-18D				US-PATENT-APPL-SN-897831
				US-PATENT-CLASS-138-33				US-PATENT-CLASS-343-5CM				US-PATENT-CLASS-126-263
				US-PATENT-CLASS-219-201				US-PATENT-CLASS-343-SW				US-PATENT-CLASS-149-15
				US-PATENT-CLASS-219-522				US-PATENT-4,184,155				US-PATENT-CLASS-149-37
				US-PATENT-4,176,662		N80-18550*	c 44	NASA-CASE-NPO-14303-1				US-PATENT-CLASS-220-429
N80-18036*	c 06			NASA-CASE-FRC-11009-1				NASA-CASE-NPO-14305-1				US-PATENT-4,193,388
				US-PATENT-APPL-SN-910708				US-PATENT-APPL-SN-928133		N80-20810*	c 44	NASA-CASE-LAR-12205-1
				US-PATENT-CLASS-340-177VA				US-PATENT-CLASS-156-104				US-PATENT-APPL-SN-900843

			US-PATENT-CLASS-126-419				US-PATENT-APPL-SN-848419				US-PATENT-APPL-SN-956529	
			US-PATENT-CLASS-126-434				US-PATENT-CLASS-73-12				US-PATENT-CLASS-250-338	
			US-PATENT-CLASS-126-437				US-PATENT-CLASS-73-82				US-PATENT-CLASS-250-352	
			US-PATENT-CLASS-165-32				US-PATENT-4,195,512				US-PATENT-CLASS-250-353	
			US-PATENT-4,192,290		N80-23969*	c 52	NASA-CASE-FRC-11012-1				US-PATENT-CLASS-356-328	
N80-21138*	c 74		NASA-CASE-LAR-12178-1				US-PATENT-APPL-SN-928137			N80-26658*	c 37	US-PATENT-4,205,229
			US-PATENT-APPL-SN-953390				US-PATENT-CLASS-128-666					NASA-CASE-LEW-12131-2
			US-PATENT-CLASS-350-25				US-PATENT-CLASS-128-690					US-PATENT-APPL-SN-801290
			US-PATENT-CLASS-350-285				US-PATENT-4,198,988					US-PATENT-APPL-SN-931090
			US-PATENT-CLASS-356-150		N80-24149*	c 74	NASA-CASE-GSC-12348-1					US-PATENT-CLASS-415-174
			US-PATENT-CLASS-356-152				US-PATENT-APPL-SN-929088					US-PATENT-CLASS-415-196
			US-PATENT-4,189,234				US-PATENT-CLASS-51-277					US-PATENT-4,135,851
N80-21140*	c 74		NASA-CASE-GSC-12357-1				US-PATENT-CLASS-51-283R			N80-27067*	c 51	US-PATENT-4,207,024
			US-PATENT-APPL-SN-943089				US-PATENT-CLASS-65-61					NASA-CASE-MS-16777-1
			US-PATENT-CLASS-250-277CH				US-PATENT-4,198,788					US-PATENT-APPL-SN-893657
			US-PATENT-CLASS-250-280		N80-24437*	c 27	NASA-CASE-LEW-13027-1					US-PATENT-CLASS-204-195E
			US-PATENT-CLASS-350-162F				US-PATENT-APPL-SN-958575					US-PATENT-CLASS-23-230B
			US-PATENT-CLASS-356-334				US-PATENT-CLASS-427-164					US-PATENT-CLASS-422-68
			US-PATENT-4,192,994				US-PATENT-CLASS-427-38					US-PATENT-CLASS-435-289
N80-21719*	c 35		NASA-CASE-GSC-12273-1				US-PATENT-CLASS-427-40					US-PATENT-CLASS-435-290
			US-PATENT-APPL-SN-897830				US-PATENT-CLASS-428-421					US-PATENT-CLASS-435-291
			US-PATENT-CLASS-244-165				US-PATENT-CLASS-428-474					US-PATENT-CLASS-435-3
			US-PATENT-CLASS-244-170				US-PATENT-4,199,650					US-PATENT-CLASS-435-311
			US-PATENT-4,193,570		N80-24438*	c 27	NASA-CASE-MS-14903-3					US-PATENT-CLASS-435-316
N80-21828*	c 44		NASA-CASE-MFS-23515-1				US-PATENT-APPL-SN-706424					US-PATENT-CLASS-435-32
			US-PATENT-APPL-SN-880726				US-PATENT-APPL-SN-907479					US-PATENT-CLASS-435-34
			US-PATENT-CLASS-415-101				US-PATENT-CLASS-260-DIG.29					US-PATENT-CLASS-435-38
			US-PATENT-CLASS-415-2				US-PATENT-CLASS-525-326					US-PATENT-CLASS-435-39
			US-PATENT-4,191,505				US-PATENT-CLASS-525-336					US-PATENT-4,204,037
N80-23383*	c 25		NASA-CASE-ARC-11154-1				US-PATENT-CLASS-525-340			N80-27072*	c 52	NASA-CASE-NPO-14212-1
			US-PATENT-APPL-SN-921626				US-PATENT-CLASS-525-374					US-PATENT-APPL-SN-838308
			US-PATENT-CLASS-521-146				US-PATENT-CLASS-525-375					US-PATENT-CLASS-128-642
			US-PATENT-CLASS-521-55				US-PATENT-CLASS-526-261					US-PATENT-CLASS-128-774
			US-PATENT-CLASS-521-918				US-PATENT-CLASS-526-275					US-PATENT-CLASS-128-782
			US-PATENT-CLASS-525-4				US-PATENT-CLASS-526-276					US-PATENT-CLASS-33-125R
			US-PATENT-CLASS-55-66				US-PATENT-CLASS-526-278					US-PATENT-CLASS-338-2
			US-PATENT-CLASS-55-67				US-PATENT-CLASS-528-481					US-PATENT-CLASS-73-781
			US-PATENT-CLASS-55-68				US-PATENT-4,200,721					US-PATENT-4,204,544
			US-PATENT-CLASS-55-72		N80-24510*	c 32	NASA-CASE-NPO-14524-1			N80-27163*	c 72	NASA-CASE-NPO-14324-1
			US-PATENT-4,198,792				NASA-CASE-NPO-14527-1					US-PATENT-APPL-SN-940970
N80-23419*	c 26		NASA-CASE-MFS-23816-1				US-PATENT-APPL-SN-957452					US-PATENT-CLASS-250-427
			US-PATENT-APPL-SN-974292				US-PATENT-CLASS-350-294					US-PATENT-CLASS-313-156
			US-PATENT-CLASS-148-32				US-PATENT-CLASS-350-6.5					US-PATENT-CLASS-313-362
			US-PATENT-CLASS-75-135				US-PATENT-CLASS-350-6.6					US-PATENT-CLASS-313-363
			US-PATENT-CLASS-75-138				US-PATENT-CLASS-356-28.5					US-PATENT-4,206,383
			US-PATENT-CLASS-75-178R				US-PATENT-4,201,468			N80-27185*	c 74	NASA-CASE-LAR-12251-1
			US-PATENT-4,198,232		N80-24573*	c 34	NASA-CASE-LEW-12441-2					US-PATENT-APPL-SN-953389
N80-23452*	c 27		NASA-CASE-ARC-10980-1				US-PATENT-APPL-SN-559846					US-PATENT-CLASS-350-175E
			US-PATENT-APPL-SN-694407				US-PATENT-APPL-SN-856462					US-PATENT-CLASS-350-226
			US-PATENT-CLASS-204-171				US-PATENT-CLASS-239-127.1					US-PATENT-4,206,970
			US-PATENT-CLASS-210-23H				US-PATENT-CLASS-60-267			N80-28300*	c 02	NASA-CASE-FRC-11024-1
			US-PATENT-CLASS-210-500M				US-PATENT-4,199,937					US-PATENT-APPL-SN-015983
			US-PATENT-CLASS-427-245		N80-24741*	c 44	NASA-CASE-NPO-14635-1					US-PATENT-CLASS-73-180
			US-PATENT-CLASS-427-41				US-PATENT-APPL-SN-008212					US-PATENT-CLASS-73-182
			US-PATENT-4,199,448				US-PATENT-CLASS-136-895G					US-PATENT-CLASS-73-861.65
N80-23471*	c 28		NASA-CASE-NPO-14109-1				US-PATENT-CLASS-156-DIG.64					US-PATENT-CLASS-73-861.66
			US-PATENT-APPL-SN-946990				US-PATENT-CLASS-156-605					US-PATENT-4,212,199
			US-PATENT-CLASS-149-108.4				US-PATENT-CLASS-156-617SP			N80-28492*	c 26	NASA-CASE-LAR-11821-1
			US-PATENT-CLASS-23-300				US-PATENT-CLASS-252-62.3E					US-PATENT-APPL-SN-023501
			US-PATENT-CLASS-23-302A				US-PATENT-4,210,622					US-PATENT-CLASS-148-131
			US-PATENT-CLASS-23-302R		N80-24906*	c 46	NASA-CASE-NPO-14558-1					US-PATENT-CLASS-266-119
			US-PATENT-CLASS-23-302T				US-PATENT-APPL-SN-945436					US-PATENT-CLASS-266-249
			US-PATENT-4,198,209				US-PATENT-CLASS-73-155					US-PATENT-CLASS-266-274
N80-23524*	c 32		NASA-CASE-NPO-14519-1				US-PATENT-4,196,619					US-PATENT-4,212,690
			US-PATENT-APPL-SN-008207		N80-26298*	c 07	NASA-CASE-ARC-10814-2			N80-28536*	c 28	NASA-CASE-NPO-14477-1
			US-PATENT-CLASS-343-786				US-PATENT-APPL-SN-684045					US-PATENT-APPL-SN-951830
			US-PATENT-CLASS-343-895				US-PATENT-APPL-SN-831632					US-PATENT-CLASS-149-19.2
			US-PATENT-4,199,764				US-PATENT-CLASS-60-39.06					US-PATENT-CLASS-149-19.9
N80-23559*	c 33		NASA-CASE-NPO-13804-1				US-PATENT-CLASS-60-733					US-PATENT-CLASS-149-20
			US-PATENT-APPL-SN-766999				US-PATENT-CLASS-60-746					US-PATENT-4,210,474
			US-PATENT-CLASS-310-319				US-PATENT-4,204,402			N80-28578*	c 32	NASA-CASE-GSC-12365-1
			US-PATENT-CLASS-331-65		N80-26388*	c 24	NASA-CASE-MFS-23626-1					US-PATENT-APPL-SN-039031
			US-PATENT-CLASS-340-602				US-PATENT-APPL-SN-941711					US-PATENT-CLASS-343-100SA
			US-PATENT-CLASS-340-604				US-PATENT-CLASS-156-212					US-PATENT-CLASS-343-844
			US-PATENT-4,197,530				US-PATENT-CLASS-156-213					US-PATENT-CLASS-343-854
N80-23653*	c 37		NASA-CASE-MS-16938-1				US-PATENT-CLASS-156-285					US-PATENT-4,213,131
			US-PATENT-APPL-SN-938582				US-PATENT-CLASS-260-17.2			N80-28686*	c 35	NASA-CASE-LAR-11370-1
			US-PATENT-CLASS-151-41.76				US-PATENT-CLASS-264-118					US-PATENT-APPL-SN-940689
			US-PATENT-4,193,435				US-PATENT-CLASS-264-119					US-PATENT-CLASS-250-457
N80-23654*	c 37		NASA-CASE-NPO-14473-1				US-PATENT-CLASS-264-124					US-PATENT-CLASS-250-491
			US-PATENT-APPL-SN-938300				US-PATENT-4,204,899					US-PATENT-CLASS-250-513
			US-PATENT-CLASS-137-375		N80-26446*	c 27	NASA-CASE-MS-16074-1					US-PATENT-4,213,051
			US-PATENT-CLASS-137-625.4				US-PATENT-APPL-SN-747674			N80-28687*	c 35	NASA-CASE-LAR-12285-1
			US-PATENT-CLASS-251-138				US-PATENT-CLASS-204-159.15					US-PATENT-APPL-SN-929087
			US-PATENT-CLASS-251-86				US-PATENT-CLASS-204-159.19					US-PATENT-CLASS-356-244
			US-PATENT-4,195,666				US-PATENT-CLASS-525-426					US-PATENT-CLASS-356-369
N80-23655*	c 37		NASA-CASE-GSC-12318-1				US-PATENT-CLASS-8-DIG.12					US-PATENT-4,210,401
			US-PATENT-APPL-SN-894213				US-PATENT-CLASS-8-DIG.18			N80-28711*	c 37	NASA-CASE-LEW-12119-1
			US-PATENT-CLASS-219-160				US-PATENT-CLASS-8-115.5					US-PATENT-APPL-SN-672219
			US-PATENT-CLASS-219-161				US-PATENT-4,203,723					US-PATENT-CLASS-277-153
			US-PATENT-CLASS-228-212		N80-26599*	c 33	NASA-CASE-FRC-10113-1					US-PATENT-CLASS-277-193
			US-PATENT-CLASS-228-222				US-PATENT-APPL-SN-885066					US-PATENT-CLASS-277-224
			US-PATENT-CLASS-228-44.1R				US-PATENT-CLASS-324-51					US-PATENT-4,212,477
			US-PATENT-CLASS-269-287				US-PATENT-4,204,154			N80-29539*	c 32	NASA-CASE-LAR-11745-1
			US-PATENT-4,196,840		N80-26635*	c 35	NASA-CASE-NPO-14372-1					US-PATENT-APPL-SN-799025
N80-23711*	c 43		NASA-CASE-MFS-23720-1				US-PATENT-APPL-SN-646333					US-PATENT-CLASS-343-786

N80-29583* #	c 33	US-PATENT-4,089,004	US-PATENT-APPL-SN-938293	US-PATENT-CLASS-260-898
		NASA-CASE-FRC-11055-1	US-PATENT-CLASS-333-12	US-PATENT-CLASS-260-901
		US-PATENT-APPL-SN-172098	US-PATENT-CLASS-333-252	US-PATENT-CLASS-521-27
N80-29703*	c 37	NASA-CASE-NPO-14406-1	US-PATENT-CLASS-333-995	US-PATENT-CLASS-521-32
		US-PATENT-APPL-SN-951828	US-PATENT-4,215,327	US-PATENT-CLASS-521-62
		US-PATENT-CLASS-125-21	NASA-CASE-NPO-14424-1	US-PATENT-4,119,581
N80-29834*	c 44	US-PATENT-CLASS-83-820	NASA-CASE-NPO-14430-1	NASA-CASE-MSC-12631-3
		US-PATENT-4,191,159	US-PATENT-APPL-SN-918534	US-PATENT-APPL-SN-006952
		NASA-CASE-LAR-11551-1	US-PATENT-CLASS-324-62	US-PATENT-APPL-SN-568541
N80-29835*	c 44	US-PATENT-APPL-SN-883090	US-PATENT-CLASS-324-64	US-PATENT-APPL-SN-785279
		US-PATENT-CLASS-290-53	US-PATENT-4,218,650	US-PATENT-CLASS-156-154
		US-PATENT-CLASS-310-30	NASA-CASE-MFS-23777-1	US-PATENT-CLASS-156-160
N80-31790*	c 37	US-PATENT-4,191,893	US-PATENT-APPL-SN-931217	US-PATENT-CLASS-156-163
		NASA-CASE-NPO-13786-1	US-PATENT-CLASS-318-15	US-PATENT-CLASS-156-212
		US-PATENT-APPL-SN-696374	US-PATENT-CLASS-74-425	US-PATENT-CLASS-156-267
N80-32244*	c 76	US-PATENT-CLASS-148-1.5	US-PATENT-CLASS-74-661	US-PATENT-CLASS-156-295
		US-PATENT-CLASS-357-30	US-PATENT-CLASS-74-665C	US-PATENT-CLASS-156-323
		US-PATENT-CLASS-357-52	US-PATENT-4,215,592	US-PATENT-CLASS-156-331
N80-32245*	c 76	US-PATENT-CLASS-357-91	NASA-CASE-GSC-12289-1	US-PATENT-4,032,089
		US-PATENT-4,090,213	US-PATENT-APPL-SN-943086	US-PATENT-4,225,372
		NASA-CASE-LEW-12274-1	US-PATENT-CLASS-198-847	NASA-CASE-LAR-12054-2
N80-32359*	c 04	US-PATENT-APPL-SN-950876	US-PATENT-CLASS-198-848	US-PATENT-APPL-SN-011737
		US-PATENT-CLASS-417-383	US-PATENT-CLASS-474-205	US-PATENT-APPL-SN-839963
		US-PATENT-CLASS-60-520	US-PATENT-4,215,590	US-PATENT-CLASS-264-137
N80-32392*	c 07	US-PATENT-4,215,548	NASA-CASE-ARC-11258-1	US-PATENT-CLASS-427-385.5
		NASA-CASE-NPO-14298-1	US-PATENT-APPL-SN-185865	US-PATENT-CLASS-427-429
		US-PATENT-APPL-SN-938579	NASA-CASE-LEW-12940-1	US-PATENT-CLASS-428-473.5
N80-32484*	c 26	US-PATENT-CLASS-156-DIG.96	US-PATENT-APPL-SN-953391	US-PATENT-4,166,170
		US-PATENT-CLASS-422-246	US-PATENT-CLASS-313-231.4	US-PATENT-4,233,258
		US-PATENT-4,216,186	US-PATENT-CLASS-313-362	NASA-CASE-LEW-12081-3
N80-32514*	c 27	NASA-CASE-NPO-14295-1	US-PATENT-4,218,633	US-PATENT-APPL-SN-009887
		US-PATENT-APPL-SN-901055	NASA-CASE-MSC-18255-1	US-PATENT-APPL-SN-676432
		US-PATENT-CLASS-156-DIG.64	US-PATENT-APPL-SN-025163	US-PATENT-APPL-SN-837794
N80-32515*	c 27	US-PATENT-CLASS-156-DIG.88	US-PATENT-CLASS-250-347	US-PATENT-CLASS-149-1
		US-PATENT-CLASS-156-601	US-PATENT-CLASS-250-352	US-PATENT-CLASS-156-344
		US-PATENT-CLASS-156-617SP	US-PATENT-CLASS-250-353	US-PATENT-CLASS-423-648R
N80-32516*	c 27	US-PATENT-4,217,165	US-PATENT-CLASS-350-55	US-PATENT-CLASS-44-7R
		NASA-CASE-NPO-14173-1	US-PATENT-CLASS-356-72	US-PATENT-CLASS-55-2
		US-PATENT-APPL-SN-938581	US-PATENT-4,215,273	US-PATENT-CLASS-62-12
N80-32583*	c 31	US-PATENT-CLASS-343-112R	NASA-CASE-LEW-11930-3	US-PATENT-CLASS-62-18
		US-PATENT-4,215,345	US-PATENT-APPL-SN-513611	US-PATENT-CLASS-62-40
		NASA-CASE-ARC-10977-1	US-PATENT-APPL-SN-616528	US-PATENT-CLASS-62-47
N80-32604*	c 32	US-PATENT-APPL-SN-023436	US-PATENT-APPL-SN-764245	US-PATENT-4,077,788
		US-PATENT-CLASS-239-127.3	US-PATENT-CLASS-75-200	US-PATENT-4,193,827
		US-PATENT-CLASS-239-265.33	US-PATENT-CLASS-75-222	US-PATENT-4,229,196
N80-32605*	c 32	US-PATENT-CLASS-60-264	US-PATENT-4,214,905	NASA-CASE-KSC-11064-1
		US-PATENT-4,214,703	NASA-CASE-MFS-25535-1	US-PATENT-APPL-SN-897840
		NASA-CASE-LEW-12542-3	US-PATENT-APPL-SN-199765	US-PATENT-CLASS-169-62
N80-32650*	c 33	US-PATENT-APPL-SN-007083	NASA-CASE-LEW-12806-2	US-PATENT-CLASS-169-70
		US-PATENT-APPL-SN-803822	US-PATENT-APPL-SN-065676	US-PATENT-4,219,084
		US-PATENT-CLASS-75-124	US-PATENT-APPL-SN-915050	NASA-CASE-NPO-14536-1
N80-32650*	c 33	US-PATENT-4,214,902	US-PATENT-CLASS-136-249	US-PATENT-APPL-SN-974471
		NASA-CASE-NPO-13137-1	US-PATENT-CLASS-136-291	US-PATENT-CLASS-343-100TD
		US-PATENT-APPL-SN-332123	US-PATENT-CLASS-363-147	US-PATENT-4,233,606
N80-32650*	c 33	US-PATENT-APPL-SN-374810	US-PATENT-CLASS-363-27	NASA-CASE-NPO-14749-1
		US-PATENT-CLASS-568-852	US-PATENT-CLASS-363-60	US-PATENT-APPL-SN-078521
		US-PATENT-CLASS-568-861	US-PATENT-4,217,633	US-PATENT-CLASS-375-107
N80-32650*	c 33	US-PATENT-4,118,427	NASA-CASE-ARC-11174-1	US-PATENT-CLASS-455-51
		NASA-CASE-NPO-13899-1	US-PATENT-APPL-SN-929086	US-PATENT-CLASS-455-619
		US-PATENT-APPL-SN-761252	US-PATENT-CLASS-260-17.2	US-PATENT-CLASS-455-71
N80-32650*	c 33	US-PATENT-APPL-SN-933186	US-PATENT-CLASS-428-114	US-PATENT-4,234,971
		US-PATENT-CLASS-260-346.3	US-PATENT-CLASS-428-113	NASA-CASE-MSC-16800-1
		US-PATENT-4,196,129	US-PATENT-CLASS-428-541	US-PATENT-APPL-SN-953313
N80-32650*	c 33	NASA-CASE-LEW-13103-1	US-PATENT-CLASS-428-921	US-PATENT-CLASS-343-727
		US-PATENT-APPL-SN-971596	US-PATENT-4,209,561	US-PATENT-CLASS-343-789
		US-PATENT-CLASS-156-272	NASA-CASE-LAR-12065-1	US-PATENT-CLASS-343-797
N80-32650*	c 33	US-PATENT-CLASS-156-292	US-PATENT-APPL-SN-889671	US-PATENT-4,218,685
		US-PATENT-CLASS-204-159.11	US-PATENT-CLASS-156-330	NASA-CASE-NPO-14163-1
		US-PATENT-CLASS-204-159.14	US-PATENT-CLASS-428-113	US-PATENT-APPL-SN-878541
N80-32650*	c 33	US-PATENT-CLASS-264-212	US-PATENT-CLASS-428-114	US-PATENT-CLASS-363-56
		US-PATENT-CLASS-264-22	US-PATENT-CLASS-428-140	US-PATENT-CLASS-363-71
		US-PATENT-CLASS-427-44	US-PATENT-CLASS-428-413	US-PATENT-CLASS-363-78
N80-32650*	c 33	US-PATENT-CLASS-428-500	US-PATENT-CLASS-428-480	US-PATENT-4,222,098
		US-PATENT-CLASS-429-139	US-PATENT-CLASS-428-902	NASA-CASE-GSC-12411-1
		US-PATENT-4,218,280	US-PATENT-4,229,473	US-PATENT-APPL-SN-965367
N80-32650*	c 33	NASA-CASE-GSC-12191-1	NASA-CASE-NPO-14143-1	US-PATENT-CLASS-340-309.4
		US-PATENT-APPL-SN-009886	US-PATENT-APPL-SN-938297	US-PATENT-CLASS-340-310A
		US-PATENT-CLASS-165-16	US-PATENT-CLASS-250-343	US-PATENT-CLASS-340-310R
N80-32650*	c 33	US-PATENT-CLASS-236-13	US-PATENT-CLASS-356-437	US-PATENT-CLASS-340-870.24
		US-PATENT-CLASS-236-44C	US-PATENT-4,234,258	US-PATENT-CLASS-368-47
		US-PATENT-CLASS-236-49	NASA-CASE-ARC-11241-1	US-PATENT-CLASS-370-85
N80-32650*	c 33	US-PATENT-4,210,278	US-PATENT-APPL-SN-037066	US-PATENT-4,228,422
		NASA-CASE-NPO-14191-1	US-PATENT-CLASS-260-33.8F	NASA-CASE-NPO-14513-1
		US-PATENT-APPL-SN-830846	US-PATENT-CLASS-528-362	US-PATENT-APPL-SN-025162
N80-32650*	c 33	US-PATENT-CLASS-181-102	US-PATENT-CLASS-528-401	US-PATENT-CLASS-165-105
		US-PATENT-CLASS-367-27	US-PATENT-CLASS-528-422	US-PATENT-CLASS-62-514R
		US-PATENT-CLASS-367-36	US-PATENT-4,234,715	US-PATENT-4,218,892
N80-32650*	c 33	US-PATENT-CLASS-367-57	NASA-CASE-NPO-14001-1	NASA-CASE-MSC-16973-1
		US-PATENT-4,214,226	US-PATENT-APPL-SN-771245	US-PATENT-APPL-SN-969756
		NASA-CASE-MSC-18334-1	US-PATENT-CLASS-210-24R	US-PATENT-CLASS-150-11
N80-32650*	c 33	US-PATENT-APPL-SN-051270	US-PATENT-CLASS-260-17A	US-PATENT-CLASS-156-294
		US-PATENT-CLASS-343-700MS	US-PATENT-CLASS-260-2.1E	US-PATENT-CLASS-52-232
		US-PATENT-CLASS-343-830	US-PATENT-CLASS-260-858	US-PATENT-CLASS-52-743
N80-32650*	c 33	US-PATENT-4,218,682	US-PATENT-CLASS-260-886	US-PATENT-4,235,060
		NASA-CASE-NPO-14253-1	US-PATENT-CLASS-260-890	NASA-CASE-NPO-14220-1
		NASA-CASE-NPO-14640-1	US-PATENT-CLASS-260-895	US-PATENT-APPL-SN-907421

		US-PATENT-CLASS-60-518				US-PATENT-CLASS-375-1				US-PATENT-CLASS-333-204
		US-PATENT-CLASS-74-417				US-PATENT-CLASS-375-115				US-PATENT-4,227,096
		US-PATENT-4,228,656				US-PATENT-CLASS-375-58				NASA-CASE-MSC-16747-1
N81-14319*	c 37	NASA-CASE-LAR-11855-1	N81-15192*	c 33	NASA-CASE-NPO-14444-1	US-PATENT-4,221,005	N81-17349*	c 33		US-PATENT-APPL-SN-974475
		US-PATENT-APPL-SN-953314			US-PATENT-APPL-SN-017890	US-PATENT-CLASS-332-22				US-PATENT-CLASS-328-134
		US-PATENT-CLASS-407-117			US-PATENT-CLASS-332-23R	US-PATENT-CLASS-375-54				US-PATENT-CLASS-328-55
		US-PATENT-CLASS-407-85			US-PATENT-CLASS-375-67	US-PATENT-CLASS-455-102				US-PATENT-CLASS-331-48
		US-PATENT-CLASS-408-1R			US-PATENT-4,216,542	US-PATENT-CLASS-455-102	N81-17432*	c 37		US-PATENT-4,241,308
		US-PATENT-CLASS-82-1.2			NASA-CASE-MSC-18134-1	US-PATENT-4,216,542				NASA-CASE-NPO-14388-1
		US-PATENT-CLASS-82-1C	N81-15363*	c 37	US-PATENT-APPL-SN-974472	US-PATENT-CLASS-277-181				US-PATENT-APPL-SN-008208
		US-PATENT-CLASS-82-36R			US-PATENT-CLASS-277-181	US-PATENT-CLASS-277-229				US-PATENT-CLASS-60-518
		US-PATENT-4,218,941			US-PATENT-4,219,203	US-PATENT-4,219,203	N81-17433*	c 37		US-PATENT-CLASS-74-417
N81-14320*	c 37	NASA-CASE-GSC-12429-1			NASA-CASE-NPO-14170-1	US-PATENT-APPL-SN-860404				US-PATENT-4,240,256
		US-PATENT-APPL-SN-009888			US-PATENT-CLASS-188-134	US-PATENT-CLASS-188-180				NASA-CASE-ARC-11251-1
		US-PATENT-CLASS-244-161	N81-15364*	c 37	US-PATENT-CLASS-188-184	US-PATENT-CLASS-244-173				US-PATENT-APPL-SN-057465
		US-PATENT-CLASS-294-106			US-PATENT-4,219,107	US-PATENT-CLASS-307-219				US-PATENT-CLASS-128-DIG.20
		US-PATENT-CLASS-414-1			NASA-CASE-NPO-14162-1	US-PATENT-CLASS-307-225R				US-PATENT-CLASS-137-549
N81-14389*	c 44	US-PATENT-4,219,171			NASA-CASE-NPO-14167-1	US-PATENT-CLASS-307-269				US-PATENT-CLASS-137-886
		NASA-CASE-NPO-14416-1			NASA-CASE-NPO-14169-1	US-PATENT-CLASS-307-291				US-PATENT-CLASS-137-887
		US-PATENT-APPL-SN-014664			US-PATENT-APPL-SN-893903	US-PATENT-CLASS-328-192				US-PATENT-CLASS-251-216
		US-PATENT-CLASS-29-DIG.1			US-PATENT-CLASS-307-219	US-PATENT-CLASS-328-48				US-PATENT-CLASS-251-339
		US-PATENT-CLASS-29-832			US-PATENT-CLASS-307-225R	US-PATENT-CLASS-328-71	N81-17499*	c 43		US-PATENT-4,239,057
		US-PATENT-4,219,926			US-PATENT-CLASS-307-269	US-PATENT-CLASS-328-71				NASA-CASE-FRC-11013-1
N81-14605*	c 51	NASA-CASE-ARC-11114-1	N81-15706*	c 60	US-PATENT-CLASS-307-291	US-PATENT-CLASS-328-71				US-PATENT-APPL-SN-043912
		US-PATENT-APPL-SN-951422			US-PATENT-CLASS-328-48	US-PATENT-4,213,064				US-PATENT-CLASS-244-160
		US-PATENT-CLASS-128-DIG.12			US-PATENT-CLASS-328-71	US-PATENT-4,213,064				US-PATENT-CLASS-244-49
		US-PATENT-CLASS-128-DIG.16			US-PATENT-4,213,064	US-PATENT-4,213,064	N81-17518*	c 44		US-PATENT-4,240,601
		US-PATENT-CLASS-128-DIG.26			NASA-CASE-MFS-25050-1	US-PATENT-APPL-SN-888432				NASA-CASE-NPO-14619-1
		US-PATENT-CLASS-128-DIG.6			US-PATENT-APPL-SN-057466	US-PATENT-CLASS-350-301				US-PATENT-APPL-SN-027559
		US-PATENT-CLASS-128-DIG.9			US-PATENT-CLASS-308-10	US-PATENT-CLASS-354-118				US-PATENT-CLASS-126-419
		US-PATENT-CLASS-128-204.18			US-PATENT-CLASS-73-505	US-PATENT-CLASS-362-11				US-PATENT-CLASS-60-524
		US-PATENT-CLASS-128-207.14			US-PATENT-CLASS-73-505	US-PATENT-CLASS-362-241				US-PATENT-CLASS-60-641
		US-PATENT-CLASS-128-207.28			US-PATENT-4,218,921	US-PATENT-4,213,684				US-PATENT-4,236,383
		US-PATENT-CLASS-128-236			NASA-CASE-LEW-23169-2	US-PATENT-4,213,684	N81-17886*	c 74		NASA-CASE-NPO-14219-1
		US-PATENT-4,212,297			US-PATENT-APPL-SN-191746	US-PATENT-APPL-SN-008211				US-PATENT-APPL-SN-888432
N81-14612*	c 52	NASA-CASE-ARC-11117-1			NASA-CASE-FRC-11029-1	US-PATENT-CLASS-356-432				US-PATENT-CLASS-350-301
		US-PATENT-APPL-SN-003693			US-PATENT-APPL-SN-164617	US-PATENT-CLASS-73-15R				US-PATENT-CLASS-354-118
		US-PATENT-CLASS-128-642			US-PATENT-CLASS-73-147	US-PATENT-CLASS-73-15R				US-PATENT-CLASS-362-11
		US-PATENT-4,219,027			US-PATENT-CLASS-73-178R	US-PATENT-4,243,327				US-PATENT-4,213,684
N81-14613*	c 52	NASA-CASE-ARC-11118-2	N81-16209* #	c 26	US-PATENT-4,240,290	US-PATENT-4,243,327				NASA-CASE-NPO-14502-1
		US-PATENT-APPL-SN-850504			NASA-CASE-LEW-12493-1	US-PATENT-APPL-SN-965368				US-PATENT-APPL-SN-969755
		US-PATENT-APPL-SN-974476			US-PATENT-APPL-SN-893857	US-PATENT-CLASS-356-345				US-PATENT-CLASS-244-17.25
		US-PATENT-CLASS-424-274			US-PATENT-CLASS-156-292	US-PATENT-CLASS-356-352				US-PATENT-CLASS-416-114
		US-PATENT-4,230,717			US-PATENT-CLASS-228-118	US-PATENT-CLASS-356-358				US-PATENT-CLASS-416-500
N81-14968*	c 02	NASA-CASE-LAR-12326-1			US-PATENT-CLASS-228-170	US-PATENT-4,243,323				US-PATENT-CLASS-74-519
		US-PATENT-APPL-SN-019541			US-PATENT-CLASS-228-174	US-PATENT-4,245,956				NASA-CASE-LEW-12907-2
		US-PATENT-CLASS-102-56R			US-PATENT-CLASS-228-190	US-PATENT-APPL-SN-752050				US-PATENT-APPL-SN-909235
		US-PATENT-CLASS-102-92.1			US-PATENT-4,211,354	US-PATENT-CLASS-364-106				US-PATENT-CLASS-364-431
		US-PATENT-CLASS-244-119			NASA-CASE-NPO-13530-1	US-PATENT-CLASS-60-39.24				US-PATENT-CLASS-60-238
		US-PATENT-CLASS-244-130			US-PATENT-CLASS-210-500M	US-PATENT-4,249,238				NASA-CASE-LEW-12594-2
		US-PATENT-4,225,102			US-PATENT-CLASS-260-2.1	US-PATENT-APPL-SN-741056				US-PATENT-APPL-SN-909608
N81-14999*	c 07	NASA-CASE-LEW-13201-1			US-PATENT-CLASS-260-2.2R	US-PATENT-CLASS-60-226R				US-PATENT-CLASS-60-236
		US-PATENT-APPL-SN-038980			US-PATENT-4,014,798	US-PATENT-CLASS-60-238				US-PATENT-CLASS-60-239
		US-PATENT-CLASS-137-15.1			NASA-CASE-ARC-11248-1	US-PATENT-4,242,864				NASA-CASE-LAR-11970-2
		US-PATENT-CLASS-181-214			US-PATENT-APPL-SN-028300	US-PATENT-APPL-SN-034104				US-PATENT-APPL-SN-727503
		US-PATENT-4,220,171			US-PATENT-CLASS-528-362	US-PATENT-CLASS-244-12.5				US-PATENT-CLASS-244-52
N81-15104*	c 27	NASA-CASE-NPO-10830-1			US-PATENT-CLASS-528-401	US-PATENT-CLASS-244-87				US-PATENT-4,236,684
		US-PATENT-APPL-SN-825489			US-PATENT-CLASS-528-422	US-PATENT-CLASS-244-87				NASA-CASE-MFS-25000-1
		US-PATENT-CLASS-117-6			US-PATENT-CLASS-528-423	US-PATENT-CLASS-260-29.6RB				US-PATENT-APPL-SN-974474
		US-PATENT-CLASS-138.8R			US-PATENT-4,242,498	US-PATENT-CLASS-526-201				US-PATENT-CLASS-526-88
		US-PATENT-CLASS-260-33.6UB			NASA-CASE-LEW-13226-1	US-PATENT-CLASS-526-88				US-PATENT-CLASS-526-88
		US-PATENT-CLASS-33.8UB			US-PATENT-APPL-SN-070771	US-PATENT-CLASS-526-88				NASA-CASE-NPO-13309-1
		US-PATENT-CLASS-37N			US-PATENT-CLASS-260-326N	US-PATENT-CLASS-526-88				US-PATENT-APPL-SN-363130
		US-PATENT-CLASS-41R			US-PATENT-CLASS-260-326S	US-PATENT-CLASS-526-88				US-PATENT-CLASS-210-24
		US-PATENT-CLASS-77.5AQ			US-PATENT-CLASS-260-37EP	US-PATENT-CLASS-526-88				US-PATENT-CLASS-260-2.1E
		US-PATENT-CLASS-77.5CH			US-PATENT-CLASS-528-118	US-PATENT-CLASS-260-2.2R				US-PATENT-CLASS-264-41
		US-PATENT-CLASS-859R			US-PATENT-CLASS-528-322	US-PATENT-CLASS-264-41				US-PATENT-3,944,485
		US-PATENT-CLASS-94.9N			US-PATENT-CLASS-538-117	US-PATENT-APPL-SN-027557				NASA-CASE-LEW-12933-1
		US-PATENT-3,655,814			US-PATENT-4,244,857					
N81-15119*	c 28	NASA-CASE-NPO-14110-1			NASA-CASE-NPO-14315-1					
		US-PATENT-APPL-SN-947000			US-PATENT-APPL-SN-900659					
		US-PATENT-CLASS-149-108.4			US-PATENT-CLASS-201-10					
		US-PATENT-CLASS-23-293R			US-PATENT-CLASS-201-25					
		US-PATENT-CLASS-252-364			US-PATENT-CLASS-201-8					
		US-PATENT-CLASS-260-96D			US-PATENT-CLASS-44-50					
		US-PATENT-CLASS-423-1			US-PATENT-CLASS-44-62					
		US-PATENT-CLASS-423-131			US-PATENT-4,246,001					
		US-PATENT-CLASS-423-658.5			NASA-CASE-ARC-11253-1					
		US-PATENT-CLASS-525-384			US-PATENT-APPL-SN-028301					
		US-PATENT-CLASS-526-914			US-PATENT-CLASS-528-310					
		US-PATENT-CLASS-75-25			US-PATENT-CLASS-528-362					
		US-PATENT-4,229,182			US-PATENT-CLASS-528-401					
N81-15154*	c 31	NASA-CASE-NPO-13758-2			US-PATENT-CLASS-528-422					
		US-PATENT-APPL-SN-623389			US-PATENT-4,245,085					
		US-PATENT-APPL-SN-727444			NASA-CASE-MFS-23845-1					
		US-PATENT-CLASS-110-218			US-PATENT-APPL-SN-938298					
		US-PATENT-CLASS-110-229			US-PATENT-CLASS-307-233R					
		US-PATENT-CLASS-110-232			US-PATENT-CLASS-307-306					
		US-PATENT-CLASS-110-343								
		US-PATENT-CLASS-110-347								
		US-PATENT-CLASS-202-118								
		US-PATENT-CLASS-264-23								
		US-PATENT-CLASS-425-378R								
		US-PATENT-4,206,713								
N81-15179*	c 32	NASA-CASE-MSC-18035-1								
		US-PATENT-APPL-SN-041142								

				US-PATENT-CLASS-260-33.4R	N81-22360* #	c 37	NASA-CASE-LEW-12445-1	US-PATENT-CLASS-422-3
				US-PATENT-CLASS-427-221			US-PATENT-APPL-SN-238887	US-PATENT-CLASS-422-30
				US-PATENT-CLASS-427-379	N81-24106*	c 08	NASA-CASE-LAR-12268-1	US-PATENT-CLASS-422-34
				US-PATENT-CLASS-528-353			US-PATENT-APPL-SN-015996	US-PATENT-4,250,143
				US-PATENT-4,244,853			US-PATENT-CLASS-244-181	N81-24779* c 62 NASA-CASE-KSC-11048-1
N81-19343*	c 31			NASA-CASE-GSC-12513-1			US-PATENT-CLASS-244-195	US-PATENT-APPL-SN-023437
				US-PATENT-APPL-SN-053571			US-PATENT-CLASS-318-584	US-PATENT-CLASS-364-200
				US-PATENT-CLASS-109-49.5			US-PATENT-CLASS-364-434	US-PATENT-4,254,464
				US-PATENT-CLASS-109-58.5			US-PATENT-4,261,537	N81-24900* c 74 NASA-CASE-GSC-12528-1
				US-PATENT-CLASS-220-82R	N81-24256*	c 27	NASA-CASE-ARC-11253-3	US-PATENT-APPL-SN-111439
				US-PATENT-CLASS-220-89A			US-PATENT-APPL-SN-028301	US-PATENT-CLASS-250-368
				US-PATENT-CLASS-49-171			US-PATENT-APPL-SN-145283	US-PATENT-CLASS-250-483
				US-PATENT-4,245,566			US-PATENT-CLASS-260-465.5R	US-PATENT-4,262,206
N81-19389*	c 33			NASA-CASE-NPO-14297-1			US-PATENT-CLASS-528-310	N81-25159* c 25 NASA-CASE-NPO-15102-1
				US-PATENT-APPL-SN-938299			US-PATENT-CLASS-564-229	US-PATENT-APPL-SN-154726
				US-PATENT-CLASS-156-DIG.96			US-PATENT-4,269,787	US-PATENT-CLASS-250-350
				US-PATENT-CLASS-156-608	N81-24257*	c 27	NASA-CASE-LEW-13135-2	US-PATENT-CLASS-356-432
				US-PATENT-CLASS-219-10.49R			US-PATENT-APPL-SN-113014	US-PATENT-4,253,769
				US-PATENT-CLASS-219-10.67			US-PATENT-APPL-SN-971475	N81-25188* c 26 NASA-CASE-LEW-13088-1
				US-PATENT-CLASS-422-246			US-PATENT-CLASS-264-104	US-PATENT-APPL-SN-089779
				US-PATENT-CLASS-422-249			US-PATENT-CLASS-264-105	US-PATENT-CLASS-428-471
				US-PATENT-CLASS-432-264			US-PATENT-CLASS-429-139	US-PATENT-CLASS-428-632
				US-PATENT-4,242,553			US-PATENT-CLASS-429-249	US-PATENT-CLASS-428-678
N81-19392*	c 33			NASA-CASE-GSC-12360-1			US-PATENT-CLASS-429-253	US-PATENT-CLASS-428-679
				US-PATENT-APPL-SN-041164			US-PATENT-CLASS-429-27	US-PATENT-CLASS-428-680
				US-PATENT-CLASS-363-101			US-PATENT-CLASS-429-28	US-PATENT-4,255,495
				US-PATENT-CLASS-363-21			US-PATENT-CLASS-525-61	N81-25209* c 27 NASA-CASE-MS-18107-1
				US-PATENT-4,245,286			US-PATENT-4,262,067	US-PATENT-APPL-SN-956168
N81-19393*	c 33			NASA-CASE-NPO-14505-1	N81-24258*	c 27	NASA-CASE-NPO-10424-1	US-PATENT-CLASS-430-271
				US-PATENT-APPL-SN-956166			US-PATENT-APPL-SN-692636	US-PATENT-CLASS-430-325
				US-PATENT-CLASS-363-21			US-PATENT-CLASS-260-37	US-PATENT-CLASS-430-329
				US-PATENT-CLASS-363-36			US-PATENT-3,651,008	US-PATENT-CLASS-430-330
				US-PATENT-CLASS-363-40			NASA-CASE-MS-16394-1	US-PATENT-4,262,080
				US-PATENT-CLASS-363-47	N81-24280*	c 28	US-PATENT-APPL-SN-161255	N81-25258* c 31 NASA-CASE-LAR-12095-1
				US-PATENT-4,245,288			US-PATENT-CLASS-204-129	US-PATENT-APPL-SN-811401
N81-19426*	c 35			NASA-CASE-MFS-23923-1			US-PATENT-CLASS-204-252	US-PATENT-CLASS-244-158R
				US-PATENT-APPL-SN-053569			US-PATENT-CLASS-204-266	US-PATENT-CLASS-403-171
				US-PATENT-CLASS-73-190R			US-PATENT-CLASS-204-290F	US-PATENT-CLASS-428-902
				US-PATENT-4,248,083			US-PATENT-CLASS-204-290R	US-PATENT-CLASS-52-309.1
N81-19427*	c 35			NASA-CASE-MS-16370-1			US-PATENT-CLASS-204-291	US-PATENT-CLASS-52-648
				US-PATENT-APPL-SN-061556			US-PATENT-4,263,112	US-PATENT-CLASS-52-726
				US-PATENT-CLASS-329-107	N81-24338*	c 33	NASA-CASE-NPO-14617-1	US-PATENT-4,259,821
				US-PATENT-CLASS-329-50			US-PATENT-APPL-SN-051269	N81-25259* c 31 NASA-CASE-LAR-12077-1
				US-PATENT-CLASS-375-1			US-PATENT-CLASS-330-8	US-PATENT-APPL-SN-014663
				US-PATENT-CLASS-375-104			US-PATENT-4,262,259	US-PATENT-CLASS-52-645
				US-PATENT-CLASS-375-34	N81-24422*	c 36	NASA-CASE-LAR-12177-1	US-PATENT-4,259,825
				US-PATENT-CLASS-375-99			US-PATENT-APPL-SN-027558	N81-25278* c 32 NASA-CASE-NPO-14588-1
				US-PATENT-4,241,312			US-PATENT-CLASS-356-28.5	US-PATENT-APPL-SN-008209
N81-19455*	c 37			NASA-CASE-LEW-12982-1			US-PATENT-CLASS-356-356	US-PATENT-CLASS-343-755
				US-PATENT-APPL-SN-929084			US-PATENT-CLASS-356-358	US-PATENT-CLASS-343-772
				US-PATENT-CLASS-204-192E			US-PATENT-4,255,048	US-PATENT-CLASS-343-781R
				US-PATENT-CLASS-228-116	N81-24442*	c 37	NASA-CASE-LEW-12991-1	US-PATENT-CLASS-343-786
				US-PATENT-CLASS-228-205			US-PATENT-APPL-SN-961832	US-PATENT-4,258,366
				US-PATENT-4,245,768			US-PATENT-CLASS-277-96	N81-25299* c 33 NASA-CASE-GSC-12399-1
N81-19558*	c 44			NASA-CASE-NPO-14670-1			US-PATENT-4,260,166	US-PATENT-APPL-SN-961831
				US-PATENT-APPL-SN-043941	N81-24443*	c 37	NASA-CASE-LAR-11695-2	US-PATENT-CLASS-70-58
				US-PATENT-CLASS-136-258			US-PATENT-APPL-SN-103836	US-PATENT-4,252,007
				US-PATENT-CLASS-252-62.3E			US-PATENT-APPL-SN-893865	N81-25370* c 37 NASA-CASE-NPO-14221-1
				US-PATENT-CLASS-357-30			US-PATENT-CLASS-152-330RF	US-PATENT-APPL-SN-907431
				US-PATENT-CLASS-357-59			US-PATENT-CLASS-152-353G	US-PATENT-CLASS-60-517
				US-PATENT-CLASS-357-63			US-PATENT-CLASS-152-353R	US-PATENT-CLASS-60-525
				US-PATENT-4,249,957			US-PATENT-CLASS-152-379.4	US-PATENT-4,255,929
N81-19896*	c 74			NASA-CASE-NPO-11337-1			US-PATENT-CLASS-244-103R	N81-25371* c 37 NASA-CASE-NPO-13823-1
				NASA-CASE-NPO-11575-1			US-PATENT-CLASS-244-130	US-PATENT-APPL-SN-658487
				US-PATENT-APPL-SN-090584			US-PATENT-4,267,992	US-PATENT-CLASS-106-43
				US-PATENT-APPL-SN-276599	N81-24519*	c 44	NASA-CASE-LEW-12441-3	US-PATENT-CLASS-264-332
				US-PATENT-CLASS-340-146.3H			US-PATENT-APPL-SN-032307	US-PATENT-4,252,768
				US-PATENT-CLASS-340-146.3S			US-PATENT-APPL-SN-856462	N81-25400* c 39 NASA-CASE-NPO-14363-1
				US-PATENT-CLASS-340-146.3Y			US-PATENT-CLASS-239-127.1	US-PATENT-APPL-SN-969760
				US-PATENT-3,845,466			US-PATENT-CLASS-60-204	US-PATENT-CLASS-356-213
N81-19898*	c 74			NASA-CASE-NPO-12087-1			US-PATENT-CLASS-60-267	US-PATENT-CLASS-356-216
				US-PATENT-APPL-SN-095217			US-PATENT-4,199,937	US-PATENT-CLASS-356-234
				US-PATENT-CLASS-250-83.6R			US-PATENT-4,245,469	US-PATENT-CLASS-356-32
				US-PATENT-3,704,284	N81-24520*	c 44	NASA-CASE-MFS-23999-1	US-PATENT-4,252,440
N81-20352* #	c 33			NASA-CASE-NPO-13970-1			US-PATENT-APPL-SN-060435	N81-25660* c 52 NASA-CASE-MFS-23717-1
				US-PATENT-APPL-SN-023484			US-PATENT-CLASS-250-203R	US-PATENT-APPL-SN-950877
				US-PATENT-CLASS-318-138			US-PATENT-CLASS-250-209	US-PATENT-CLASS-128-DIG.25
				US-PATENT-CLASS-318-254			US-PATENT-4,262,195	US-PATENT-CLASS-128-1R
				US-PATENT-CLASS-318-439	N81-24521*	c 44	NASA-CASE-LEW-12918-1	US-PATENT-CLASS-128-346
				US-PATENT-4,249,116			US-PATENT-APPL-SN-134855	US-PATENT-CLASS-137-493
N81-20703*	c 52			NASA-CASE-NPO-14329-1			US-PATENT-CLASS-429-120	US-PATENT-4,256,093
				US-PATENT-APPL-SN-044432			US-PATENT-CLASS-429-160	N81-25661* c 52 NASA-CASE-GSC-12082-2
				US-PATENT-CLASS-128-642			US-PATENT-CLASS-429-164	US-PATENT-APPL-SN-676958
				US-PATENT-CLASS-128-774			US-PATENT-CLASS-429-94	US-PATENT-APPL-SN-798976
				US-PATENT-CLASS-73-141A			US-PATENT-4,262,064	US-PATENT-CLASS-128-80F
				US-PATENT-4,249,417	N81-24711*	c 52	NASA-CASE-MS-16433-1	US-PATENT-4,252,111
N81-21047*	c 04			NASA-CASE-ARC-11257-1			US-PATENT-APPL-SN-910992	N81-25662* c 52 NASA-CASE-ARC-11167-1
				US-PATENT-APPL-SN-078611			US-PATENT-CLASS-128-295	US-PATENT-APPL-SN-057526
				US-PATENT-CLASS-73-178R			US-PATENT-CLASS-128-761	US-PATENT-CLASS-128-89R
				US-PATENT-CLASS-73-490			US-PATENT-CLASS-4-144.3	US-PATENT-4,261,349
				US-PATENT-CLASS-73-504			US-PATENT-4,246,901	N81-26073* # c 02 NASA-CASE-KSC-11042-2
				US-PATENT-4,244,215	N81-24724*	c 54	NASA-CASE-KSC-11085-1	US-PATENT-APPL-SN-154663
N81-22280* #	c 33			NASA-CASE-MFS-24368-3			US-PATENT-APPL-SN-046739	N81-26114* c 05 NASA-CASE-LAR-12406-1
				US-PATENT-APPL-SN-243683			US-PATENT-CLASS-261-79A	US-PATENT-APPL-SN-008210
N81-22344* #	c 36			NASA-CASE-GSC-12609-1			US-PATENT-CLASS-422-109	US-PATENT-CLASS-165-104.14
				US-PATENT-APPL-SN-218586			US-PATENT-CLASS-422-27	US-PATENT-CLASS-244-117A

			US-PATENT-CLASS-244-163				US-PATENT-CLASS-528-6				US-PATENT-APPL-SN-102002
			US-PATENT-CLASS-60-259				US-PATENT-4,276,403				US-PATENT-CLASS-364-453
			US-PATENT-CLASS-60-267		N81-27272*	c 27	NASA-CASE-ARC-11321-1				US-PATENT-APPL-SN-364-566
			US-PATENT-CLASS-60-730				US-PATENT-APPL-SN-175452				US-PATENT-CLASS-73-178R
			US-PATENT-CLASS-62-DIG.5				US-PATENT-CLASS-428-260				US-PATENT-CLASS-73-510
			US-PATENT-4,273,304				US-PATENT-CLASS-428-367				US-PATENT-4,281,384
N81-26152*	c 08		NASA-CASE-LAR-12562-1				US-PATENT-CLASS-428-408		N81-29160*	c 23	NASA-CASE-LEW-13101-2
			US-PATENT-APPL-SN-015995				US-PATENT-CLASS-428-902				US-PATENT-APPL-SN-145271
			US-PATENT-CLASS-244-181				US-PATENT-CLASS-428-920				US-PATENT-APPL-SN-971473
			US-PATENT-CLASS-244-182				US-PATENT-CLASS-526-262				US-PATENT-CLASS-260-17.4UC
			US-PATENT-4,266,743				US-PATENT-CLASS-528-228				US-PATENT-CLASS-264-104
N81-26161*	c 14		NASA-CASE-LAR-12250-1		N81-27323*	c 31	US-PATENT-4,276,344				US-PATENT-CLASS-428-139
			US-PATENT-APPL-SN-910794				NASA-CASE-MSC-16217-1				US-PATENT-CLASS-429-249
			US-PATENT-CLASS-244-160				US-PATENT-APPL-SN-893383				US-PATENT-CLASS-429-253
			US-PATENT-CLASS-244-2				US-PATENT-CLASS-52-108				US-PATENT-CLASS-429-27
			US-PATENT-CLASS-244-63				US-PATENT-CLASS-52-745				US-PATENT-CLASS-429-28
			US-PATENT-4,265,416				US-PATENT-4,237,662				US-PATENT-CLASS-525-56
N81-26179*	c 24		NASA-CASE-LEW-12493-2		N81-27324*	c 31	NASA-CASE-LAR-12195-1				US-PATENT-CLASS-525-61
			US-PATENT-APPL-SN-122967				US-PATENT-APPL-SN-946991				US-PATENT-4,272,470
			US-PATENT-APPL-SN-893857				US-PATENT-CLASS-182-62.5		N81-29163*	c 24	NASA-CASE-MFS-23674-1
			US-PATENT-CLASS-228-118				US-PATENT-CLASS-212-267				US-PATENT-APPL-SN-912276
			US-PATENT-CLASS-228-190				US-PATENT-CLASS-52-111				US-PATENT-CLASS-156-161
			US-PATENT-4,211,354				US-PATENT-CLASS-52-632				US-PATENT-CLASS-156-165
			US-PATENT-4,267,953				US-PATENT-4,238,911				US-PATENT-CLASS-156-285
N81-26358*	c 33		NASA-CASE-LAR-12196-1		N81-27341*	c 32	NASA-CASE-GSC-12147-1				US-PATENT-CLASS-156-294
			US-PATENT-APPL-SN-017887				US-PATENT-APPL-SN-780873				US-PATENT-CLASS-156-74
			US-PATENT-CLASS-343-100PE				US-PATENT-CLASS-343-112R				US-PATENT-CLASS-264-229
			US-PATENT-4,264,908				US-PATENT-4,276,553				US-PATENT-CLASS-264-231
N81-26359*	c 33		NASA-CASE-KSC-11065-1		N81-27395*	c 33	NASA-CASE-MFS-23988-1				US-PATENT-CLASS-264-258
			US-PATENT-APPL-SN-051271				US-PATENT-APPL-SN-044431				US-PATENT-CLASS-264-259
			US-PATENT-CLASS-324-51				US-PATENT-CLASS-307-252UA				US-PATENT-CLASS-264-311
			US-PATENT-CLASS-324-73AT				US-PATENT-CLASS-318-799				US-PATENT-CLASS-74-572
			US-PATENT-CLASS-371-20				US-PATENT-CLASS-318-810				US-PATENT-4,190,626
			US-PATENT-CLASS-371-25				US-PATENT-4,266,177		N81-29229*	c 27	NASA-CASE-LAR-12642-1
			US-PATENT-4,267,594		N81-27396*	c 33	NASA-CASE-NPO-14426-1				US-PATENT-APPL-SN-092141
N81-26360*	c 33		NASA-CASE-GSC-12515-1				US-PATENT-APPL-SN-009889				US-PATENT-CLASS-264-137
			US-PATENT-APPL-SN-172727				US-PATENT-CLASS-307-352				US-PATENT-CLASS-428-473.5
			US-PATENT-CLASS-148-1.5				US-PATENT-CLASS-307-353				US-PATENT-CLASS-528-222
			US-PATENT-CLASS-148-187				US-PATENT-CLASS-328-151				US-PATENT-CLASS-528-229
			US-PATENT-CLASS-156-647				US-PATENT-4,262,258				US-PATENT-4,281,102
			US-PATENT-CLASS-156-648		N81-27397*	c 33	NASA-CASE-MSC-12745-1				NASA-CASE-NPO-14641-1
			US-PATENT-CLASS-156-649				US-PATENT-APPL-SN-746579		N81-29308*	c 32	US-PATENT-APPL-SN-076643
			US-PATENT-CLASS-29-571				US-PATENT-CLASS-179-78				US-PATENT-CLASS-343-100CL
			US-PATENT-CLASS-29-578				US-PATENT-CLASS-333-12				US-PATENT-CLASS-455-278
			US-PATENT-CLASS-29-580				US-PATENT-CLASS-361-56				US-PATENT-4,278,978
			US-PATENT-CLASS-357-23				US-PATENT-CLASS-361-91		N81-29342*	c 33	NASA-CASE-GSC-12111-2
			US-PATENT-CLASS-357-55				US-PATENT-4,264,940				US-PATENT-APPL-SN-678813
			US-PATENT-CLASS-357-60		N81-27519*	c 37	NASA-CASE-NPO-14521-1				US-PATENT-APPL-SN-830272
			US-PATENT-CLASS-357-91				US-PATENT-APPL-SN-023439				US-PATENT-CLASS-350-96.25
			US-PATENT-4,272,302				US-PATENT-CLASS-244-161				US-PATENT-CLASS-365-120
N81-26402*	c 34		NASA-CASE-KSC-11076-1				US-PATENT-CLASS-294-86R				US-PATENT-4,154,501
			US-PATENT-APPL-SN-051274				US-PATENT-CLASS-318-640		N81-29407*	c 35	NASA-CASE-LAR-12308-1
			US-PATENT-CLASS-364-510				US-PATENT-CLASS-356-152				US-PATENT-APPL-SN-111438
			US-PATENT-CLASS-364-571				US-PATENT-CLASS-414-730				US-PATENT-CLASS-73-683.31
			US-PATENT-CLASS-73-861				US-PATENT-4,260,187				US-PATENT-CLASS-73-684.52
			US-PATENT-4,253,156		N81-27615* #	c 44	NASA-CASE-LEW-13556-1				US-PATENT-4,274,285
			US-PATENT-4,101,121				US-PATENT-APPL-SN-272233		N81-29524*	c 44	NASA-CASE-LEW-13148-2
N81-26431*	c 35		NASA-CASE-FRC-10112-1				NASA-CASE-NPO-14402-1				US-PATENT-APPL-SN-061555
			US-PATENT-APPL-SN-122965		N81-27783*	c 52	US-PATENT-APPL-SN-855364				US-PATENT-APPL-SN-964754
			US-PATENT-CLASS-219-209				US-PATENT-CLASS-128-665				US-PATENT-CLASS-204-2.1
			US-PATENT-CLASS-219-210				US-PATENT-CLASS-356-406				US-PATENT-4,192,910
			US-PATENT-CLASS-219-510				US-PATENT-CLASS-356-407				US-PATENT-4,270,984
			US-PATENT-CLASS-236-1F				US-PATENT-CLASS-356-416		N81-29525*	c 44	NASA-CASE-NPO-13689-2
			US-PATENT-CLASS-361-334				US-PATENT-4,170,987				US-PATENT-APPL-SN-093714
			US-PATENT-CLASS-73-361		N81-27806*	c 54	NASA-CASE-LAR-12320-1				US-PATENT-APPL-SN-597430
			US-PATENT-4,264,802				US-PATENT-APPL-SN-043913				US-PATENT-APPL-SN-683073
N81-26447*	c 37		NASA-CASE-LEW-12119-2				US-PATENT-CLASS-434-59				US-PATENT-APPL-SN-837513
			US-PATENT-APPL-SN-102004				US-PATENT-4,264,310				US-PATENT-CLASS-136-255
			US-PATENT-APPL-SN-672219		N81-27814*	c 60	NASA-CASE-NPO-14554-1				US-PATENT-CLASS-136-258
			US-PATENT-CLASS-277-153				US-PATENT-APPL-SN-974473				US-PATENT-CLASS-136-262
			US-PATENT-CLASS-277-193				US-PATENT-CLASS-364-200				US-PATENT-CLASS-357-15
			US-PATENT-4,212,477				US-PATENT-CLASS-364-900				US-PATENT-CLASS-357-30
			US-PATENT-4,266,788				US-PATENT-CLASS-370-58				US-PATENT-4,278,830
N81-26509*	c 43		NASA-CASE-NPO-14140-1				US-PATENT-4,264,984		N81-29763*	c 52	NASA-CASE-ARC-11031-1
			NASA-CASE-NPO-14387-1				US-PATENT-APPL-SN-067596				US-PATENT-APPL-SN-897828
			US-PATENT-APPL-SN-897832		N81-28698*	c 51	US-PATENT-CLASS-204-1T				US-PATENT-CLASS-128-275
			US-PATENT-CLASS-134-17				US-PATENT-CLASS-204-195B				US-PATENT-CLASS-128-760
			US-PATENT-CLASS-166-222				US-PATENT-CLASS-435-291				US-PATENT-4,190,060
			US-PATENT-CLASS-166-77				US-PATENT-CLASS-435-34		N81-29764*	c 52	NASA-CASE-ARC-11118-1
			US-PATENT-CLASS-239-562				US-PATENT-CLASS-435-5				US-PATENT-APPL-SN-850504
			US-PATENT-CLASS-239-591				US-PATENT-4,264,728				US-PATENT-CLASS-424-247
			US-PATENT-CLASS-299-13				NASA-CASE-MSC-18381-1				US-PATENT-CLASS-424-267
			US-PATENT-CLASS-299-17		N81-28740*	c 52	US-PATENT-APPL-SN-034531				US-PATENT-CLASS-424-274
			US-PATENT-CLASS-299-20				US-PATENT-CLASS-128-295				US-PATENT-4,279,906
			US-PATENT-4,226,475				US-PATENT-CLASS-4,144.3		N81-29963*	c 74	NASA-CASE-NPO-14448-1
N81-26718*	c 54		NASA-CASE-MFS-23696-1				US-PATENT-4,270,539				US-PATENT-APPL-SN-037560
			US-PATENT-APPL-SN-945044				NASA-CASE-LEW-12990-1				US-PATENT-CLASS-356-345
			US-PATENT-CLASS-294-93				US-PATENT-APPL-SN-916654				US-PATENT-CLASS-356-346
			US-PATENT-CLASS-414-4				US-PATENT-CLASS-261-28				US-PATENT-4,278,351
			US-PATENT-CLASS-414-735				US-PATENT-CLASS-431-2		N81-32510*	c 37	NASA-CASE-MSC-16239-1
			US-PATENT-CLASS-414-744A				US-PATENT-CLASS-60-39.06				US-PATENT-APPL-SN-847276
			US-PATENT-4,273,505				US-PATENT-CLASS-60-726				US-PATENT-CLASS-91-325
N81-27271*	c 27		NASA-CASE-ARC-11176-2				US-PATENT-CLASS-60-737				US-PATENT-CLASS-91-341R
			US-PATENT-APPL-SN-129798				US-PATENT-4,189,914				US-PATENT-CLASS-91-410
			US-PATENT-CLASS-528-168				NASA-CASE-LAR-12052-1		N81-32829*	c 51	US-PATENT-4,283,995
			US-PATENT-CLASS-528-399								NASA-CASE-MFS-23825-1
			US-PATENT-CLASS-528-4		N81-29152*	c 18					



		US-PATENT-APPL-SN-145273			US-PATENT-CLASS-528-351			US-PATENT-CLASS-250-235
		US-PATENT-CLASS-119-17			US-PATENT-CLASS-528-353			US-PATENT-CLASS-250-236
		US-PATENT-CLASS-119-18			US-PATENT-4,284,461			US-PATENT-CLASS-358-109
N81-33235*	c 24	US-PATENT-4,284,034	N82-11336*	c 32	NASA-CASE-MSC-18606-1	N82-15381*	c 35	US-PATENT-4,300,159
		NASA-CASE-LAR-12065-2			US-PATENT-APPL-SN-145206			NASA-CASE-NPO-14839-1
		US-PATENT-APPL-SN-119337			US-PATENT-CLASS-343-700MS			US-PATENT-APPL-SN-106119
		US-PATENT-APPL-SN-889671			US-PATENT-CLASS-343-708			US-PATENT-CLASS-343-100PE
		US-PATENT-CLASS-156-242			US-PATENT-CLASS-343-727			US-PATENT-CLASS-455-137
		US-PATENT-CLASS-156-245			US-PATENT-CLASS-343-795			US-PATENT-CLASS-455-139
		US-PATENT-CLASS-156-252			US-PATENT-CLASS-343-846			US-PATENT-CLASS-455-60
		US-PATENT-CLASS-156-264			US-PATENT-4,287,518			US-PATENT-4,295,140
		US-PATENT-CLASS-156-285	N82-11357*	c 33	NASA-CASE-MSC-18106-1	N82-16059*	c 04	NASA-CASE-ARC-10990-1
		US-PATENT-CLASS-156-290			US-PATENT-APPL-SN-098568			US-PATENT-APPL-SN-749422
		US-PATENT-4,229,473			US-PATENT-CLASS-335-256			US-PATENT-CLASS-244-114R
		US-PATENT-4,274,901			US-PATENT-CLASS-335-266			US-PATENT-CLASS-340-26
N81-33246*	c 25	NASA-CASE-NPO-14272-1			US-PATENT-CLASS-361-141			US-PATENT-4,291,294
		US-PATENT-APPL-SN-878253			US-PATENT-4,295,111	N82-16075*	c 06	NASA-CASE-FRC-11005-1
		US-PATENT-CLASS-201-17	N82-11360* #	c 33	NASA-CASE-MFS-25586-1			US-PATENT-APPL-SN-043942
		US-PATENT-CLASS-44-1R			US-PATENT-APPL-SN-310714			US-PATENT-CLASS-340-27NA
		US-PATENT-CLASS-44-2	N82-11399* #	c 34	NASA-CASE-LEW-12950-1			US-PATENT-CLASS-73-178R
		US-PATENT-4,146,367			US-PATENT-APPL-SN-202228			US-PATENT-4,283,705
N81-33319*	c 31	NASA-CASE-NPO-14596-1	N82-11431*	c 35	NASA-CASE-LAR-12552-1	N82-16174*	c 23	NASA-CASE-ARC-11244-1
		US-PATENT-APPL-SN-037072			US-PATENT-APPL-SN-070366			US-PATENT-APPL-SN-054501
		US-PATENT-CLASS-264-24			US-PATENT-CLASS-235-92PC			US-PATENT-CLASS-260-340.9R
		US-PATENT-CLASS-264-5			US-PATENT-CLASS-324-71CP			US-PATENT-CLASS-568-445
		US-PATENT-CLASS-264-9			US-PATENT-4,286,209			US-PATENT-CLASS-568-497
		US-PATENT-CLASS-425-6	N82-11432*	c 35	NASA-CASE-MFS-23250-1			US-PATENT-4,277,402
		US-PATENT-CLASS-65-142			US-PATENT-APPL-SN-119340	N82-16238*	c 27	NASA-CASE-MSC-18382-1
		US-PATENT-CLASS-65-21.4			US-PATENT-CLASS-422-40			US-PATENT-APPL-SN-145107
		US-PATENT-CLASS-65-22			US-PATENT-CLASS-430-17			US-PATENT-CLASS-106-18.16
		US-PATENT-4,279,632			US-PATENT-CLASS-430-372			US-PATENT-CLASS-106-18.24
N81-33403*	c 33	NASA-CASE-GSC-12324-1			US-PATENT-4,287,152			US-PATENT-CLASS-260-45.7R
		US-PATENT-APPL-SN-945043	N82-11469* #	c 37	NASA-CASE-NPO-15539-1			US-PATENT-CLASS-427-393.3
		US-PATENT-CLASS-358-109			US-PATENT-APPL-SN-303670			US-PATENT-CLASS-428-263
		US-PATENT-CLASS-358-213	N82-11634*	c 45	NASA-CASE-NPO-13877-1			US-PATENT-CLASS-428-264
		US-PATENT-4,280,141			US-PATENT-APPL-SN-652979			US-PATENT-CLASS-428-265
N81-33404*	c 33	NASA-CASE-NPO-14316-1			US-PATENT-CLASS-210-40			US-PATENT-CLASS-428-267
		US-PATENT-APPL-SN-051276			US-PATENT-CLASS-252-422			US-PATENT-CLASS-428-272
		US-PATENT-CLASS-363-24			US-PATENT-4,209,393			US-PATENT-4,284,682
		US-PATENT-CLASS-363-56	N82-11770*	c 52	NASA-CASE-MSC-14836-1	N82-16340*	c 33	NASA-CASE-GSC-12420-1
		US-PATENT-4,276,588			US-PATENT-APPL-SN-691647			US-PATENT-APPL-SN-129793
N81-33405*	c 33	NASA-CASE-NPO-14435-1			US-PATENT-CLASS-128-327			US-PATENT-CLASS-333-104
		US-PATENT-APPL-SN-017886			US-PATENT-CLASS-128-686			US-PATENT-CLASS-333-246
		US-PATENT-CLASS-329-122			US-PATENT-CLASS-128-691			US-PATENT-4,302,734
		US-PATENT-CLASS-331-DIG.2			US-PATENT-4,294,261	N82-16396*	c 36	NASA-CASE-GSC-12321-1
		US-PATENT-CLASS-364-514	N82-12166*	c 25	NASA-CASE-MSC-16497-1			US-PATENT-APPL-SN-102001
		US-PATENT-CLASS-375-1			US-PATENT-APPL-SN-041145			US-PATENT-CLASS-356-349
		US-PATENT-4,279,018			US-PATENT-CLASS-204-1T			US-PATENT-CLASS-356-386
N81-33448*	c 35	NASA-CASE-NPO-14258-1			US-PATENT-CLASS-204-195S			US-PATENT-4,299,492
		US-PATENT-APPL-SN-853349			US-PATENT-CLASS-204-263	N82-16408*	c 37	NASA-CASE-MSC-18422-1
		US-PATENT-APPL-SN-972252			US-PATENT-CLASS-204-264			US-PATENT-APPL-SN-102593
		US-PATENT-CLASS-350-370			US-PATENT-CLASS-204-266			US-PATENT-CLASS-244-113
		US-PATENT-CLASS-356-350			US-PATENT-CLASS-204-275			US-PATENT-CLASS-244-163
		US-PATENT-CLASS-356-351			US-PATENT-CLASS-204-276			US-PATENT-CLASS-244-217
		US-PATENT-4,280,766			US-PATENT-CLASS-204-278			US-PATENT-CLASS-277-189
N81-33482*	c 37	NASA-CASE-NPO-15227-1			US-PATENT-CLASS-23-230PC			US-PATENT-CLASS-277-81R
		US-PATENT-APPL-SN-163840			US-PATENT-CLASS-23-232E			US-PATENT-CLASS-418-113
		US-PATENT-CLASS-118-50			US-PATENT-CLASS-422-80			US-PATENT-CLASS-418-142
		US-PATENT-CLASS-118-52			US-PATENT-4,293,522			US-PATENT-4,290,612
		US-PATENT-CLASS-269-21	N82-12297*	c 32	NASA-CASE-NPO-14054-1	N82-16474*	c 44	NASA-CASE-MFS-23775-1
		US-PATENT-CLASS-427-240			US-PATENT-APPL-SN-969761			US-PATENT-APPL-SN-098569
		US-PATENT-4,280,689			US-PATENT-CLASS-343-5CM			US-PATENT-CLASS-73-341
N81-33483*	c 37	NASA-CASE-FRC-11044-1			US-PATENT-4,292,634			US-PATENT-4,282,752
		US-PATENT-APPL-SN-135056	N82-12441*	c 37	NASA-CASE-MFS-25363-1	N82-16475*	c 44	NASA-CASE-NPO-15071-1
		US-PATENT-CLASS-318-663			US-PATENT-APPL-SN-171933			US-PATENT-APPL-SN-150115
		US-PATENT-CLASS-74-89			US-PATENT-CLASS-118-423			US-PATENT-CLASS-126-438
		US-PATENT-CLASS-92-130R			US-PATENT-CLASS-118-500			US-PATENT-CLASS-250-527
		US-PATENT-4,274,038			US-PATENT-CLASS-134-137			US-PATENT-CLASS-48-89
N82-11088*	c 09	NASA-CASE-LAR-12532-1			US-PATENT-4,286,542			US-PATENT-CLASS-48-99
		US-PATENT-APPL-SN-135040	N82-12442*	c 37	NASA-CASE-LEW-12989-1			US-PATENT-4,290,779
		US-PATENT-CLASS-73-147			US-PATENT-APPL-SN-092145	N82-16747*	c 60	NASA-CASE-GSC-12430-1
		US-PATENT-4,286,460			US-PATENT-CLASS-277-27			US-PATENT-APPL-SN-129779
N82-11144*	c 25	NASA-CASE-NPO-14273-1			US-PATENT-CLASS-277-40			US-PATENT-CLASS-370-100
		US-PATENT-APPL-SN-969759			US-PATENT-CLASS-277-93R			US-PATENT-CLASS-375-106
		US-PATENT-CLASS-110-234			US-PATENT-4,291,887			US-PATENT-CLASS-375-114
		US-PATENT-CLASS-110-245	N82-12685*	c 46	NASA-CASE-NPO-14544-1			US-PATENT-CLASS-375-116
		US-PATENT-CLASS-110-255			US-PATENT-APPL-SN-078612			US-PATENT-4,298,987
		US-PATENT-CLASS-110-266			US-PATENT-CLASS-343-100ME	N82-16800*	c 71	NASA-CASE-FRC-11062-1
		US-PATENT-CLASS-122-4D			US-PATENT-CLASS-343-100PE			US-PATENT-APPL-SN-185869
		US-PATENT-4,287,838			US-PATENT-CLASS-343-781P			US-PATENT-CLASS-181-214
N82-11206*	c 27	NASA-CASE-LAR-12640-1			US-PATENT-4,282,525			US-PATENT-4,300,656
		US-PATENT-APPL-SN-092142	N82-13376*	c 34	NASA-CASE-MFS-25139-1	N82-18314*	c 20	NASA-CASE-GSC-12194-2
		US-PATENT-CLASS-156-307.7			US-PATENT-APPL-SN-126138			US-PATENT-APPL-SN-819029
		US-PATENT-CLASS-156-307.3			US-PATENT-CLASS-239-499			US-PATENT-APPL-SN-971474
		US-PATENT-CLASS-156-307.5			US-PATENT-CLASS-239-589			US-PATENT-CLASS-60-200R
		US-PATENT-CLASS-156-331.5			US-PATENT-CLASS-239-601			US-PATENT-CLASS-60-39.46M
		US-PATENT-CLASS-528-126			US-PATENT-4,300,723			US-PATENT-4,288,982
		US-PATENT-CLASS-528-172	N82-13415*	c 36	NASA-CASE-LAR-12592-1	N82-18389*	c 27	NASA-CASE-ARC-11176-1
		US-PATENT-CLASS-528-173			US-PATENT-APPL-SN-041141			US-PATENT-APPL-SN-129799
		US-PATENT-CLASS-528-207			US-PATENT-CLASS-331-94.5C			US-PATENT-CLASS-528-168
		US-PATENT-CLASS-528-208			US-PATENT-CLASS-331-94.5D			US-PATENT-CLASS-528-399
		US-PATENT-CLASS-528-210			US-PATENT-CLASS-331-94.5P			US-PATENT-CLASS-528-4
		US-PATENT-CLASS-528-211			US-PATENT-4,300,106			US-PATENT-CLASS-528-7
		US-PATENT-CLASS-528-225	N82-13465*	c 43	NASA-CASE-GSC-12032-2			US-PATENT-CLASS-568-2
		US-PATENT-CLASS-528-228			US-PATENT-APPL-SN-578700			US-PATENT-CLASS-568-4
					US-PATENT-APPL-SN-583219			

		US-PATENT-CLASS-568-5 US-PATENT-4,288,585			US-PATENT-CLASS-244-190 US-PATENT-CLASS-318-580 US-PATENT-4,326,685			US-PATENT-CLASS-428-466 US-PATENT-CLASS-428-493 US-PATENT-4,327,150
N82-18401*	c 28	NASA-CASE-ARC-11245-1 US-PATENT-APPL-SN-088663 US-PATENT-CLASS-239-690 US-PATENT-CLASS-361-226 US-PATENT-CLASS-361-230 US-PATENT-4,303,961	N82-23254*	c 09	NASA-CASE-LAR-12441-1 US-PATENT-APPL-SN-145210 US-PATENT-CLASS-73-147 US-PATENT-4,327,581	N82-24415*	c 33	NASA-CASE-LEW-13282-1 US-PATENT-APPL-SN-073579 US-PATENT-CLASS-315-3-6 US-PATENT-CLASS-315-5-38 US-PATENT-4,277,721
N82-18443*	c 32	NASA-CASE-NPO-14632-1 US-PATENT-APPL-SN-092143 US-PATENT-CLASS-367-100 US-PATENT-CLASS-367-102 US-PATENT-CLASS-367-88 US-PATENT-4,287,578	N82-23282*	c 25	NASA-CASE-NPO-14542-1 US-PATENT-APPL-SN-030831 US-PATENT-CLASS-166-267 US-PATENT-CLASS-166-303 US-PATENT-CLASS-208-241 US-PATENT-4,310,049	N82-24416*	c 33	NASA-CASE-LAR-12633-1 US-PATENT-APPL-SN-135039 US-PATENT-CLASS-358-213 US-PATENT-4,279,001
N82-18493*	c 33	NASA-CASE-FRC-11041-1 US-PATENT-APPL-SN-126064 US-PATENT-CLASS-318-561 US-PATENT-CLASS-318-620 US-PATENT-CLASS-318-621 US-PATENT-CLASS-318-622 US-PATENT-4,298,833	N82-23376*	c 32	NASA-CASE-NPO-14361-1 US-PATENT-APPL-SN-053572 US-PATENT-CLASS-343-17.1PF US-PATENT-CLASS-343-5DP US-PATENT-CLASS-343-7.5 US-PATENT-CLASS-356-5 US-PATENT-CLASS-367-95 US-PATENT-4,320,397	N82-24417*	c 33	NASA-CASE-FRC-11025-1 US-PATENT-APPL-SN-115536 US-PATENT-CLASS-328-167 US-PATENT-CLASS-330-109 US-PATENT-CLASS-330-290 US-PATENT-CLASS-330-294 US-PATENT-CLASS-330-306 US-PATENT-CLASS-364-825 US-PATENT-4,275,453
N82-18494*	c 33	NASA-CASE-FRC-11014-1 US-PATENT-APPL-SN-053652 US-PATENT-CLASS-331-113R US-PATENT-CLASS-363-132 US-PATENT-CLASS-363-17 US-PATENT-CLASS-363-61 US-PATENT-4,298,926	N82-24072*	c 74	NASA-CASE-NPO-14813-1 US-PATENT-APPL-SN-145282 US-PATENT-CLASS-250-216 US-PATENT-CLASS-250-235 US-PATENT-4,320,290	N82-24418*	c 33	NASA-CASE-NPO-14556-1 US-PATENT-APPL-SN-023485 US-PATENT-CLASS-307-415 US-PATENT-CLASS-328-67 US-PATENT-CLASS-331-94.5G US-PATENT-CLASS-331-94.5PE US-PATENT-CLASS-333-20 US-PATENT-4,275,317
N82-18601*	c 37	NASA-CASE-LAR-12372-1 US-PATENT-APPL-SN-108107 US-PATENT-CLASS-188-371 US-PATENT-CLASS-244-110C US-PATENT-CLASS-280-805 US-PATENT-CLASS-57-906 US-PATENT-4,304,320	N82-24205*	c 08	NASA-CASE-LAR-12412-1 US-PATENT-APPL-SN-067595 US-PATENT-CLASS-244-213 US-PATENT-CLASS-244-226 US-PATENT-CLASS-244-78 US-PATENT-CLASS-74-479 US-PATENT-CLASS-74-480R US-PATENT-4,272,046	N82-24419*	c 33	NASA-CASE-GSC-12415-1 US-PATENT-APPL-SN-043943 US-PATENT-CLASS-165-32 US-PATENT-CLASS-62-383 US-PATENT-4,281,708
N82-18686*	c 44	NASA-CASE-MFS-25287-1 US-PATENT-APPL-SN-098570 US-PATENT-CLASS-126-422 US-PATENT-CLASS-126-429 US-PATENT-CLASS-126-430 US-PATENT-4,304,219	N82-24212*	c 09	NASA-CASE-ARC-11158-1 US-PATENT-APPL-SN-053566 US-PATENT-CLASS-434-42 US-PATENT-CLASS-434-43 US-PATENT-4,313,726	N82-24420*	c 33	NASA-CASE-ARC-11116-1 US-PATENT-APPL-SN-069485 US-PATENT-CLASS-324-51 US-PATENT-CLASS-324-52 US-PATENT-4,282,479
N82-19029*	c 74	NASA-CASE-NPO-15036-1 US-PATENT-APPL-SN-188160 US-PATENT-CLASS-455-610 US-PATENT-CLASS-455-612 US-PATENT-CLASS-455-615 US-PATENT-CLASS-455-617 US-PATENT-4,287,606	N82-24272*	c 15	NASA-CASE-ARC-11256-1 US-PATENT-APPL-SN-032305 US-PATENT-CLASS-102-504 US-PATENT-CLASS-242-128 US-PATENT-4,271,761	N82-24421*	c 33	NASA-CASE-GSC-12518-1 US-PATENT-APPL-SN-119336 US-PATENT-CLASS-310-12 US-PATENT-CLASS-318-135 US-PATENT-CLASS-335-229 US-PATENT-CLASS-335-266 US-PATENT-4,315,197
N82-19540*	c 37	NASA-CASE-LEW-12131-3 US-PATENT-APPL-SN-096255 US-PATENT-APPL-SN-801290 US-PATENT-APPL-SN-931090 US-PATENT-CLASS-415-174 US-PATENT-CLASS-415-196 US-PATENT-4,135,851 US-PATENT-4,207,024 US-PATENT-4,295,786	N82-24296*	c 24	NASA-CASE-FRC-11026-1 US-PATENT-APPL-SN-043944 US-PATENT-CLASS-228-157 US-PATENT-CLASS-244-119 US-PATENT-CLASS-244-123 US-PATENT-CLASS-428-593 US-PATENT-CLASS-428-594 US-PATENT-CLASS-428-604 US-PATENT-4,292,375	N82-24422*	c 33	NASA-CASE-GSC-12595-1 US-PATENT-APPL-SN-206506 US-PATENT-CLASS-336-120 US-PATENT-CLASS-336-83 US-PATENT-4,321,572
N82-21268*	c 25	NASA-CASE-LEW-12358-2 US-PATENT-APPL-SN-776146 US-PATENT-APPL-SN-848428 US-PATENT-CLASS-264-216 US-PATENT-CLASS-264-453 US-PATENT-CLASS-264-53 US-PATENT-CLASS-427-115 US-PATENT-CLASS-427-244 US-PATENT-CLASS-427-246 US-PATENT-4,133,941 US-PATENT-4,309,372	N82-24312*	c 25	NASA-CASE-ARC-11097-1 US-PATENT-APPL-SN-891872 US-PATENT-CLASS-260-386 US-PATENT-CLASS-260-389 US-PATENT-CLASS-528-402 US-PATENT-CLASS-570-123 US-PATENT-CLASS-570-129 US-PATENT-4,307,024	N82-24427* #	c 33	NASA-CASE-MSC-18407-1 US-PATENT-APPL-SN-293419
N82-21269*	c 25	NASA-CASE-XLA-08914-2 US-PATENT-APPL-SN-662181 US-PATENT-APPL-SN-810576 US-PATENT-CLASS-210-321.1 US-PATENT-CLASS-55-158 US-PATENT-4,302,223	N82-24338*	c 27	NASA-CASE-ARC-11253-2 US-PATENT-APPL-SN-028301 US-PATENT-APPL-SN-145284 US-PATENT-CLASS-528-310 US-PATENT-CLASS-528-328 US-PATENT-CLASS-528-362 US-PATENT-CLASS-528-401 US-PATENT-CLASS-528-422 US-PATENT-4,273,918	N82-24470*	c 35	NASA-CASE-LAR-12321-1 US-PATENT-APPL-SN-178195 US-PATENT-CLASS-29-613 US-PATENT-CLASS-338-25 US-PATENT-CLASS-338-275 US-PATENT-CLASS-338-28 US-PATENT-4,317,102
N82-21587*	c 37	NASA-CASE-NPO-14395-1 US-PATENT-APPL-SN-961833 US-PATENT-CLASS-104-83 US-PATENT-CLASS-105-1A US-PATENT-CLASS-105-171 US-PATENT-CLASS-105-180 US-PATENT-CLASS-105-218R US-PATENT-CLASS-248-425 US-PATENT-4,301,740	N82-24339*	c 27	NASA-CASE-ARC-11310-1 US-PATENT-APPL-SN-147700 US-PATENT-CLASS-102-289 US-PATENT-CLASS-244-121 US-PATENT-CLASS-244-158A US-PATENT-CLASS-244-160 US-PATENT-CLASS-428-192 US-PATENT-CLASS-428-193 US-PATENT-CLASS-428-241 US-PATENT-CLASS-428-242 US-PATENT-CLASS-428-245 US-PATENT-CLASS-428-251 US-PATENT-CLASS-428-257 US-PATENT-CLASS-428-260 US-PATENT-CLASS-428-266 US-PATENT-CLASS-428-447 US-PATENT-CLASS-428-448 US-PATENT-CLASS-428-49 US-PATENT-4,308,309	N82-24471*	c 35	NASA-CASE-GSC-12354-1 US-PATENT-APPL-SN-128229 US-PATENT-CLASS-250-385 US-PATENT-CLASS-250-386 US-PATENT-CLASS-250-389 US-PATENT-CLASS-29-25.14 US-PATENT-CLASS-313-348 US-PATENT-CLASS-313-93 US-PATENT-4,325,001
N82-22496* #	c 37	NASA-CASE-ARC-11325-1 US-PATENT-APPL-SN-354126	N82-24340*	c 27	NASA-CASE-MFS-25181-1 US-PATENT-APPL-SN-218585 US-PATENT-CLASS-156-315 US-PATENT-CLASS-156-338 US-PATENT-CLASS-428-332 US-PATENT-CLASS-428-339 US-PATENT-CLASS-428-462	N82-24490*	c 37	NASA-CASE-LAR-12315-1 US-PATENT-APPL-SN-096257 US-PATENT-CLASS-220-378 US-PATENT-CLASS-277-1 US-PATENT-CLASS-277-105 US-PATENT-CLASS-277-2 US-PATENT-CLASS-277-204 US-PATENT-CLASS-277-204 US-PATENT-CLASS-277-59 US-PATENT-CLASS-277-72R US-PATENT-CLASS-285-37 US-PATENT-4,309,039
N82-22875*	c 52	NASA-CASE-GSC-12081-2 US-PATENT-APPL-SN-672209 US-PATENT-APPL-SN-796258 US-PATENT-CLASS-128-1.2 US-PATENT-CLASS-128-778 US-PATENT-CLASS-33-143C US-PATENT-4,294,264				N82-24491*	c 37	NASA-CASE-MSC-18430-1 US-PATENT-APPL-SN-113015 US-PATENT-CLASS-156-84 US-PATENT-CLASS-156-85 US-PATENT-CLASS-156-86 US-PATENT-CLASS-264-230 US-PATENT-CLASS-264-342R US-PATENT-4,269,640
N82-23231*	c 04	NASA-CASE-FRC-11052-1 US-PATENT-APPL-SN-129783 US-PATENT-CLASS-244-168 US-PATENT-CLASS-244-175				N82-24492*	c 37	NASA-CASE-ARC-11110-1 US-PATENT-APPL-SN-945040 US-PATENT-CLASS-118-320 US-PATENT-CLASS-118-500 US-PATENT-CLASS-118-503 US-PATENT-CLASS-118-505 US-PATENT-CLASS-427-425

N82-24493*	c 37	US-PATENT-4,312,292	N82-26571*	c 33	US-PATENT-CLASS-340-347DD	N82-28442*	c 27	US-PATENT-APPL-SN-161254
		NASA-CASE-NPO-15115-1			US-PATENT-4,313,103			US-PATENT-CLASS-427-205
		US-PATENT-APPL-SN-154725			NASA-CASE-LAR-12595-1			US-PATENT-CLASS-427-253
		US-PATENT-CLASS-74-18.1			US-PATENT-APPL-SN-070774			US-PATENT-CLASS-427-405
		US-PATENT-CLASS-74-18.2			US-PATENT-CLASS-156-157			US-PATENT-CLASS-428-938
N82-24494*	c 37	US-PATENT-CLASS-92-37	N82-26572*	c 33	US-PATENT-CLASS-156-272	N82-28545*	c 33	US-PATENT-CLASS-428-941
		US-PATENT-4,311,057			US-PATENT-CLASS-156-379.7			US-PATENT-4,310,574
		NASA-CASE-MSC-18526-1			US-PATENT-CLASS-156-71			NASA-CASE-NPO-14845-1
		US-PATENT-APPL-SN-119335			US-PATENT-CLASS-219-10.41			US-PATENT-APPL-SN-219680
		US-PATENT-CLASS-285-159			US-PATENT-CLASS-219-10.53			US-PATENT-CLASS-264-5
N82-24639*	c 44	US-PATENT-CLASS-285-401	N82-26628*	c 35	US-PATENT-CLASS-219-545	N82-28604*	c 35	US-PATENT-CLASS-425-6
		US-PATENT-CLASS-285-89			US-PATENT-CLASS-428-247			US-PATENT-CLASS-65-142
		US-PATENT-CLASS-403-315			US-PATENT-4,313,777			US-PATENT-CLASS-65-21.4
		US-PATENT-4,320,911			NASA-CASE-LAR-12465-1			US-PATENT-CLASS-65-22
		NASA-CASE-MFS-23830-1			US-PATENT-APPL-SN-106136			US-PATENT-4,313,745
N82-24640*	c 44	US-PATENT-APPL-SN-129780	N82-26672*	c 37	US-PATENT-CLASS-361-283	N82-28604*	c 35	NASA-CASE-MFS-23776-1
		US-PATENT-CLASS-415-DIG.8			US-PATENT-CLASS-367-181			US-PATENT-APPL-SN-145272
		US-PATENT-CLASS-415-2R			US-PATENT-CLASS-73-724			US-PATENT-CLASS-250-214
		US-PATENT-4,309,146			US-PATENT-4,310,906			US-PATENT-CLASS-250-221
		NASA-CASE-LAR-12148-1			NASA-CASE-LAR-12474-1			US-PATENT-4,319,133
N82-24641*	c 44	US-PATENT-APPL-SN-051275	N82-26673* #	c 37	US-PATENT-APPL-SN-171934	N82-28780*	c 44	NASA-CASE-LAR-12709-1
		US-PATENT-CLASS-60-516			US-PATENT-CLASS-352-171			US-PATENT-APPL-SN-235796
		US-PATENT-CLASS-60-641.14			US-PATENT-CLASS-354-217			US-PATENT-CLASS-204-1958
		US-PATENT-4,326,381			US-PATENT-CLASS-354-289			US-PATENT-CLASS-435-291
		NASA-CASE-GSC-10019-1			US-PATENT-4,311,378			US-PATENT-CLASS-435-34
N82-24642*	c 44	US-PATENT-APPL-SN-680048	N82-26674* #	c 37	US-PATENT-APPL-SN-359627	N82-28780*	c 44	US-PATENT-CLASS-435-39
		US-PATENT-CLASS-136-6			NASA-CASE-MSC-18538-1			US-PATENT-4,335,206
		US-PATENT-3,498,841			US-PATENT-APPL-SN-138944			NASA-CASE-NPO-14782-1
		NASA-CASE-GSC-10350-1			US-PATENT-CLASS-30-102			US-PATENT-APPL-SN-119339
		US-PATENT-APPL-SN-679980			US-PATENT-CLASS-30-102			US-PATENT-CLASS-330-4.3
N82-24643*	c 44	US-PATENT-CLASS-136-6	N82-26776*	c 44	US-PATENT-4,305,205	N82-29002*	c 54	US-PATENT-CLASS-372-56
		US-PATENT-3,498,840			NASA-CASE-MSC-18742-1			US-PATENT-CLASS-372-58
		NASA-CASE-GSC-10017-1			US-PATENT-APPL-SN-293417			US-PATENT-CLASS-372-82
		US-PATENT-APPL-SN-679996			NASA-CASE-LEW-13268-2			US-PATENT-4,328,464
		US-PATENT-CLASS-136-6			US-PATENT-APPL-SN-325931			NASA-CASE-NPO-13689-4
N82-24644*	c 44	US-PATENT-3,519,484	N82-26777*	c 44	US-PATENT-APPL-SN-15183-1	N82-29002*	c 54	US-PATENT-APPL-SN-225501
		NASA-CASE-GSC-10018-1			US-PATENT-APPL-SN-173519			US-PATENT-APPL-SN-597430
		US-PATENT-APPL-SN-679987			US-PATENT-CLASS-62-148			US-PATENT-APPL-SN-683073
		US-PATENT-CLASS-136-6			US-PATENT-CLASS-62-235.1			US-PATENT-APPL-SN-837513
		US-PATENT-3,519,483			US-PATENT-CLASS-62-238.3			US-PATENT-APPL-SN-93714
N82-24645*	c 44	NASA-CASE-GSC-10349-1	N82-26778*	c 44	US-PATENT-CLASS-62-239	N82-29013*	c 60	US-PATENT-CLASS-148-175
		US-PATENT-APPL-SN-658999			US-PATENT-CLASS-62-244			US-PATENT-CLASS-29-572
		US-PATENT-CLASS-136-148			US-PATENT-CLASS-62-476			US-PATENT-CLASS-427-531
		US-PATENT-3,506,496			US-PATENT-4,307,575			US-PATENT-CLASS-427-74
		NASA-CASE-KSC-11099-1			NASA-CASE-NPO-15179-1			US-PATENT-4,278,830
N82-24779*	c 47	US-PATENT-APPL-SN-043945	N82-26777*	c 44	US-PATENT-APPL-SN-185867	N82-29002*	c 54	US-PATENT-4,321,099
		US-PATENT-CLASS-324-72			US-PATENT-CLASS-136-261			NASA-CASE-XMS-03694-1
		US-PATENT-CLASS-324-77R			US-PATENT-CLASS-136-290			US-PATENT-APPL-SN-394280
		US-PATENT-4,272,720			US-PATENT-CLASS-148-1.5			US-PATENT-CLASS-165-46
		NASA-CASE-FRC-11042-1			US-PATENT-CLASS-219-121LN			US-PATENT-3,295,594
N82-24839*	c 60	US-PATENT-APPL-SN-129778	N82-26987*	c 54	US-PATENT-CLASS-357-30	N82-29013*	c 60	NASA-CASE-MSC-18498-1
		US-PATENT-CLASS-254-131			US-PATENT-CLASS-357-63			US-PATENT-APPL-SN-173518
		US-PATENT-CLASS-29-267			US-PATENT-4,311,870			US-PATENT-CLASS-244-194
		US-PATENT-CLASS-29-764			NASA-CASE-ARC-11314-1			US-PATENT-CLASS-318-564
		US-PATENT-4,307,510			US-PATENT-APPL-SN-168943			US-PATENT-CLASS-371-68
N82-25484* #	c 35	NASA-CASE-NPO-15494-1	N82-27086* #	c 71	US-PATENT-CLASS-73-862.08	N82-29330*	c 09	US-PATENT-4,327,437
		US-PATENT-APPL-SN-325885			US-PATENT-4,311,055			NASA-CASE-KSC-11042-1
		NASA-CASE-FRC-11007-2			NASA-CASE-NPO-15562-1			US-PATENT-APPL-SN-154663
		US-PATENT-APPL-SN-043911			US-PATENT-APPL-SN-364097			US-PATENT-APPL-SN-862878
		US-PATENT-CLASS-244.12.2			NASA-CASE-MSC-18532-1			US-PATENT-CLASS-53-429
N82-26277*	c 05	US-PATENT-CLASS-244-23C	N82-27558*	c 32	US-PATENT-APPL-SN-172099	N82-29358*	c 23	US-PATENT-CLASS-8-150
		US-PATENT-CLASS-244-34A			US-PATENT-CLASS-343-789			US-PATENT-4,244,810
		US-PATENT-CLASS-244-93			US-PATENT-CLASS-343-895			US-PATENT-4,313,291
		US-PATENT-4,307,856			US-PATENT-4,315,266			NASA-CASE-LAR-10423-1
		NASA-CASE-LEW-13199-1			NASA-CASE-LAR-12175-1			US-PATENT-APPL-SN-877445
N82-26293*	c 07	US-PATENT-APPL-SN-025301	N82-28279*	c 05	US-PATENT-APPL-SN-079913	N82-29362*	c 24	US-PATENT-CLASS-260-65
		US-PATENT-CLASS-244-110B			US-PATENT-CLASS-244-48			US-PATENT-3,657,190
		US-PATENT-CLASS-60-226A			US-PATENT-4,330,100			NASA-CASE-MSC-18223-1
		US-PATENT-4,278,220			NASA-CASE-ARC-11267-2			US-PATENT-APPL-SN-219681
		NASA-CASE-LAR-11688-1			US-PATENT-APPL-SN-163838			US-PATENT-CLASS-128-280
N82-26384*	c 24	US-PATENT-APPL-SN-878540	N82-28353*	c 23	US-PATENT-CLASS-528-401	N82-29370*	c 25	US-PATENT-CLASS-128-283
		US-PATENT-CLASS-244-119			US-PATENT-CLASS-528-422			US-PATENT-CLASS-128-284
		US-PATENT-CLASS-244-123			US-PATENT-CLASS-547-131			US-PATENT-CLASS-128-285
		US-PATENT-CLASS-244-132			US-PATENT-CLASS-564-229			US-PATENT-CLASS-128-288
		US-PATENT-4,310,132			US-PATENT-4,316,035			US-PATENT-CLASS-128-291
N82-26387* #	c 24	NASA-CASE-MSC-18934-3	N82-28368*	c 25	NASA-CASE-NPO-15015-1	N82-29370*	c 25	US-PATENT-CLASS-128-296
		US-PATENT-APPL-SN-361711			US-PATENT-APPL-SN-145207			US-PATENT-CLASS-128-298
		NASA-CASE-LAR-12705-1			US-PATENT-CLASS-203-12			US-PATENT-CLASS-428-284
		US-PATENT-APPL-SN-135058			US-PATENT-CLASS-422-186			US-PATENT-CLASS-428-286
		US-PATENT-CLASS-252-514			US-PATENT-CLASS-422-198			US-PATENT-CLASS-428-287
N82-26568*	c 33	US-PATENT-4,311,615	N82-28440*	c 27	US-PATENT-CLASS-423-235	N82-29370*	c 25	US-PATENT-CLASS-428-288
		NASA-CASE-LEW-12296-1			US-PATENT-CLASS-423-539			US-PATENT-4,338,371
		US-PATENT-APPL-SN-122966			US-PATENT-CLASS-423-540			NASA-CASE-XGS-05584-1
		US-PATENT-CLASS-315-3.5			US-PATENT-CLASS-423-542			NASA-CASE-XGS-07375-1
		US-PATENT-CLASS-315-3.6			US-PATENT-CLASS-423-579			NASA-CASE-XGS-07397-1
N82-26569*	c 33	US-PATENT-CLASS-330-43	N82-28441*	c 27	US-PATENT-CLASS-423-648R	N82-29371*	c 25	US-PATENT-APPL-SN-446071
		US-PATENT-4,315,194			US-PATENT-4,314,984			US-PATENT-CLASS-106-197
		NASA-CASE-MFS-23828-1			NASA-CASE-LEW-13120-1			US-PATENT-3,442,674
		US-PATENT-APPL-SN-111436			US-PATENT-APPL-SN-218587			NASA-CASE-NPO-14902-1
		US-PATENT-CLASS-318-254			US-PATENT-CLASS-204-192E			US-PATENT-APPL-SN-156790
N82-26570*	c 33	US-PATENT-CLASS-318-806	N82-28441*	c 27	US-PATENT-CLASS-204-192EC	N82-29415*	c 26	US-PATENT-CLASS-201-17
		US-PATENT-CLASS-318-812			US-PATENT-CLASS-264-22			US-PATENT-CLASS-44-1SR
		US-PATENT-CLASS-318-830			US-PATENT-CLASS-264-220			US-PATENT-4,325,707
		US-PATENT-4,313,077			US-PATENT-CLASS-428-141			NASA-CASE-LEW-13169-1
		NASA-CASE-LAR-12659-1			US-PATENT-4,329,385			US-PATENT-APPL-SN-102003
N82-26570*	c 33	US-PATENT-APPL-SN-171928	N82-28441*	c 27	NASA-CASE-LEW-13343-1	N82-29415*	c 26	US-PATENT-CLASS-204-192C
		NASA-CASE-LAR-12659-1			NASA-CASE-LEW-13343-1			US-PATENT-APPL-SN-102003
		US-PATENT-APPL-SN-171928			NASA-CASE-LEW-13343-1			US-PATENT-CLASS-204-192C
		NASA-CASE-LAR-12659-1			NASA-CASE-LEW-13343-1			US-PATENT-CLASS-204-192C
		US-PATENT-APPL-SN-171928			NASA-CASE-LEW-13343-1			US-PATENT-CLASS-204-192C

N82-29451*	c 27	US-PATENT-4,336,117 NASA-CASE-HQN-10274-1 US-PATENT-APPL-SN-683465 US-PATENT-CLASS-106-52 US-PATENT-CLASS-3,573,078	N82-29863*	c 52	NASA-CASE-GSC-12560-1 US-PATENT-APPL-SN-153246 US-PATENT-CLASS-128-421 US-PATENT-CLASS-308,868	N82-32732*	c 37	NASA-CASE-LAR-12482-1 US-PATENT-APPL-SN-100611 US-PATENT-CLASS-403-217 US-PATENT-CLASS-403-317 US-PATENT-CLASS-403-331 US-PATENT-CLASS-403-340 US-PATENT-CLASS-52-81 US-PATENT-CLASS-4,340,318
N82-29452*	c 27	NASA-CASE-HQN-10931-2 US-PATENT-APPL-SN-246295 US-PATENT-APPL-SN-874674 US-PATENT-CLASS-106-50 US-PATENT-CLASS-106-52 US-PATENT-CLASS-106-54 US-PATENT-CLASS-3,785,836	N82-30071*	c 74	NASA-CASE-MSC-18627-1 US-PATENT-APPL-SN-186881 US-PATENT-CLASS-250-226 US-PATENT-CLASS-250-231R US-PATENT-CLASS-374-162R US-PATENT-CLASS-4,338,516	N82-32841*	c 44	NASA-CASE-LAR-12513-1 US-PATENT-APPL-SN-161256 US-PATENT-CLASS-250-330 US-PATENT-CLASS-250-370 US-PATENT-CLASS-4,331,873
N82-29453*	c 27	NASA-CASE-LEW-13268-1 US-PATENT-APPL-SN-145209 US-PATENT-CLASS-415-174 US-PATENT-CLASS-427-34 US-PATENT-CLASS-427-423 US-PATENT-CLASS-4,336,276	N82-30105*	c 76	NASA-CASE-NPO-14831-1 US-PATENT-APPL-SN-233269 US-PATENT-CLASS-156-602 US-PATENT-CLASS-156-608 US-PATENT-CLASS-422-246 US-PATENT-CLASS-4,330,359	N82-33288*	c 85	NASA-CASE-FRC-11058-1 US-PATENT-APPL-SN-175453 US-PATENT-CLASS-105-2R US-PATENT-CLASS-244-53B US-PATENT-CLASS-296-1S US-PATENT-CLASS-296-24C US-PATENT-CLASS-296-91 US-PATENT-CLASS-4,343,506
N82-29454*	c 27	NASA-CASE-HQN-10328-2 US-PATENT-APPL-SN-246294 US-PATENT-APPL-SN-874673 US-PATENT-CLASS-106-50 US-PATENT-CLASS-106-52 US-PATENT-CLASS-106-54 US-PATENT-CLASS-3,811,901	N82-30371*	c 26	NASA-CASE-LEW-13169-2 US-PATENT-APPL-SN-102003 US-PATENT-APPL-SN-191746 US-PATENT-CLASS-204-192C US-PATENT-CLASS-428-457 US-PATENT-CLASS-428-472 US-PATENT-CLASS-4,341,843	N82-33520*	c 27	NASA-CASE-KSC-11097-1 US-PATENT-APPL-SN-172100 US-PATENT-CLASS-427-140 US-PATENT-CLASS-427-372.2 US-PATENT-CLASS-427-397.7 US-PATENT-CLASS-4,330,572
N82-29455*	c 27	NASA-CASE-HQN-10595-1 US-PATENT-APPL-SN-259056 US-PATENT-APPL-SN-874675 US-PATENT-CLASS-106-50 US-PATENT-CLASS-106-52 US-PATENT-CLASS-3,947,281	N82-31505*	c 26	NASA-CASE-LEW-13339-1 US-PATENT-APPL-SN-199769 US-PATENT-CLASS-148-428 US-PATENT-CLASS-420-445 US-PATENT-CLASS-420-551 US-PATENT-CLASS-420-588 US-PATENT-CLASS-4,340,425	N82-33521*	c 27	NASA-CASE-LEW-13028-1 US-PATENT-APPL-SN-218588 US-PATENT-CLASS-204-192E US-PATENT-CLASS-204-192EC US-PATENT-CLASS-204-38B US-PATENT-CLASS-428-141 US-PATENT-CLASS-4,344,996
N82-29456*	c 27	NASA-CASE-MSC-18741-1 US-PATENT-APPL-SN-217336 US-PATENT-CLASS-156-329 US-PATENT-CLASS-244-121 US-PATENT-CLASS-244-158A US-PATENT-CLASS-244-160 US-PATENT-CLASS-244-163 US-PATENT-CLASS-428-212 US-PATENT-CLASS-428-218 US-PATENT-CLASS-428-283 US-PATENT-CLASS-428-289 US-PATENT-CLASS-428-307.7 US-PATENT-CLASS-428-311.5 US-PATENT-CLASS-428-312.6 US-PATENT-CLASS-428-317.9 US-PATENT-CLASS-428-325 US-PATENT-CLASS-428-446 US-PATENT-CLASS-428-49 US-PATENT-CLASS-4,338,368	N82-31583*	c 32	NASA-CASE-MSC-16462-1 US-PATENT-APPL-SN-900841 US-PATENT-CLASS-178-22.16 US-PATENT-CLASS-178-22.17 US-PATENT-CLASS-364-717 US-PATENT-CLASS-375-106 US-PATENT-CLASS-4,341,925	N82-33523* #	c 27	NASA-CASE-ARC-14408-1 US-PATENT-APPL-SN-403371 US-PATENT-CLASS-156-701 US-PATENT-APPL-SN-409679 US-PATENT-CLASS-14549-2 US-PATENT-APPL-SN-149526 US-PATENT-APPL-SN-918705 US-PATENT-CLASS-128-422 US-PATENT-CLASS-128-784 US-PATENT-CLASS-128-804 US-PATENT-CLASS-4,346,715
N82-29538*	c 33	NASA-CASE-NPO-15066-1 US-PATENT-APPL-SN-191744 US-PATENT-CLASS-179-18GF US-PATENT-CLASS-340-825.89 US-PATENT-CLASS-370-67 US-PATENT-CLASS-4,331,956	N82-31659*	c 35	NASA-CASE-LAR-12363-1 US-PATENT-APPL-SN-191748 US-PATENT-CLASS-250-332 US-PATENT-CLASS-250-370 US-PATENT-CLASS-29-576J US-PATENT-CLASS-29-576S US-PATENT-CLASS-29-620 US-PATENT-CLASS-4,341,012	N82-33634* #	c 33	NASA-CASE-MFS-15670-1 US-PATENT-APPL-SN-409679 US-PATENT-CLASS-14549-2 US-PATENT-APPL-SN-149526 US-PATENT-APPL-SN-918705 US-PATENT-CLASS-128-422 US-PATENT-CLASS-128-784 US-PATENT-CLASS-128-804 US-PATENT-CLASS-4,346,715
N82-29539*	c 33	NASA-CASE-NPO-14311-1 US-PATENT-APPL-SN-969762 US-PATENT-CLASS-328-166 US-PATENT-CLASS-455-202 US-PATENT-CLASS-455-208 US-PATENT-CLASS-455-234 US-PATENT-CLASS-455-306 US-PATENT-CLASS-4,336,616	N82-31690* #	c 37	NASA-CASE-MSC-20304-1 US-PATENT-APPL-SN-393585 US-PATENT-CLASS-13400-1 US-PATENT-APPL-SN-219677 US-PATENT-CLASS-136-249 US-PATENT-CLASS-357-30 US-PATENT-CLASS-4,341,918	N82-33996*	c 52	NASA-CASE-NPO-14549-2 US-PATENT-APPL-SN-149526 US-PATENT-APPL-SN-918705 US-PATENT-CLASS-128-422 US-PATENT-CLASS-128-784 US-PATENT-CLASS-128-804 US-PATENT-CLASS-4,346,715
N82-29589*	c 36	NASA-CASE-NPO-15111-1 US-PATENT-APPL-SN-150040 US-PATENT-CLASS-350-358 US-PATENT-CLASS-4,332,441	N82-31764*	c 44	NASA-CASE-LEW-13400-1 US-PATENT-APPL-SN-219677 US-PATENT-CLASS-136-249 US-PATENT-CLASS-357-30 US-PATENT-CLASS-4,341,918	N83-10040*	c 06	NASA-CASE-NPO-15351-1 US-PATENT-APPL-SN-224231 US-PATENT-CLASS-343-100ME US-PATENT-CLASS-374-122 US-PATENT-CLASS-374-123 US-PATENT-CLASS-73-170R US-PATENT-CLASS-73-178R US-PATENT-CLASS-4,346,595
N82-29708*	c 44	NASA-CASE-LEW-13171-1 US-PATENT-APPL-SN-238790 US-PATENT-CLASS-429-144 US-PATENT-CLASS-429-251 US-PATENT-CLASS-429-254 US-PATENT-CLASS-4,331,746	N82-32366*	c 07	NASA-CASE-LEW-12938-1 US-PATENT-APPL-SN-060449 US-PATENT-CLASS-415-145 US-PATENT-CLASS-415-178 US-PATENT-CLASS-60-39.07 US-PATENT-CLASS-60-39.29 US-PATENT-CLASS-60-726 US-PATENT-CLASS-4,329,114	N83-10117*	c 24	NASA-CASE-LEW-12919-1 US-PATENT-APPL-SN-264378 US-PATENT-CLASS-204-192E US-PATENT-CLASS-313-106 US-PATENT-CLASS-313-107 US-PATENT-CLASS-315-5.38 US-PATENT-CLASS-4,349,424
N82-29709*	c 44	NASA-CASE-LEW-13401-1 US-PATENT-APPL-SN-219678 US-PATENT-CLASS-136-249 US-PATENT-CLASS-148-1.5 US-PATENT-CLASS-29-572 US-PATENT-CLASS-357-30 US-PATENT-CLASS-4,335,503	N82-32373*	c 08	NASA-CASE-LAR-12468-1 US-PATENT-APPL-SN-135057 US-PATENT-CLASS-244-118.1 US-PATENT-CLASS-244-137R US-PATENT-CLASS-89-1.5G US-PATENT-CLASS-4,343,447	N83-10126*	c 25	NASA-CASE-MFS-25426-1 US-PATENT-APPL-SN-254575 US-PATENT-CLASS-204-299R US-PATENT-CLASS-4,349,429
N82-29710*	c 44	NASA-CASE-NPO-15269-1 US-PATENT-APPL-SN-220214 US-PATENT-CLASS-204-290F US-PATENT-CLASS-204-290R US-PATENT-CLASS-429-193 US-PATENT-CLASS-429-233 US-PATENT-CLASS-429-40 US-PATENT-CLASS-4,331,742	N82-32417*	c 24	NASA-CASE-LAR-12620-1 US-PATENT-APPL-SN-072857 US-PATENT-CLASS-244-132 US-PATENT-CLASS-244-158A US-PATENT-CLASS-428-594 US-PATENT-CLASS-428-604 US-PATENT-CLASS-428-607 US-PATENT-CLASS-428-608 US-PATENT-CLASS-4,344,591	N83-10170*	c 26	NASA-CASE-LEW-12941-1 US-PATENT-APPL-SN-210632 US-PATENT-CLASS-29-458 US-PATENT-CLASS-29-521 US-PATENT-CLASS-403-282 US-PATENT-CLASS-4,349,954
N82-29862*	c 52	NASA-CASE-LAR-12471-1 US-PATENT-APPL-SN-178193 US-PATENT-CLASS-128-62A US-PATENT-CLASS-433-118 US-PATENT-CLASS-433-125 US-PATENT-CLASS-433-86 US-PATENT-CLASS-4,331,422	N82-32659*	c 35	NASA-CASE-GSC-12587-1 US-PATENT-APPL-SN-173524 US-PATENT-CLASS-250-369 US-PATENT-CLASS-4,345,153	N83-10345*	c 33	NASA-CASE-MFS-25208-1 US-PATENT-APPL-SN-280154 US-PATENT-CLASS-318-803 US-PATENT-CLASS-363-87 US-PATENT-CLASS-4,351,022
			N82-32712*	c 36	NASA-CASE-LAR-12328-1 US-PATENT-APPL-SN-073477 US-PATENT-CLASS-350-453 US-PATENT-CLASS-356-28.5 US-PATENT-CLASS-4,346,990	N83-10417*	c 36	NASA-CASE-NPO-15021-1 US-PATENT-APPL-SN-130496 US-PATENT-CLASS-372-56 US-PATENT-CLASS-372-59 US-PATENT-CLASS-372-60 US-PATENT-CLASS-4,347,613
			N82-32730*	c 37	NASA-CASE-GSC-12584-1 US-PATENT-APPL-SN-182879 US-PATENT-CLASS-125-23R US-PATENT-CLASS-225-103 US-PATENT-CLASS-4,343,287	N83-10494*	c 44	NASA-CASE-LEW-13131-1 US-PATENT-APPL-SN-246772 US-PATENT-CLASS-204-56R US-PATENT-CLASS-4,350,574
			N82-32731*	c 37	NASA-CASE-MFS-23846-1 US-PATENT-APPL-SN-168944 US-PATENT-CLASS-294-116 US-PATENT-CLASS-414-222 US-PATENT-CLASS-414-226 US-PATENT-CLASS-414-739 US-PATENT-CLASS-4,343,584	N83-10501*	c 44	NASA-CASE-NPO-14369-1 US-PATENT-APPL-SN-126063 US-PATENT-CLASS-422-200 US-PATENT-CLASS-422-202 US-PATENT-CLASS-422-224 US-PATENT-CLASS-55-204 US-PATENT-CLASS-4,343,772
						N83-10900*	c 74	NASA-CASE-GSC-12608-1 US-PATENT-APPL-SN-195228 US-PATENT-CLASS-350-170 US-PATENT-CLASS-350-286

N83-13171*	c 24	US-PATENT-4,350,410	N83-18975*	c 32	US-PATENT-CLASS-428-920	N83-20996*	c 18	US-PATENT-CLASS-343-DIG
		NASA-CASE-MSC-18737-1			US-PATENT-4,373,003			US-PATENT-4,377,266
		US-PATENT-APPL-SN-266256			NASA-CASE-NPO-14998-1			NASA-CASE-LEW-13269-9
		US-PATENT-CLASS-427-379			US-PATENT-APPL-SN-195547			US-PATENT-APPL-SN-242795
		US-PATENT-CLASS-427-384			US-PATENT-CLASS-250-203R			US-PATENT-CLASS-415-174
N83-13172*	c 24	US-PATENT-CLASS-427-387	N83-18996*	c 33	US-PATENT-CLASS-343-100CL	N83-21311*	c 35	US-PATENT-CLASS-415-197
		US-PATENT-CLASS-428-218			US-PATENT-CLASS-343-5CM			US-PATENT-4,377,371
		US-PATENT-4,358,486			US-PATENT-CLASS-364-821			NASA-CASE-LAR-12469-1
		NASA-CASE-MSC-18736-1			US-PATENT-CLASS-364-861			US-PATENT-APPL-SN-195223
		US-PATENT-APPL-SN-266254			US-PATENT-4,371,946			US-PATENT-CLASS-250-336
N83-13187*	c 25	US-PATENT-CLASS-244-158A	N83-19015*	c 34	US-PATENT-4,371,946	N83-21312*	c 35	US-PATENT-CLASS-250-372
		US-PATENT-CLASS-427-140			NASA-CASE-NPO-14567-1			US-PATENT-CLASS-250-474.1
		US-PATENT-CLASS-427-140			US-PATENT-APPL-SN-038550			US-PATENT-CLASS-356-51
		US-PATENT-CLASS-427-292			US-PATENT-APPL-SN-180230			US-PATENT-4,372,680
		US-PATENT-CLASS-427-302			US-PATENT-CLASS-250-311			NASA-CASE-MSC-18723-1
N83-13188*	c 25	US-PATENT-CLASS-427-379	N83-19091*	c 37	US-PATENT-CLASS-324-73R	N83-21503*	c 44	US-PATENT-APPL-SN-234223
		US-PATENT-CLASS-427-384			US-PATENT-CLASS-356-394			US-PATENT-CLASS-73-816
		US-PATENT-CLASS-427-387			US-PATENT-4,358,732			US-PATENT-4,377,085
		US-PATENT-CLASS-428-63			NASA-CASE-MFS-25282-1			NASA-CASE-LAR-12458-1
		US-PATENT-4,358,480			US-PATENT-APPL-SN-263828			US-PATENT-APPL-SN-274705
N83-13323*	c 32	US-PATENT-CLASS-204-280R	N83-19596*	c 74	US-PATENT-CLASS-378-2	N83-21504*	c 44	US-PATENT-CLASS-73-147
		US-PATENT-CLASS-204-299R			US-PATENT-CLASS-378-43			US-PATENT-4,372,158
		US-PATENT-4,358,358			US-PATENT-4,370,750			NASA-CASE-LAR-12720-1
		NASA-CASE-LEW-13504-1			NASA-CASE-LAR-12361-1			US-PATENT-APPL-SN-274706
		US-PATENT-APPL-SN-272234			US-PATENT-APPL-SN-182880			US-PATENT-CLASS-73-147
N83-13579*	c 44	US-PATENT-CLASS-264-104	N83-19597*	c 74	US-PATENT-CLASS-411-353	N83-21785*	c 52	US-PATENT-4,372,158
		US-PATENT-CLASS-429-206			US-PATENT-CLASS-411-517			NASA-CASE-LEW-13107-1
		US-PATENT-CLASS-429-253			US-PATENT-4,371,301			US-PATENT-APPL-SN-272407
		US-PATENT-CLASS-525-61			NASA-CASE-LEW-12253-1			US-PATENT-CLASS-604-280
		US-PATENT-4,357,402			US-PATENT-APPL-SN-243682			US-PATENT-CLASS-604-8
N83-13978*	c 74	US-PATENT-CLASS-165-134R	N83-19737*	c 05	US-PATENT-CLASS-165-104.26	N83-21949*	c 74	US-PATENT-4,377,163
		NASA-CASE-KSC-11025-1			US-PATENT-CLASS-29-157.3H			NASA-CASE-ARC-11354-1
		US-PATENT-APPL-SN-061327			US-PATENT-4,372,377			US-PATENT-APPL-SN-282193
		US-PATENT-CLASS-371-6			NASA-CASE-NPO-14864-1			US-PATENT-CLASS-356-357
		US-PATENT-4,358,846			US-PATENT-APPL-SN-061822			US-PATENT-CLASS-73-147
N83-14692*	c 44	US-PATENT-CLASS-250-227	N83-19900*	c 27	US-PATENT-CLASS-250-227	N83-24572* #	c 25	US-PATENT-4,377,343
		US-PATENT-CLASS-250-332			US-PATENT-CLASS-250-332			NASA-CASE-NPO-16135-1
		US-PATENT-CLASS-136-256			US-PATENT-CLASS-250-340			US-PATENT-APPL-SN-470114
		US-PATENT-CLASS-136-259			US-PATENT-CLASS-250-350			NASA-CASE-LAR-12363-2
		US-PATENT-CLASS-29-572			US-PATENT-CLASS-250-351			US-PATENT-APPL-SN-377892
N83-14693*	c 44	US-PATENT-CLASS-357-30	N83-19947*	c 31	US-PATENT-CLASS-350-353	N83-24763*	c 33	US-PATENT-CLASS-250-388
		US-PATENT-CLASS-427-88			US-PATENT-4,262,198			US-PATENT-4,379,970
		US-PATENT-CLASS-427-89			NASA-CASE-FRC-11065-1			NASA-CASE-MFS-25509-1
		US-PATENT-CLASS-427-90			US-PATENT-APPL-SN-248744			US-PATENT-APPL-SN-297486
		US-PATENT-CLASS-427-91			US-PATENT-CASE-244-121			US-PATENT-CLASS-156-DIG.62
N83-16626*	c 33	US-PATENT-CASE-244-129.4	N83-19968*	c 32	US-PATENT-CASE-292-254	N83-25346*	c 52	US-PATENT-CLASS-34-574
		US-PATENT-4,335,196			US-PATENT-4,375,281			US-PATENT-CLASS-432-227
		NASA-CASE-ARC-11311-1			NASA-CASE-NPO-14857-1			US-PATENT-CLASS-432-56
		US-PATENT-APPL-SN-219640			US-PATENT-APPL-SN-158530			US-PATENT-4,378,208
		US-PATENT-CLASS-350-287			US-PATENT-CLASS-523-205			NASA-CASE-NPO-15220-1
N83-16633* #	c 33	US-PATENT-CLASS-350-486	N83-20154* #	c 37	US-PATENT-CLASS-523-205	N83-25378*	c 60	US-PATENT-APPL-SN-246777
		US-PATENT-4,355,870			US-PATENT-CLASS-524-436			US-PATENT-CLASS-220-335
		NASA-CASE-LEW-12892-1			US-PATENT-CLASS-524-437			US-PATENT-CLASS-73-863.31
		US-PATENT-APPL-SN-264380			US-PATENT-CLASS-524-503			US-PATENT-CLASS-73-863.83
		US-PATENT-CLASS-136-255			US-PATENT-CLASS-524-564			US-PATENT-CLASS-73-864.63
N83-17045*	c 51	US-PATENT-CLASS-136-256	N83-20280*	c 39	US-PATENT-CLASS-524-786	N83-25789*	c 24	US-PATENT-4,377,945
		US-PATENT-CLASS-136-259			US-PATENT-CLASS-524-787			NASA-CASE-NPO-15197-1
		US-PATENT-4,360,701			US-PATENT-4,373,039			US-PATENT-APPL-SN-263957
		NASA-CASE-MSC-18794-1			NASA-CASE-NPO-15789-1			US-PATENT-CLASS-128-303E
		US-PATENT-APPL-SN-238785			US-PATENT-APPL-SN-322316			US-PATENT-CLASS-128-774
N83-17235*	c 71	US-PATENT-CLASS-417-399	N83-20789*	c 76	US-PATENT-CLASS-204-129.55	N83-27058*	c 31	US-PATENT-CLASS-128-782
		US-PATENT-CLASS-74-110			US-PATENT-CLASS-204-129.75			US-PATENT-4,385,043
		US-PATENT-4,360,325			US-PATENT-4,375,396			NASA-CASE-GSC-12643-1
		NASA-CASE-LAR-12772-1			NASA-CASE-NPO-14035-1			US-PATENT-APPL-SN-238786
		US-PATENT-APPL-SN-199767			US-PATENT-APPL-SN-858767			US-PATENT-CLASS-417-15
N83-17305*	c 74	US-PATENT-CLASS-73-579	N83-20944*	c 07	US-PATENT-CLASS-343-100CL	N83-27126*	c 33	US-PATENT-CLASS-47-264
		US-PATENT-CLASS-73-597			US-PATENT-CLASS-343-5CM			US-PATENT-4,381,174
		US-PATENT-CLASS-73-629			US-PATENT-CLASS-343-9PS			NASA-CASE-GSC-12636-1
		US-PATENT-CLASS-73-761			US-PATENT-4,371,873			US-PATENT-APPL-SN-173520
		US-PATENT-4,363,242			NASA-CASE-MFS-25807			US-PATENT-CLASS-125-20
N83-17588* #	c 20	US-PATENT-CLASS-128-782	N83-27085*	c 32	US-PATENT-APPL-SN-460733	N83-27144*	c 34	US-PATENT-CLASS-408-1F
		US-PATENT-APPL-SN-393456			NASA-CASE-MSC-18929-1			US-PATENT-CLASS-408-61
		NASA-CASE-NPO-15213-1			US-PATENT-APPL-SN-198093			US-PATENT-CLASS-409-13
		US-PATENT-APPL-SN-280153			US-PATENT-CLASS-128-782			US-PATENT-4,383,785
		US-PATENT-CLASS-47-58			US-PATENT-CLASS-358-105			NASA-CASE-NPO-15401-1
N83-18908*	c 27	US-PATENT-CLASS-71-98	N83-27126*	c 33	US-PATENT-CLASS-364-522	N83-27144*	c 34	US-PATENT-APPL-SN-259216
		US-PATENT-4,363,188			US-PATENT-CLASS-364-559			US-PATENT-CLASS-333-22F
		NASA-CASE-LAR-12883-1			US-PATENT-CLASS-73-379			US-PATENT-CLASS-333-254
		US-PATENT-APPL-SN-267935			US-PATENT-4,375,674			US-PATENT-4,382,233
		US-PATENT-CLASS-73-147			NASA-CASE-NPO-15625-1			NASA-CASE-NPO-15358-1
N83-17305*	c 74	US-PATENT-4,363,237	N83-27126*	c 33	US-PATENT-APPL-SN-325933	N83-27144*	c 34	US-PATENT-APPL-SN-219968
		NASA-CASE-MFS-25312-1			US-PATENT-CLASS-148-173			US-PATENT-CLASS-323-266
		US-PATENT-APPL-SN-187106			US-PATENT-CLASS-148-175			US-PATENT-CLASS-323-303
		US-PATENT-CLASS-350-171			US-PATENT-CLASS-156-608			US-PATENT-CLASS-323-358
		US-PATENT-4,362,361			US-PATENT-CLASS-156-624			US-PATENT-4,382,222
N83-17588* #	c 20	US-PATENT-CLASS-156-635	N83-27144*	c 34	US-PATENT-CLASS-156-654	N83-27144*	c 34	NASA-CASE-LEW-13174-1
		US-PATENT-CLASS-156-662			US-PATENT-CLASS-339-3R			
		US-PATENT-4,373,989			US-PATENT-CLASS-339-5R			
		NASA-CASE-MFS-23981-1						
		US-PATENT-APPL-SN-231543						
N83-18908*	c 27	US-PATENT-CLASS-244-159	N83-27144*	c 34	US-PATENT-CLASS-244-173	N83-27144*	c 34	
		US-PATENT-CLASS-428-244			US-PATENT-CLASS-322-2R			
		US-PATENT-CLASS-428-245			US-PATENT-CLASS-339-3R			
		US-PATENT-CLASS-428-260						
		US-PATENT-CLASS-428-331						

			US-PATENT-APPL-SN-200634				US-PATENT-4,386,157				US-PATENT-CLASS-428-678
			US-PATENT-CLASS-415-115				NASA-CASE-KSC-11104-1				US-PATENT-4,335,190
			US-PATENT-CLASS-416-1				US-PATENT-APPL-SN-153245				NASA-CASE-MFS-25134-1
			US-PATENT-CLASS-416-97R				US-PATENT-CLASS-350-96.16				US-PATENT-APPL-SN-195226
			US-PATENT-4,384,823				US-PATENT-CLASS-455-612				US-PATENT-CLASS-24-214
N83-27184*	c 35		NASA-CASE-NPO-15292-1				US-PATENT-4,381,881				US-PATENT-CLASS-244-159
			US-PATENT-APPL-SN-207135				NASA-CASE-MFS-25403-1				US-PATENT-4,381,583
			US-PATENT-CLASS-250-282				US-PATENT-APPL-SN-248745				NASA-CASE-NPO-14596-3
			US-PATENT-CLASS-250-288				US-PATENT-CLASS-244-115				US-PATENT-APPL-SN-303671
			US-PATENT-CLASS-250-423				US-PATENT-CLASS-244-161				US-PATENT-CLASS-264-5
			US-PATENT-4,383,171				US-PATENT-CLASS-269-152				US-PATENT-CLASS-264-9
N83-27344*	c 44		NASA-CASE-LEW-13246-1				US-PATENT-CLASS-269-242				US-PATENT-CLASS-425-6
			US-PATENT-APPL-SN-266255				US-PATENT-CLASS-269-244				US-PATENT-CLASS-65-142
			US-PATENT-CLASS-429-105				US-PATENT-CLASS-294-86R				US-PATENT-CLASS-65-214
			US-PATENT-CLASS-429-107				US-PATENT-4,391,423				US-PATENT-CLASS-65-22
			US-PATENT-CLASS-429-109				NASA-CASE-GSC-12770-1				US-PATENT-4,344,787
			US-PATENT-CLASS-429-34				US-PATENT-APPL-SN-301075				NASA-CASE-NPO-15251-1
			US-PATENT-CLASS-429-40				US-PATENT-CLASS-423-648R				US-PATENT-APPL-SN-229239
			US-PATENT-4,382,116				US-PATENT-CLASS-423-649				US-PATENT-CLASS-337-14
N83-27569*	c 51		NASA-CASE-GSC-12158-1				US-PATENT-4,393,039				US-PATENT-CLASS-62-48
			US-PATENT-APPL-SN-888434				NASA-CASE-LEW-13132-1				US-PATENT-CLASS-62-514R
			US-PATENT-CLASS-422-52				US-PATENT-APPL-SN-272152				US-PATENT-4,366,680
			US-PATENT-CLASS-435-289				US-PATENT-CLASS-204-35N				NASA-CASE-NPO-14525-2
			US-PATENT-CLASS-435-291				US-PATENT-CLASS-204-37R				US-PATENT-APPL-SN-165910
			US-PATENT-CLASS-435-3				US-PATENT-CLASS-204-56R				US-PATENT-CLASS-343-5CM
			US-PATENT-CLASS-435-34				US-PATENT-4,392,920				US-PATENT-CLASS-343-9PS
			US-PATENT-CLASS-435-38				NASA-CASE-LEW-12876-2				US-PATENT-CLASS-367-88
			US-PATENT-CLASS-435-39				US-PATENT-APPL-SN-393583				US-PATENT-4,355,311
			US-PATENT-CLASS-435-8				NASA-CASE-LEW-12508-3				NASA-CASE-LEW-13429-1
			US-PATENT-4,385,113				US-PATENT-APPL-SN-235868				US-PATENT-APPL-SN-220212
N83-27577*	c 52		NASA-CASE-MSC-18761-1				US-PATENT-CLASS-62-3				US-PATENT-CLASS-315-3
			US-PATENT-APPL-SN-254688				US-PATENT-4,392,356				US-PATENT-CLASS-315-4
			US-PATENT-CLASS-128-DIG.13				NASA-CASE-MFS-25242-1				US-PATENT-CLASS-315-5
			US-PATENT-CLASS-604-114				US-PATENT-APPL-SN-246773				US-PATENT-CLASS-315-5.35
			US-PATENT-CLASS-604-151				US-PATENT-CLASS-374-17				US-PATENT-CLASS-315-5.38
			US-PATENT-CLASS-73-204				US-PATENT-CLASS-73-863.11				US-PATENT-4,395,656
			US-PATENT-4,384,578				US-PATENT-4,389,904				NASA-CASE-MFS-25215-1
N83-27578*	c 52		NASA-CASE-MSC-18759-1				NASA-CASE-LAR-12531-1				US-PATENT-APPL-SN-291131
			US-PATENT-APPL-SN-233270				US-PATENT-APPL-SN-282191				US-PATENT-CLASS-318-800
			US-PATENT-CLASS-128-660				US-PATENT-CASE-368-10				US-PATENT-CLASS-318-803
			US-PATENT-CLASS-128-663				US-PATENT-CASE-368-118				US-PATENT-CLASS-318-809
			US-PATENT-CLASS-73-597				US-PATENT-CASE-368-119				US-PATENT-4,394,610
			US-PATENT-4,383,533				US-PATENT-CASE-368-120				NASA-CASE-NPO-14940-1
N83-27975*	c 05		NASA-CASE-FRC-11072-1				US-PATENT-CASE-368-6				US-PATENT-APPL-SN-135038
			US-PATENT-APPL-SN-230613				US-PATENT-CASE-368-9				US-PATENT-CLASS-324-466
			US-PATENT-CASE-179-146-R				US-PATENT-4,392,749				US-PATENT-CLASS-73-861.05
			US-PATENT-CASE-179-179				NASA-CASE-MSC-18936-1				US-PATENT-4,338,568
			US-PATENT-CASE-367-906				US-PATENT-APPL-SN-325082				NASA-CASE-NPO-15400-1
			US-PATENT-4,388,502				US-PATENT-CLASS-55-194				US-PATENT-APPL-SN-246774
N83-28064*	c 18		NASA-CASE-GSC-12551-1				US-PATENT-CLASS-55-202				US-PATENT-CLASS-250-573
			US-PATENT-APPL-SN-182881				US-PATENT-4,392,874				US-PATENT-CLASS-73-64.4
			US-PATENT-CLASS-244-169				NASA-CASE-MFS-25315-1				US-PATENT-4,391,129
			US-PATENT-CLASS-244-170				US-PATENT-APPL-SN-224232				NASA-CASE-LAR-12728-1
			US-PATENT-4,386,750				US-PATENT-CASE-356-129				US-PATENT-APPL-SN-408575
N83-28240*	c 27		NASA-CASE-LAR-12775-1				US-PATENT-4,391,518				US-PATENT-CLASS-248-636
			US-PATENT-APPL-SN-308201				NASA-CASE-GSC-12609-2				US-PATENT-CLASS-248-638
			US-PATENT-CLASS-524-104				US-PATENT-APPL-SN-481020				US-PATENT-CLASS-62-295
			US-PATENT-CLASS-524-173				NASA-CASE-LAR-13053-1				US-PATENT-CLASS-62-514 R
			US-PATENT-CLASS-524-233				US-PATENT-APPL-SN-508372				US-PATENT-4,394,819
			US-PATENT-CLASS-524-726				NASA-CASE-ARC-11264-2				NASA-CASE-GSC-12517-1
			US-PATENT-CLASS-525-181				US-PATENT-APPL-SN-465370				US-PATENT-APPL-SN-214361
			US-PATENT-CLASS-525-183				NASA-CASE-LEW-14586-1				US-PATENT-CLASS-104-282
			US-PATENT-CLASS-525-184				US-PATENT-APPL-SN-163122				US-PATENT-CLASS-104-290
			US-PATENT-CLASS-525-474				US-PATENT-CLASS-415-1				US-PATENT-CLASS-308-10
			US-PATENT-4,389,504				US-PATENT-CLASS-415-175				US-PATENT-CLASS-310-12
N83-28319*	c 33		NASA-CASE-MFS-25302-1				US-PATENT-CLASS-415-178				US-PATENT-4,387,935
			US-PATENT-APPL-SN-243683				US-PATENT-CLASS-415-47				NASA-CASE-LAR-12602-1
			US-PATENT-CLASS-322-29				US-PATENT-4,338,061				US-PATENT-APPL-SN-210506
			US-PATENT-CLASS-322-35				NASA-CASE-NPO-15304-1				US-PATENT-CLASS-374-51
			US-PATENT-CLASS-322-47				US-PATENT-APPL-SN-315587				US-PATENT-CLASS-73-818
			US-PATENT-CLASS-322-95				US-PATENT-CLASS-201-17				US-PATENT-CLASS-73-822
			US-PATENT-4,388,585				US-PATENT-CLASS-44-15R				US-PATENT-CLASS-73-856
N83-28356*	c 34		NASA-CASE-GSC-12553-1				US-PATENT-4,391,609				US-PATENT-CLASS-73-860
			US-PATENT-APPL-SN-106192				NASA-CASE-LEW-13343				US-PATENT-4,393,716
			US-PATENT-CLASS-165-185				US-PATENT-APPL-SN-293418				NASA-CASE-LEW-12443-1
			US-PATENT-CLASS-165-32				US-PATENT-CLASS-427-318				US-PATENT-APPL-SN-235797
			US-PATENT-CLASS-165-76				US-PATENT-CLASS-427-419.2				US-PATENT-CLASS-310-306
			US-PATENT-4,388,965				US-PATENT-CLASS-428-450				US-PATENT-4,373,142
N83-28573*	c 44		NASA-CASE-LAR-12495-1				US-PATENT-CLASS-428-469				NASA-CASE-LEW-13171-2
			US-PATENT-APPL-SN-263830				US-PATENT-CLASS-428-641				US-PATENT-APPL-SN-333537
			US-PATENT-CLASS-310-11				US-PATENT-CLASS-428-650				US-PATENT-CLASS-29-623.5
			US-PATENT-4,388,542				US-PATENT-CLASS-428-680				US-PATENT-CLASS-429-144
N83-28574*	c 44		NASA-CASE-GSC-12697-1				US-PATENT-4,374,183				US-PATENT-CLASS-429-251
			US-PATENT-APPL-SN-308204				NASA-CASE-ARC-11368-1				US-PATENT-CLASS-429-254
			US-PATENT-CLASS-310-15				US-PATENT-APPL-SN-288267				US-PATENT-4,371,596
			US-PATENT-CLASS-417-417				US-PATENT-CLASS-548-413				NASA-CASE-LEW-13401-2
			US-PATENT-CLASS-62-6				US-PATENT-CLASS-548-415				US-PATENT-APPL-SN-359388
			US-PATENT-4,389,849				US-PATENT-4,395,557				US-PATENT-CLASS-136-249
N83-28849*	c 51		NASA-CASE-ARC-11322-1				NASA-CASE-LEW-1335901				US-PATENT-CLASS-357-30
			US-PATENT-APPL-SN-315278				US-PATENT-APPL-SN-229233				US-PATENT-4,376,872
			US-PATENT-CLASS-435-3				US-PATENT-CLASS-427-219.2				NASA-CASE-NPO-14936-1
			US-PATENT-CLASS-435-34				US-PATENT-CLASS-427-34				US-PATENT-APPL-SN-163837
			US-PATENT-CLASS-435-38				US-PATENT-CLASS-427-405				US-PATENT-CLASS-250-203R
			US-PATENT-CLASS-435-39				US-PATENT-CLASS-427-423				US-PATENT-CLASS-356-222
			US-PATENT-CLASS-435-807				US-PATENT-CLASS-428-623				US-PATENT-4,355,896
							US-PATENT-CLASS-428-633				NASA-CASE-NPO-15342-1



		US-PATENT-APPL-SN-258623			US-PATENT-APPL-SN-276748			US-PATENT-CLASS-318-806
		US-PATENT-CLASS-364-200			US-PATENT-CLASS-315-208			US-PATENT-4,401,934
		US-PATENT-CLASS-364-900			US-PATENT-CLASS-315-224	N83-35307*	c 34	NASA-CASE-GSC-12812-1
		US-PATENT-4,394,726			US-PATENT-CLASS-315-225			US-PATENT-APPL-SN-434674
N83-32515*	c 71	NASA-CASE-NPO-15453-1			US-PATENT-CLASS-315-237			US-PATENT-CLASS-165-104.26
		US-PATENT-APPL-SN-314929			US-PATENT-CLASS-315-241R			US-PATENT-CLASS-165-32
		US-PATENT-CLASS-60-721			US-PATENT-CLASS-372-25			US-PATENT-4,402,358
		US-PATENT-CLASS-73-505			US-PATENT-4,398,129	N83-35338*	c 35	NASA-CASE-LEW-13934-1
		US-PATENT-4,393,708	N83-34190*	c 33	NASA-CASE-MFS-25607-1			US-PATENT-APPL-SN-212949
N83-32516*	c 71	NASA-CASE-NPO-15522-1			US-PATENT-APPL-SN-325886			US-PATENT-CLASS-228-103
		US-PATENT-APPL-SN-303672			US-PATENT-CLASS-361-90			US-PATENT-CLASS-228-193
		US-PATENT-CLASS-60-721			US-PATENT-CLASS-318-729			US-PATENT-CLASS-228-263.18
		US-PATENT-CLASS-73-505			US-PATENT-CLASS-318-798			US-PATENT-CLASS-415-118
		US-PATENT-4,393,706			US-PATENT-CLASS-318-806			US-PATENT-4,402,447
N83-32577*	c 74	NASA-CASE-GSC-12614-1			US-PATENT-CLASS-361-100	N83-35350*	c 36	NASA-CASE-NPO-15201-1
		US-PATENT-APPL-SN-195227			US-PATENT-CLASS-363-54			US-PATENT-APPL-SN-246778
		US-PATENT-CLASS-356-353			US-PATENT-4,400,657			US-PATENT-CLASS-330-4
		US-PATENT-CLASS-356-363	N83-34191*	c 33	NASA-CASE-GSC-12646-1			US-PATENT-CLASS-332-7.5
		US-PATENT-4,395,123			US-PATENT-APPL-SN-284290			US-PATENT-CLASS-333-24.2
N83-33882*	c 06	NASA-CASE-FRC-11043-1			US-PATENT-CLASS-330-289			US-PATENT-4,399,415
		US-PATENT-APPL-SN-242790			US-PATENT-CLASS-330-310	N83-35781*	c 71	NASA-CASE-NPO-15334-1
		US-PATENT-CLASS-33-322			US-PATENT-4,401,953			US-PATENT-APPL-SN-341406
		US-PATENT-CLASS-74-5.34	N83-34221*	c 34	NASA-CASE-LAR-12393-1			US-PATENT-CLASS-210-748
		US-PATENT-4,387,513			US-PATENT-APPL-SN-145208			US-PATENT-CLASS-252-361
N83-33884*	c 07	NASA-CASE-ARC-10812-1			US-PATENT-CLASS-165-27			US-PATENT-CLASS-366-114
		US-PATENT-APPL-SN-657903			US-PATENT-CLASS-165-12			US-PATENT-CLASS-55-15
		US-PATENT-CLASS-181-213			US-PATENT-CLASS-165-61			US-PATENT-CLASS-55-277
		US-PATENT-CLASS-239-265.17			US-PATENT-CLASS-165-80E			US-PATENT-CLASS-55-38
		US-PATENT-CLASS-60-262			US-PATENT-CLASS-374-46			US-PATENT-CLASS-55-52
		US-PATENT-CLASS-60-269			US-PATENT-CLASS-62-514R			US-PATENT-CLASS-65-134
		US-PATENT-CLASS-60-271			US-PATENT-CLASS-62-62			US-PATENT-4,398,925
		US-PATENT-4,372,110			US-PATENT-4,346,754	N83-35888*	c 76	NASA-CASE-NPO-15530-1
N83-33950*	c 24	NASA-CASE-NPO-14987-1	N83-34272*	c 35	NASA-CASE-ARC-11317-1			US-PATENT-APPL-SN-364092
		US-PATENT-APPL-SN-164-584			US-PATENT-APPL-SN-229231			US-PATENT-CLASS-156-DIG.6
		US-PATENT-CLASS-427-215			US-PATENT-CLASS-340-518			US-PATENT-CLASS-156-DIG.73
		US-PATENT-CLASS-427-241			US-PATENT-CLASS-340-566			US-PATENT-CLASS-156-608
		US-PATENT-CLASS-428-367			US-PATENT-4,374,378			US-PATENT-4,401,505
		US-PATENT-CLASS-428-375	N83-34304*	c 36	NASA-CASE-ARC-11312-1	N83-35992*	c 01	NASA-CASE-LAR-12624-1
		US-PATENT-CLASS-428-392			US-PATENT-APPL-SN-234224			US-PATENT-APPL-SN-259209
		US-PATENT-CLASS-428-902			US-PATENT-CLASS-356-1			US-PATENT-CLASS-102-378
		US-PATENT-CLASS-428-903			US-PATENT-CLASS-356-4			US-PATENT-CLASS-244-137P
		US-PATENT-4,359,503			US-PATENT-CLASS-358-104			US-PATENT-CLASS-89-1B
N83-33977*	c 25	NASA-CASE-ARC-11326-1			US-PATENT-CLASS-358-109			US-PATENT-4,407,468
		US-PATENT-APPL-SN-178192			US-PATENT-CLASS-434-38	N83-36029*	c 07	NASA-CASE-LEW-13142-1
		US-PATENT-CLASS-252-5			US-PATENT-CLASS-434-4			US-PATENT-APPL-SN-132364
		US-PATENT-CLASS-423-419P			US-PATENT-4,391,514			US-PATENT-CLASS-60-39.07
		US-PATENT-CLASS-423-600	N83-34323*	c 37	NASA-CASE-GSC-12726-1			US-PATENT-4,404,793
		US-PATENT-CLASS-424-156			US-PATENT-APPL-SN-364093	N83-36118*	c 25	NASA-CASE-ARC-11252-1
		US-PATENT-4,356,157			US-PATENT-CLASS-308-10			US-PATENT-APPL-SN-317977
N83-34039*	c 27	NASA-CASE-GSC-12686-1			US-PATENT-4,381,375			US-PATENT-CLASS-169-47
		US-PATENT-APPL-SN-293412	N83-34448*	c 44	NASA-CASE-ARC-11164-1			US-PATENT-CLASS-252-2
		US-PATENT-CLASS-427-322			US-PATENT-APPL-SN-308007			US-PATENT-CLASS-252-5
		US-PATENT-CLASS-427-340			US-PATENT-CLASS-350-166			US-PATENT-4,406,797
		US-PATENT-CLASS-427-352			US-PATENT-CLASS-428-312.6	N83-36220*	c 27	NASA-CASE-MFS-25436-1
		US-PATENT-CLASS-427-400			US-PATENT-CLASS-428-325			US-PATENT-APPL-SN-280151
		US-PATENT-CLASS-427-407.1			US-PATENT-CLASS-428-427			US-PATENT-CLASS-156-DIG.73
		US-PATENT-4,362,769			US-PATENT-CLASS-428-428			US-PATENT-CLASS-156-DIG.89
N83-34040*	c 27	NASA-CASE-LAR-12838-1			US-PATENT-4,381,333			US-PATENT-CLASS-156-600
		US-PATENT-APPL-SN-320621	N83-34449*	c 44	NASA-CASE-LAR-12719-1			US-PATENT-CLASS-156-610
		US-PATENT-CLASS-526-259			US-PATENT-APPL-SN-367134			US-PATENT-CLASS-165-2
		US-PATENT-CLASS-526-285			US-PATENT-CLASS-126-901			US-PATENT-CLASS-165-58
		US-PATENT-CLASS-528-12			US-PATENT-CLASS-204-33			US-PATENT-CLASS-219-343
		US-PATENT-CLASS-528-125			US-PATENT-CLASS-204-35N			US-PATENT-CLASS-219-354
		US-PATENT-CLASS-528-126			US-PATENT-4,397,716			US-PATENT-CLASS-219-390
		US-PATENT-CLASS-528-128	N83-34796*	c 76	NASA-CASE-LEW-12582-1			US-PATENT-CLASS-219-411
		US-PATENT-CLASS-528-220			US-PATENT-APPL-SN-397281			US-PATENT-CLASS-350-316
		US-PATENT-CLASS-528-222			US-PATENT-CLASS-310-332			US-PATENT-4,408,658
		US-PATENT-CLASS-528-228			US-PATENT-CLASS-310-800	N83-36355*	c 33	NASA-CASE-GSC-12630-1
		US-PATENT-CLASS-528-229			US-PATENT-CLASS-428-294			US-PATENT-APPL-SN-308009
		US-PATENT-CLASS-528-38			US-PATENT-CLASS-428-421			US-PATENT-CLASS-343-100AP
		US-PATENT-4,375,536			US-PATENT-CLASS-428-422			US-PATENT-CLASS-343-840
N83-34041*	c 27	NASA-CASE-LAR-12858-1			US-PATENT-4,400,642	N83-36356*	c 33	US-PATENT-4,407,001
		US-PATENT-APPL-SN-407240	N83-35176*	c 31	NASA-CASE-NPO-15070-1			NASA-CASE-KSC-11170-1
		US-PATENT-CLASS-164-331.12			US-PATENT-APPL-SN-403847			US-PATENT-APPL-SN-284288
		US-PATENT-CLASS-264-137			US-PATENT-CLASS-264-12			US-PATENT-CLASS-330-110
		US-PATENT-CLASS-264-258			US-PATENT-CLASS-264-24			US-PATENT-CLASS-330-282
		US-PATENT-CLASS-264-331.46			US-PATENT-CLASS-264-5			US-PATENT-4,406,989
		US-PATENT-CLASS-528-222			US-PATENT-CLASS-425-10	N83-36357*	c 33	NASA-CASE-LAR-12654-1
		US-PATENT-CLASS-528-226			US-PATENT-CLASS-425-6			US-PATENT-APPL-SN-234225
		US-PATENT-4,398,021			US-PATENT-CLASS-425-7			US-PATENT-CLASS-368-184
N83-34043*	c 27	NASA-CASE-NPO-15202-1			US-PATENT-CLASS-65-142			US-PATENT-CLASS-368-200
		US-PATENT-APPL-SN-233271			US-PATENT-CLASS-65-21.3			US-PATENT-CLASS-368-201
		US-PATENT-CLASS-384-124			US-PATENT-CLASS-65-21.4			US-PATENT-4,407,589
		US-PATENT-CLASS-523-440			US-PATENT-CLASS-65-22	N83-36482*	c 37	NASA-CASE-MSC-18791-1
		US-PATENT-CLASS-523-443			US-PATENT-4,400,191			US-PATENT-APPL-SN-248746
		US-PATENT-4,395,503	N83-35177*	c 31	NASA-CASE-LEW-13450-1			US-PATENT-CLASS-29-446
N83-34073*	c 31	NASA-CASE-ARC-11246-1			US-PATENT-APPL-SN-328760			US-PATENT-CLASS-73-862.54
		US-PATENT-APPL-SN-136660			US-PATENT-CLASS-427-243			US-PATENT-CLASS-81-55
		US-PATENT-CLASS-156-264			US-PATENT-CLASS-427-247			US-PATENT-CLASS-81-57.38
		US-PATENT-CLASS-156-344			US-PATENT-CLASS-427-34			US-PATENT-4,407,165
		US-PATENT-CLASS-156-59			US-PATENT-CLASS-427-423	N83-36483*	c 37	NASA-CASE-MSC-18807-1
		US-PATENT-CLASS-273-240			US-PATENT-4,402,992			US-PATENT-APPL-SN-266688
		US-PATENT-CLASS-434-403	N83-35227*	c 33	NASA-CASE-MFS-25209-1			US-PATENT-CLASS-123-197R
		US-PATENT-CLASS-434-88			US-PATENT-APPL-SN-291132			US-PATENT-CLASS-123-78E
		US-PATENT-4,385,949			US-PATENT-CLASS-318-685			US-PATENT-4,406,256
N83-34189*	c 33	NASA-CASE-GSC-12566-1			US-PATENT-CLASS-318-798	N83-36846*	c 71	NASA-CASE-NPO-15435-1

		US-PATENT-APPL-SN-272837				US-PATENT-APPL-SN-322314				US-PATENT-CLASS-339-258RR
		US-PATENT-CLASS-308-10				US-PATENT-CLASS-156-215				US-PATENT-CLASS-339-262RR
		US-PATENT-CLASS-73-505				US-PATENT-CLASS-156-230				US-PATENT-CLASS-339-64M
		US-PATENT-4,402,221				US-PATENT-CLASS-156-235				US-PATENT-4,421,371
N83-36898*	c 74	NASA-CASE-GSC-12683-1				US-PATENT-CLASS-156-294	N84-14424*	c 33	NASA-CASE-MFS-25477-1	
		US-PATENT-APPL-SN-333535				US-PATENT-CLASS-156-391			US-PATENT-APPL-SN-243683	
		US-PATENT-CLASS-350-173				US-PATENT-CLASS-156-423			US-PATENT-APPL-SN-297524	
		US-PATENT-CLASS-350-445				US-PATENT-CLASS-156-540			US-PATENT-APPL-SN-350472	
		US-PATENT-4,407,563				US-PATENT-CLASS-156-71			US-PATENT-CLASS-318-729	
N84-11136*	c 02	NASA-CASE-LAR-12843-1				US-PATENT-CLASS-338-2			US-PATENT-CLASS-318-798	
		US-PATENT-APPL-SN-392096				US-PATENT-4,407,686			US-PATENT-CLASS-318-806	
		US-PATENT-CLASS-244-35A	N84-12444*	c 35	NASA-CASE-LAR-12706-1				US-PATENT-4,417,190	
		US-PATENT-CLASS-244-35R			US-PATENT-APPL-SN-210498	N84-14461*	c 34	NASA-CASE-GSC-12771-1		
		US-PATENT-CLASS-416-223R			US-PATENT-CLASS-324-250			US-PATENT-APPL-SN-434672		
		US-PATENT-CLASS-416-242			US-PATENT-CLASS-328-230			US-PATENT-CLASS-165-32		
		US-PATENT-4,412,664			US-PATENT-CLASS-372-74			US-PATENT-CLASS-165-41		
N84-11213*	c 24	NASA-CASE-ARC-11418-1			US-PATENT-4,414,509			US-PATENT-CLASS-165-96		
		US-PATENT-APPL-SN-452464	N84-12445*	c 35	NASA-CASE-LAR-12882-1			US-PATENT-4,420,035		
		US-PATENT-CLASS-523-435			US-PATENT-APPL-SN-267179	N84-14491*	c 35	NASA-CASE-LAR-12686-1		
		US-PATENT-CLASS-523-456			US-PATENT-CLASS-364-415			US-PATENT-APPL-SN-249304		
		US-PATENT-CLASS-528-110			US-PATENT-CLASS-73-646			US-PATENT-CLASS-364-557		
		US-PATENT-CLASS-528-361			US-PATENT-CLASS-73-658			US-PATENT-CLASS-364-558		
		US-PATENT-4,410,682			US-PATENT-4,413,522			US-PATENT-CLASS-364-571		
N84-11214*	c 24	NASA-CASE-LAR-12807-1	N84-12491*	c 37	NASA-CASE-GSC-12619-1			US-PATENT-CLASS-73-714		
		US-PATENT-APPL-SN-280155			US-PATENT-APPL-SN-225499	N84-14509*	c 36	NASA-CASE-GSC-12565-1		
		US-PATENT-CLASS-228-157			US-PATENT-CLASS-101-407BP			US-PATENT-APPL-SN-270763		
		US-PATENT-CLASS-228-181			US-PATENT-CLASS-269-3			US-PATENT-CLASS-350-299		
		US-PATENT-CLASS-228-212			US-PATENT-4,393,777			US-PATENT-CLASS-356-345		
		US-PATENT-CLASS-244-119	N84-12492*	c 37	NASA-CASE-GSC-12622-1			US-PATENT-CLASS-372-100		
		US-PATENT-CLASS-244-123			US-PATENT-APPL-SN-243684			US-PATENT-CLASS-372-108		
		US-PATENT-CLASS-428-593			US-PATENT-CLASS-308-2A			US-PATENT-CLASS-372-93		
		US-PATENT-CLASS-52-806			US-PATENT-4,405,184			US-PATENT-CLASS-372-94		
		US-PATENT-CLASS-52-808	N84-12493*	c 37	NASA-CASE-LAR-12923-1			US-PATENT-CLASS-372-98		
		US-PATENT-4,411,380			US-PATENT-APPL-SN-383063			US-PATENT-4,420,836		
N84-11497*	c 37	NASA-CASE-MFS-25678-1			US-PATENT-CLASS-416-117	N84-14583*	c 44	NASA-CASE-NPO-15100-1		
		US-PATENT-APPL-SN-378533			US-PATENT-CLASS-416-132B			US-PATENT-APPL-SN-259211		
		US-PATENT-CLASS-277-116.6			US-PATENT-4,415,311			US-PATENT-CLASS-138-42		
		US-PATENT-CLASS-277-124	N84-12654*	c 45	NASA-CASE-NSTL-10			US-PATENT-CLASS-251-127		
		US-PATENT-CLASS-277-164			US-PATENT-APPL-SN-335036			US-PATENT-4,418,722		
		US-PATENT-CLASS-277-177			US-PATENT-CLASS-210-151	N84-14873*	c 71	NASA-CASE-LAR-11903-2		
		US-PATENT-CLASS-277-190			US-PATENT-CLASS-210-602			US-PATENT-APPL-SN-238791		
		US-PATENT-4,410,189			US-PATENT-CLASS-210-605			US-PATENT-APPL-SN-753971		
N84-11744*	c 52	NASA-CASE-MFS-25740-1			US-PATENT-CLASS-210-617			US-PATENT-CLASS-239-265.17		
		US-PATENT-APPL-SN-371352			US-PATENT-4,415,450			US-PATENT-4,398,667		
		US-PATENT-CLASS-128-DIG.25	N84-12968* #	c 76	NASA-CASE-NPO-15811-1	N84-16231*	c 15	NASA-CASE-LAR-12751-1		
		US-PATENT-CLASS-128-1R			US-PATENT-APPL-SN-547175			US-PATENT-APPL-SN-338386		
		US-PATENT-CLASS-128-346	N84-14132*	c 04	NASA-CASE-LAR-12638-1			US-PATENT-CLASS-73-167		
		US-PATENT-4,408,597			US-PATENT-APPL-SN-367187			US-PATENT-CLASS-73-432R		
N84-11758*	c 54	NASA-CASE-MSC-18223-2			US-PATENT-CLASS-33-DIG.3			US-PATENT-CLASS-73-9		
		US-PATENT-APPL-SN-219681			US-PATENT-CLASS-33-348			US-PATENT-4,425,785		
		US-PATENT-APPL-SN-368187			US-PATENT-CLASS-33-356	N84-16255*	c 23	NASA-CASE-NPO-15767-1		
		US-PATENT-CLASS-604-368			US-PATENT-CLASS-33-361			US-PATENT-APPL-SN-315584		
		US-PATENT-CLASS-604-378			US-PATENT-4,418,480			US-PATENT-CLASS-208-10		
		US-PATENT-CLASS-604-396			US-PATENT-CLASS-11400-1			US-PATENT-CLASS-208-8LE		
		US-PATENT-4,338,371	N84-14322*	c 27	NASA-CASE-ARC-11400-1			US-PATENT-4,388,171		
		US-PATENT-4,411,660			US-PATENT-APPL-SN-441899	N84-16262*	c 24	NASA-CASE-MSC-16934-3		
N84-11920*	c 74	NASA-CASE-GSC-12640-1			US-PATENT-CLASS-428-246			US-PATENT-APPL-SN-185868		
		US-PATENT-APPL-SN-267178			US-PATENT-CLASS-428-260			US-PATENT-APPL-SN-361711		
		US-PATENT-CLASS-250-363R			US-PATENT-CLASS-428-367			US-PATENT-APPL-SN-969757		
		US-PATENT-CLASS-250-363S			US-PATENT-CLASS-428-408			US-PATENT-CLASS-164-119		
		US-PATENT-CLASS-250-368			US-PATENT-CLASS-428-473.5			US-PATENT-CLASS-264-118		
		US-PATENT-CLASS-378-2			US-PATENT-CLASS-428-902			US-PATENT-CLASS-264-59		
		US-PATENT-4,404,469			US-PATENT-CLASS-428-920			US-PATENT-CLASS-264-60		
N84-11921*	c 74	NASA-CASE-NPO-15375-1			US-PATENT-CLASS-524-494			US-PATENT-4,421,700		
		US-PATENT-APPL-SN-210405			US-PATENT-CLASS-524-500	N84-16276*	c 25	NASA-CASE-LEW-13426-1		
		US-PATENT-CLASS-250-227			US-PATENT-CLASS-524-530			US-PATENT-APPL-SN-393588		
		US-PATENT-CLASS-3-1.1			US-PATENT-CLASS-525-282			US-PATENT-CLASS-110-186		
		US-PATENT-CLASS-350-96.10			US-PATENT-CLASS-525-287			US-PATENT-CLASS-110-262		
		US-PATENT-CLASS-350-96.15			US-PATENT-4,421,820			US-PATENT-CLASS-110-263		
		US-PATENT-CLASS-73-432T			US-PATENT-4,421,820			US-PATENT-CLASS-110-265		
		US-PATENT-4,405,197	N84-14323*	c 27	NASA-CASE-LAR-12881-1			US-PATENT-CLASS-431-1		
N84-12154*	c 05	NASA-CASE-LAR-12615-1			US-PATENT-APPL-SN-361215			US-PATENT-4,425,854		
		US-PATENT-APPL-SN-263829			US-PATENT-CLASS-206-447	N84-16452*	c 33	NASA-CASE-LEW-13570-1		
		US-PATENT-CLASS-244-13			US-PATENT-CLASS-206-582			US-PATENT-APPL-SN-251009		
		US-PATENT-CLASS-244-45R			US-PATENT-CLASS-428-202			US-PATENT-CLASS-315-3.5		
		US-PATENT-CLASS-244-53R			US-PATENT-CLASS-428-347			US-PATENT-CLASS-315-3.6		
		US-PATENT-CLASS-244-55			US-PATENT-CLASS-428-408			US-PATENT-CLASS-315-39.3		
		US-PATENT-CLASS-244-91			US-PATENT-4,420,518			US-PATENT-CLASS-333-162		
		US-PATENT-4,415,133			US-PATENT-4,417,215			US-PATENT-4,422,012		
N84-12193* #	c 09	NASA-CASE-ARC-11426-1	N84-14324*	c 27	NASA-CASE-MSC-18382-2			NASA-CASE-MFS-25430-1		
		US-PATENT-APPL-SN-526741			US-PATENT-APPL-SN-241155	N84-16453*	c 33	US-PATENT-APPL-SN-383083		
N84-12262*	c 25	NASA-CASE-NPO-15458-1			US-PATENT-CLASS-524-371			US-PATENT-CLASS-363-25		
		US-PATENT-APPL-SN-376306			US-PATENT-4,395,511			US-PATENT-CLASS-363-65		
		US-PATENT-CLASS-204-DIG.3	N84-14421*	c 33	NASA-CASE-GSC-12650-1			US-PATENT-CLASS-363-67		
		US-PATENT-CLASS-204-129			US-PATENT-APPL-SN-301077			US-PATENT-CLASS-363-71		
		US-PATENT-CLASS-204-242			US-PATENT-CLASS-330-107			US-PATENT-4,426,678		
		US-PATENT-CLASS-204-278			US-PATENT-CLASS-330-109			NASA-CASE-GSC-12645-1		
		US-PATENT-CLASS-204-290R			US-PATENT-4,417,215	N84-16454*	c 33	US-PATENT-APPL-SN-284314		
		US-PATENT-CLASS-427-443.2	N84-14422*	c 33	NASA-CASE-LEW-13286-1			US-PATENT-CLASS-324-79R		
		US-PATENT-CLASS-429-111			US-PATENT-APPL-SN-272406			US-PATENT-CLASS-324-83A		
		US-PATENT-4,414,080			US-PATENT-CLASS-252-182.1			US-PATENT-CLASS-324-83R		
N84-12406*	c 34	NASA-CASE-MFS-25631-1			US-PATENT-CLASS-429-206			US-PATENT-CLASS-328-133		
		US-PATENT-APPL-SN-308203			US-PATENT-CLASS-429-229			US-PATENT-CLASS-330-289		
		US-PATENT-CLASS-239-426			US-PATENT-4,418,130			US-PATENT-4,425,543		
		US-PATENT-4,413,784	N84-14423*	c 33	NASA-CASE-MFS-25211-2	N84-16455*	c 33	NASA-CASE-MFS-25616-1		
N84-12443*	c 35	NASA-CASE-FRC-11068-1			US-PATENT-APPL-SN-432057					

			US-PATENT-APPL-SN-325932				US-PATENT-CLASS-244-215				US-PATENT-APPL-SN-433598
			US-PATENT-CLASS-318-799				US-PATENT-CLASS-244-216				US-PATENT-CLASS-524-171
			US-PATENT-CLASS-323-243				US-PATENT-CLASS-244-219				US-PATENT-CLASS-525-534
			US-PATENT-CLASS-323-246				US-PATENT-4,444,368				US-PATENT-CLASS-525-535
			US-PATENT-4,426,614				NASA-CASE-LEW-13622-1				US-PATENT-CLASS-525-536
N84-16456*	c 33		NASA-CASE-NPO-15161-1	N84-22559*	c 07		US-PATENT-APPL-SN-350473				US-PATENT-CLASS-528-25
			US-PATENT-APPL-SN-325083				US-PATENT-CLASS-364-558				US-PATENT-CLASS-528-26
			US-PATENT-CLASS-427-216				US-PATENT-CLASS-73-115				US-PATENT-4,431,761
			US-PATENT-CLASS-427-217				US-PATENT-4,428,226	N84-22748*	c 27		NASA-CASE-NPO-15640-1
			US-PATENT-CLASS-427-226				NASA-CASE-LEW-13654-1				US-PATENT-APPL-SN-465367
			US-PATENT-CLASS-427-376.6	N84-22560*	c 07		US-PATENT-APPL-SN-245571				US-PATENT-CLASS-156-304.3
			US-PATENT-CLASS-427-376.7				US-PATENT-CLASS-416-224				US-PATENT-CLASS-156-499
			US-PATENT-CLASS-427-436				US-PATENT-CLASS-416-233				US-PATENT-CLASS-156-81
			US-PATENT-CLASS-427-437				US-PATENT-CLASS-416-92				US-PATENT-CLASS-156-89
			US-PATENT-CLASS-427-58				US-PATENT-CLASS-416-97R				US-PATENT-4,420,352
			US-PATENT-CLASS-427-75				US-PATENT-4,411,597	N84-22749*	c 27		NASA-CASE-LAR-12980-1
			US-PATENT-CLASS-427-88	N84-22601*	c 16		NASA-CASE-MSC-20254-1				US-PATENT-APPL-SN-469866
			US-PATENT-CLASS-427-96				US-PATENT-APPL-SN-418137				US-PATENT-CLASS-528-125
			US-PATENT-4,388,346				US-PATENT-CLASS-244-158A				US-PATENT-CLASS-528-128
N84-16523*	c 35		NASA-CASE-LAR-12007-3				US-PATENT-CLASS-52-404				US-PATENT-CLASS-528-172
			US-PATENT-APPL-SN-352831				US-PATENT-CLASS-52-506				US-PATENT-CLASS-528-185
			US-PATENT-CLASS-33-293				US-PATENT-4,439,968				US-PATENT-4,444,979
			US-PATENT-4,428,122	N84-22605*	c 18		NASA-CASE-MSC-18969-1	N84-22750*	c 27		NASA-CASE-ARC-11370-1
N84-16542*	c 36		NASA-CASE-LAR-12870-1				US-PATENT-APPL-SN-368189				US-PATENT-APPL-SN-491125
			US-PATENT-APPL-SN-317658				US-PATENT-CLASS-244-161				US-PATENT-CLASS-525-389
			US-PATENT-CLASS-372-55				US-PATENT-CLASS-403-322				US-PATENT-CLASS-528-394
			US-PATENT-CLASS-372-79				US-PATENT-4,431,333				US-PATENT-CLASS-528-399
			US-PATENT-4,424,592	N84-22609* #	c 18		NASA-CASE-MFS-15429-1				US-PATENT-CLASS-528-6
N84-16560*	c 37		NASA-CASE-MFS-25510-1				US-PATENT-APPL-SN-596959				US-PATENT-CLASS-528-7
			US-PATENT-APPL-SN-293414	N84-22610* #	c 18		NASA-CASE-MSC-20543-1				US-PATENT-CLASS-568-4
			US-PATENT-CLASS-248-228				US-PATENT-APPL-SN-580574				US-PATENT-CLASS-568-5
			US-PATENT-4,422,609	N84-22612* #	c 18		NASA-CASE-ARC-11505-1				US-PATENT-4,444,972
N84-16561*	c 37		NASA-CASE-LAR-12785-1				US-PATENT-APPL-SN-588036	N84-22820*	c 32		NASA-CASE-MSC-18675-1
			US-PATENT-APPL-SN-297488				US-PATENT-APPL-SN-495381				US-PATENT-APPL-SN-266687
			US-PATENT-CLASS-239-568	N84-22695*	c 24		NASA-CASE-LEW-13837-1				US-PATENT-CLASS-343-17.5
			US-PATENT-CLASS-241-95				US-PATENT-CLASS-204-192C				US-PATENT-CLASS-343-9R
			US-PATENT-CLASS-406-155				US-PATENT-CLASS-204-192R				US-PATENT-4,439,766
			US-PATENT-4,428,703				US-PATENT-CLASS-204-192SP	N84-22884*	c 33		NASA-CASE-MFS-256704-1
N84-16803*	c 54		NASA-CASE-MSC-20202-1				US-PATENT-CLASS-423-DIG.10				US-PATENT-APPL-SN-409679
			US-PATENT-APPL-SN-414106				US-PATENT-CLASS-423-414				US-PATENT-CLASS-204-192EC
			US-PATENT-CLASS-128-1A				US-PATENT-CLASS-423-445				US-PATENT-4,437,961
			US-PATENT-CLASS-128-15R				US-PATENT-CLASS-423-446	N84-22885*	c 33		NASA-CASE-MFS-25535-2
			US-PATENT-CLASS-128-38				US-PATENT-CLASS-423-449				US-PATENT-APPL-SN-476244
			US-PATENT-4,421,109				US-PATENT-4,437,962				US-PATENT-CLASS-318-438
N84-16940*	c 71		NASA-CASE-NPO-15592-1	N84-22709*	c 25		NASA-CASE-NPO-15210-1				US-PATENT-CLASS-318-729
			US-PATENT-APPL-SN-314702				US-PATENT-APPL-SN-322312				US-PATENT-CLASS-318-798
			US-PATENT-CLASS-118-300				US-PATENT-CLASS-208-10				US-PATENT-CLASS-318-805
			US-PATENT-CLASS-118-50.1				US-PATENT-CLASS-208-81E				US-PATENT-CLASS-318-810
			US-PATENT-CLASS-118-500				US-PATENT-4,443,321	N84-22886*	c 33		NASA-CASE-MFS-25323-1
			US-PATENT-CLASS-118-57	N84-22734*	c 26		NASA-CASE-LEW-13349-1				US-PATENT-APPL-SN-297524
			US-PATENT-CLASS-118-62				US-PATENT-APPL-SN-350476				US-PATENT-CLASS-318-729
			US-PATENT-CLASS-427-346				US-PATENT-CLASS-29-623.5				US-PATENT-CLASS-318-812
			US-PATENT-CLASS-427-421				US-PATENT-CLASS-427-115				US-PATENT-4,439,718
			US-PATENT-CLASS-427-426				US-PATENT-CLASS-427-125	N84-22887*	c 33		NASA-CASE-GSC-12567-1
			US-PATENT-CLASS-427-57				US-PATENT-CLASS-427-126.6				US-PATENT-APPL-SN-373839
			US-PATENT-CLASS-427-6				US-PATENT-CLASS-427-296				US-PATENT-CLASS-330-109
			US-PATENT-CLASS-427-6				US-PATENT-CLASS-427-306				US-PATENT-CLASS-330-277
			US-PATENT-CLASS-65-213				US-PATENT-CLASS-429-223				US-PATENT-CLASS-330-294
			US-PATENT-4,425,376				US-PATENT-4,439,465	N84-22903*	c 34		NASA-CASE-NPO-15465-1
N84-16959* #	c 72		NASA-CASE-NPO-15547-1	N84-22744*	c 27		NASA-CASE-ARC-11402-1				US-PATENT-APPL-SN-284289
			US-PATENT-APPL-SN-276076				US-PATENT-APPL-SN-366025				US-PATENT-CLASS-126-417
N84-17555*	c 35		NASA-CASE-NPO-15426-1				US-PATENT-CLASS-260-465.5R				US-PATENT-CLASS-165-DIG.6
			US-PATENT-APPL-SN-196877				US-PATENT-CLASS-260-465.6				US-PATENT-CLASS-165-135
			US-PATENT-CLASS-210-748				US-PATENT-CLASS-528-362				US-PATENT-CLASS-62-DIG.1
			US-PATENT-CLASS-422-121				US-PATENT-CLASS-528-401				US-PATENT-CLASS-62-264
			US-PATENT-CLASS-422-169				US-PATENT-CLASS-528-422				US-PATENT-CLASS-62-467R
			US-PATENT-CLASS-422-178				US-PATENT-CLASS-544-215				US-PATENT-4,423,605
			US-PATENT-CLASS-422-186				US-PATENT-CLASS-564-243	N84-22928*	c 35		NASA-CASE-MFS-25687-1
			US-PATENT-CLASS-55-DIG.25				US-PATENT-4,434,106				US-PATENT-APPL-SN-350474
			US-PATENT-CLASS-55-DIG.30				US-PATENT-4,434,106				US-PATENT-CLASS-324-262
			US-PATENT-CLASS-55-105	N84-22745*	c 27		NASA-CASE-ARC-11368-3				US-PATENT-CLASS-73-620
			US-PATENT-CLASS-55-12				US-PATENT-APPL-SN-288267				US-PATENT-CLASS-73-633
			US-PATENT-CLASS-55-126				US-PATENT-APPL-SN-512795				US-PATENT-CLASS-74-58
			US-PATENT-CLASS-55-131				US-PATENT-CLASS-428-370				US-PATENT-4,434,659
			US-PATENT-CLASS-55-138				US-PATENT-CLASS-428-408	N84-22929*	c 35		NASA-CASE-MFS-25405-1
			US-PATENT-CLASS-55-139				US-PATENT-CLASS-428-902				US-PATENT-APPL-SN-274708
			US-PATENT-CLASS-55-145				US-PATENT-CLASS-428-920				US-PATENT-CLASS-356-347
			US-PATENT-CLASS-55-2				US-PATENT-CLASS-525-417				US-PATENT-4,428,675
			US-PATENT-CLASS-55-270				US-PATENT-CLASS-526-262	N84-22930*	c 35		NASA-CASE-LEW-13598-1
			US-PATENT-CLASS-55-283				US-PATENT-CLASS-528-228				US-PATENT-APPL-SN-425203
			US-PATENT-CLASS-55-291				US-PATENT-CLASS-528-322				US-PATENT-CLASS-101-395
			US-PATENT-CLASS-55-466				US-PATENT-CLASS-548-415				US-PATENT-CLASS-156-630
			US-PATENT-CLASS-55-6				US-PATENT-4,395,557				US-PATENT-CLASS-156-654
			US-PATENT-CLASS-55-96				US-PATENT-4,433,115				US-PATENT-CLASS-156-905
			US-PATENT-CLASS-60-275	N84-22746*	c 27		NASA-CASE-LAR-12723-2				US-PATENT-CLASS-228-165
			US-PATENT-CLASS-60-303				US-PATENT-APPL-SN-199768				US-PATENT-4,437,923
			US-PATENT-CLASS-60-311				US-PATENT-APPL-SN-447371	N84-22931*	c 35		NASA-CASE-NPO-15398-1
			US-PATENT-4,376,637				US-PATENT-CLASS-525-426				US-PATENT-APPL-SN-259212
N84-22546*	c 04		NASA-CASE-GSC-12508-1				US-PATENT-CLASS-528-183				US-PATENT-CLASS-356-216
			US-PATENT-APPL-SN-266253				US-PATENT-CLASS-528-220				US-PATENT-CLASS-356-234
			US-PATENT-CLASS-343-356				US-PATENT-CLASS-528-345				US-PATENT-4,431,306
			US-PATENT-CLASS-343-357				US-PATENT-CLASS-528-348	N84-22932*	c 35		NASA-CASE-LAR-12967-1
			US-PATENT-4,445,118				US-PATENT-4,395,540				US-PATENT-APPL-SN-414107
N84-22551*	c 05		NASA-CASE-LAR-12541-1				US-PATENT-4,431,792				
			US-PATENT-APPL-SN-315588				NASA-CASE-LAR-12931-1				
			US-PATENT-CLASS-244-212	N84-22747*	c 27						

				US-PATENT-CLASS-310-317				US-PATENT-CLASS-350-443				US-PATENT-APPL-SN-450166
				US-PATENT-CLASS-310-334				US-PATENT-4,444,464				US-PATENT-CLASS-318-729
				US-PATENT-CLASS-310-366				NASA-CASE-LEW-14035-1				US-PATENT-CLASS-318-809
				US-PATENT-4,446,396		N84-24577*	c 07	US-PATENT-APPL-SN-136652				US-PATENT-CLASS-323-300
N84-22933*	c 35			NASA-CASE-LAR-12995-1				US-PATENT-CLASS-60-757				US-PATENT-4,459,528
				US-PATENT-APPL-SN-444150				US-PATENT-4,414,816		N84-28015*	c 35	NASA-CASE-WLP-10055-1
				US-PATENT-CLASS-181-121		N84-25037* #	c 36	NASA-CASE-NPO-16030-1				US-PATENT-APPL-SN-352827
				US-PATENT-CLASS-367-189				US-PATENT-APPL-SN-582494				US-PATENT-CLASS-73-862.65
				US-PATENT-CLASS-73-589		N84-27713*	c 04	NASA-CASE-NPO-15264-1				US-PATENT-4,425,808
				US-PATENT-CLASS-73-594				US-PATENT-APPL-SN-241154		N84-28016*	c 35	NASA-CASE-NPO-15423-1
				US-PATENT-4,445,378				US-PATENT-CLASS-343-105R				US-PATENT-APPL-SN-361216
N84-22934*	c 35			NASA-CASE-ARC-11361-1				US-PATENT-CLASS-364-452				US-PATENT-CLASS-250-296
				US-PATENT-APPL-SN-373771				US-PATENT-4,396,918				US-PATENT-4,435,642
				US-PATENT-CLASS-340-870.13		N84-27733*	c 06	NASA-CASE-LAR-12630-1		N84-28017*	c 35	NASA-CASE-NPO-15706-1
				US-PATENT-CLASS-73-147				US-PATENT-APPL-SN-383384				US-PATENT-APPL-SN-350475
				US-PATENT-CLASS-73-721				US-PATENT-CLASS-340-705				US-PATENT-CLASS-310-154
				US-PATENT-CLASS-73-756				US-PATENT-CLASS-340-971				US-PATENT-CLASS-310-171
				US-PATENT-4,442,716				US-PATENT-CLASS-340-975				US-PATENT-CLASS-310-688
N84-22943*	c 36			NASA-CASE-NPO-15516-1				US-PATENT-CLASS-340-978				US-PATENT-CLASS-335-222
				US-PATENT-APPL-SN-364126				US-PATENT-CLASS-340-980				US-PATENT-4,443,724
				US-PATENT-CLASS-372-20				US-PATENT-CLASS-73-178R		N84-28018*	c 35	NASA-CASE-MFS-25754-1
				US-PATENT-CLASS-372-28				US-PATENT-4,453,163				US-PATENT-APPL-SN-359626
				US-PATENT-CLASS-372-32		N84-27749*	c 09	NASA-CASE-MFS-25791-1				US-PATENT-CLASS-33-169F
				US-PATENT-4,434,490				US-PATENT-APPL-SN-409678				US-PATENT-CLASS-62-128
N84-22944*	c 36			NASA-CASE-LEW-13526-1				US-PATENT-CLASS-417-159				US-PATENT-CLASS-73-150R
				US-PATENT-APPL-SN-358398				US-PATENT-CLASS-73-117.1				US-PATENT-CLASS-73-170R
				US-PATENT-CLASS-118-50.1				US-PATENT-4,454,753				US-PATENT-CLASS-73-32R
				US-PATENT-CLASS-118-624		N84-27784*	c 16	NASA-CASE-MFS-25853-1				US-PATENT-CLASS-73-864.41
				US-PATENT-CLASS-118-641				US-PATENT-APPL-SN-418138				US-PATENT-4,398,412
				US-PATENT-CLASS-427-399				US-PATENT-CLASS-244-158R		N84-28019*	c 35	NASA-CASE-LAR-12743-1
				US-PATENT-CLASS-427-53.1				US-PATENT-CLASS-244-172				US-PATENT-APPL-SN-372729
				US-PATENT-4,434,189				US-PATENT-CLASS-244-63				US-PATENT-CLASS-374-1
N84-22957*	c 37			NASA-CASE-LEW-13269-2				US-PATENT-4,452,412				US-PATENT-CLASS-73-1B
				US-PATENT-APPL-SN-242795		N84-27787*	c 18	NASA-CASE-MFS-25878-1				US-PATENT-4,426,874
				US-PATENT-APPL-SN-431448				US-PATENT-APPL-SN-431886		N84-28065*	c 36	NASA-CASE-GSC-12592-1
				US-PATENT-CLASS-415-174				US-PATENT-CLASS-244-172				US-PATENT-APPL-SN-199766
				US-PATENT-CLASS-427-34				US-PATENT-CLASS-244-2				US-PATENT-CLASS-372-103
				US-PATENT-CLASS-427-423				US-PATENT-CLASS-244-63				US-PATENT-CLASS-372-4
				US-PATENT-CLASS-427-53.1				US-PATENT-4,451,017				US-PATENT-CLASS-372-71
				US-PATENT-CLASS-428-155		N84-27829*	c 24	NASA-CASE-LEW-13758-1				US-PATENT-CLASS-372-93
				US-PATENT-4,377,371				US-PATENT-APPL-SN-418139				US-PATENT-CLASS-372-95
				US-PATENT-4,430,360				US-PATENT-CLASS-73-833				US-PATENT-4,446,556
N84-22958*	c 37			NASA-CASE-LEW-12590-1				US-PATENT-CLASS-73-856		N84-28081*	c 37	NASA-CASE-NPO-14597-2
				US-PATENT-APPL-SN-229693				US-PATENT-4,452,088				US-PATENT-APPL-SN-037194
				US-PATENT-CLASS-60-730		N84-27855*	c 26	NASA-CASE-LEW-13639-2				US-PATENT-APPL-SN-401288
				US-PATENT-CLASS-60-736				US-PATENT-APPL-SN-456460				US-PATENT-CLASS-417-328
				US-PATENT-4,429,537				US-PATENT-CLASS-427-34				US-PATENT-CLASS-417-392
N84-23012* #	c 43			NASA-CASE-NPO-15656-1				US-PATENT-CLASS-427-405				US-PATENT-CLASS-417-462
				US-PATENT-APPL-SN-569370				US-PATENT-CLASS-427-419.2				US-PATENT-4,449,894
N84-23018*	c 44			NASA-CASE-NPO-15496-1				US-PATENT-CLASS-428-632		N84-28082*	c 37	NASA-CASE-GSC-12550-1
				US-PATENT-APPL-SN-379602				US-PATENT-4,451,496				US-PATENT-APPL-SN-238888
				US-PATENT-CLASS-290-55		N84-27884*	c 27	NASA-CASE-ARC-11405-1				US-PATENT-CLASS-73-468
				US-PATENT-CLASS-415-DIG.8				US-PATENT-APPL-SN-415880				US-PATENT-CLASS-74-5.5
				US-PATENT-CLASS-415-2R				US-PATENT-CLASS-528-271				US-PATENT-CLASS-74-573R
				US-PATENT-CLASS-60-641.12				US-PATENT-CLASS-528-310				US-PATENT-4,458,554
				US-PATENT-CLASS-60-698				US-PATENT-CLASS-528-327		N84-28083*	c 37	NASA-CASE-GSC-12762-1
				US-PATENT-CLASS-60-716				US-PATENT-CLASS-528-331				US-PATENT-APPL-SN-364094
				US-PATENT-4,433,544				US-PATENT-CLASS-528-362				US-PATENT-CLASS-269-224
N84-23019*	c 44			NASA-CASE-LAR-12958-1				US-PATENT-4,450,268				US-PATENT-CLASS-269-242
				US-PATENT-APPL-SN-433196		N84-27885*	c 27	NASA-CASE-LEW-13770-1				US-PATENT-CLASS-269-244
				US-PATENT-CLASS-104-DIG.4				US-PATENT-APPL-SN-404809				US-PATENT-CLASS-269-252
				US-PATENT-CLASS-204-DIG.3				US-PATENT-CLASS-526-262				US-PATENT-CLASS-269-285
				US-PATENT-CLASS-204-129				US-PATENT-CLASS-528-322				US-PATENT-4,448,408
				US-PATENT-CLASS-204-278				US-PATENT-CLASS-528-342		N84-28084*	c 37	NASA-CASE-LAR-12644-1
				US-PATENT-CLASS-204-280				US-PATENT-4,455,418				US-PATENT-APPL-SN-387728
				US-PATENT-CLASS-423-303		N84-27886*	c 27	NASA-CASE-LAR-12862-1				US-PATENT-CLASS-74-753
				US-PATENT-CLASS-429-111				US-PATENT-APPL-SN-435511				US-PATENT-CLASS-74-758
				US-PATENT-4,439,301				US-PATENT-CLASS-220-306				US-PATENT-CLASS-74-812
N84-23095*	c 52			NASA-CASE-LEW-13107-2				US-PATENT-CLASS-244-117A				US-PATENT-4,446,757
				US-PATENT-APPL-SN-444124				US-PATENT-CLASS-244-158A		N84-28085*	c 37	NASA-CASE-LAR-12786-1
				US-PATENT-CLASS-156-643				US-PATENT-4,456,208				US-PATENT-APPL-SN-309292
				US-PATENT-CLASS-156-644		N84-27951*	c 32	NASA-CASE-NPO-15024-1				US-PATENT-CLASS-30-180
				US-PATENT-CLASS-156-668				US-PATENT-APPL-SN-284287				US-PATENT-CLASS-30-188
				US-PATENT-CLASS-204-192E				US-PATENT-CLASS-343-17.7				US-PATENT-CLASS-30-228
				US-PATENT-4,432,853				US-PATENT-CLASS-434-2				US-PATENT-CLASS-30-249
N84-23113*	c 54			NASA-CASE-MSC-20261-2				US-PATENT-4,450,447				US-PATENT-CLASS-30-272R
				US-PATENT-APPL-SN-393581		N84-27952*	c 32	NASA-CASE-MSC-16170-2				US-PATENT-4,458,418
				US-PATENT-CLASS-2-161R				US-PATENT-APPL-SN-147695		N84-28203*	c 44	NASA-CASE-NPO-15388-1
				US-PATENT-CLASS-2-167				US-PATENT-APPL-SN-737975				US-PATENT-APPL-SN-284286
				US-PATENT-4,433,439				US-PATENT-CLASS-329-124				US-PATENT-CLASS-126-419
N84-23233*	c 71			NASA-CASE-NPO-15689-1				US-PATENT-CLASS-375-120				US-PATENT-CLASS-126-438
				US-PATENT-APPL-SN-358089				US-PATENT-CLASS-375-77				US-PATENT-CLASS-126-451
				US-PATENT-CLASS-310-300				US-PATENT-CLASS-375-81				US-PATENT-4,433,672
				US-PATENT-CLASS-318-116				US-PATENT-CLASS-455-202		N84-28204*	c 44	NASA-CASE-NPO-15662-1
				US-PATENT-CLASS-60-721				US-PATENT-CLASS-455-208				US-PATENT-APPL-SN-392103
				US-PATENT-CLASS-73-505				US-PATENT-CLASS-455-260				US-PATENT-CLASS-126-418
				US-PATENT-4,420,977				US-PATENT-CLASS-455-265				US-PATENT-CLASS-126-438
N84-23247*	c 74			NASA-CASE-NPO-15345-1				US-PATENT-4,455,680				US-PATENT-CLASS-126-440
				US-PATENT-APPL-SN-276749		N84-27974*	c 33	NASA-CASE-LEW-13736-1				US-PATENT-4,449,514
				US-PATENT-CLASS-358-125				US-PATENT-APPL-SN-434084		N84-28205*	c 44	NASA-CASE-LEW-13653-1
				US-PATENT-CLASS-358-213				US-PATENT-CLASS-315-3.6				US-PATENT-APPL-SN-352821
				US-PATENT-4,430,673				US-PATENT-CLASS-315-39.3				US-PATENT-CLASS-204-290
N84-23248*	c 74			NASA-CASE-GSC-12756-1				US-PATENT-CLASS-331-82				US-PATENT-CLASS-29-623.5
				US-PATENT-APPL-SN-378535				US-PATENT-CLASS-333-162				US-PATENT-CLASS-29-825
				US-PATENT-CLASS-350-172				US-PATENT-4,459,562				US-PATENT-CLASS-427-113
				US-PATENT-CLASS-350-173		N84-27975*	c 33	NASA-CASE-MFS-25854-1				US-PATENT-CLASS-427-115

		US-PATENT-CLASS-427-125		US-PATENT-APPL-SN-452466		US-PATENT-CLASS-250-251
		US-PATENT-CLASS-427-226		US-PATENT-CLASS-297-DIG.5		US-PATENT-CLASS-250-252.1
		US-PATENT-CLASS-427-372.2		US-PATENT-CLASS-428-246		US-PATENT-CLASS-250-372
		US-PATENT-CLASS-427-379		US-PATENT-CLASS-428-280		US-PATENT-CLASS-250-372
		US-PATENT-CLASS-427-380		US-PATENT-CLASS-428-287		US-PATENT-CLASS-250-372
		US-PATENT-CLASS-427-443		US-PATENT-CLASS-428-304.4		NAS 1.71:MFS-25717-1
		US-PATENT-CLASS-429-44		US-PATENT-CLASS-428-319.1		NASA-CASE-MFS-25717-1
		US-PATENT-4,454,649		US-PATENT-CLASS-428-423.5		US-PATENT-APPL-SN-441897
N84-28292*	c 47	NASA-CASE-LAR-12971-1		US-PATENT-CLASS-428-71		US-PATENT-CLASS-175-4E
		US-PATENT-APPL-SN-444149		US-PATENT-CLASS-428-76		US-PATENT-CLASS-299-1
		US-PATENT-CLASS-250-356.1		US-PATENT-CLASS-428-921		US-PATENT-4,466,667
		US-PATENT-CLASS-73-189		US-PATENT-CLASS-5-459		NAS 1.71:NPO-15341-1
		US-PATENT-CLASS-73-861.71		US-PATENT-4,463,465		NASA-CASE-NPO-15341-1
		US-PATENT-4,449,400		NAS 1.71:LEW-13233-1		US-PATENT-APPL-SN-315583
N84-28361*	c 51	NASA-CASE-ARC-11359-1	N84-33400* #	c 05	NASA-CASE-LAR-13233-1	US-PATENT-CLASS-180-168
		US-PATENT-APPL-SN-392092			US-PATENT-APPL-SN-649329	US-PATENT-CLASS-318-587
		US-PATENT-CLASS-264-41			NAS 1.71:LEW-13524-1	US-PATENT-CLASS-340-905
		US-PATENT-CLASS-521-141			NASA-CASE-LEW-13524-1	US-PATENT-CLASS-340-988
		US-PATENT-CLASS-521-142			US-PATENT-APPL-SN-238257	US-PATENT-4,472,716
		US-PATENT-CLASS-521-149			US-PATENT-CLASS-415-115	NASA-CASE-MFS-25862-2
		US-PATENT-4,456,708			US-PATENT-CLASS-60-39.29	US-PATENT-APPL-SN-460509
N84-28388*	c 52	NASA-CASE-LAR-12650-1			US-PATENT-CLASS-60-39.83	US-PATENT-CLASS-73-12
		US-PATENT-APPL-SN-264381			US-PATENT-4,416,111	US-PATENT-CLASS-73-588
		US-PATENT-CLASS-128-325			NAS 1.71:LEW-12884	US-PATENT-4,470,293
		US-PATENT-CLASS-128-346			NASA-CASE-LAR-12884-1	NAS 1.71:LEW-12995-1
		US-PATENT-CLASS-24-560			US-PATENT-APPL-SN-510136	NASA-CASE-LEW-12995-1
		US-PATENT-4,416,266			US-PATENT-CLASS-428-182	US-PATENT-APPL-SN-157150
N84-28389*	c 52	NASA-CASE-LAR-12650-2			US-PATENT-CLASS-428-184	US-PATENT-CLASS-60-303
		US-PATENT-APPL-SN-264381			US-PATENT-CLASS-428-595	US-PATENT-CLASS-60-606
		US-PATENT-APPL-SN-465363			US-PATENT-CLASS-52-814	US-PATENT-4,449,370
		US-PATENT-CLASS-156-191			US-PATENT-4,472,473	NASA-CASE-NPO-15351-2
		US-PATENT-CLASS-156-285			NAS 1.71:LEW-13639-1	US-PATENT-APPL-SN-224231
		US-PATENT-CLASS-156-289			NASA-CASE-LEW-13639-1	US-PATENT-APPL-SN-412039
		US-PATENT-CLASS-156-382			US-PATENT-APPL-SN-403378	US-PATENT-CLASS-73-178-R
		US-PATENT-CLASS-29-423			US-PATENT-CLASS-416-241R	US-PATENT-4,474,062
		US-PATENT-CLASS-29-451			US-PATENT-CLASS-428-564	NASA-CASE-LAR-12950-1
		US-PATENT-4,447,943			US-PATENT-CLASS-428-639	US-PATENT-APPL-SN-481106
N84-28484*	c 54	NASA-CASE-MSC-20261-1			US-PATENT-CLASS-428-678	US-PATENT-CLASS-73-147
		US-PATENT-APPL-SN-393586			US-PATENT-4,446,199	US-PATENT-4,475,385
		US-PATENT-CLASS-2-161R			NAS 1.71:NPO-15753-1	NAS 1.71:LEW-13230-1
		US-PATENT-CLASS-2-164			NASA-CASE-NPO-15753-1	NASA-CASE-LAR-13230-1
		US-PATENT-CLASS-2-167			US-PATENT-APPL-SN-342871	NASA-CASE-NPO-15786-1
		US-PATENT-4,454,611			US-PATENT-CLASS-219-203	US-PATENT-APPL-SN-548584
N84-28491*	c 60	NASA-CASE-GSC-12447-2			US-PATENT-CLASS-219-219	US-PATENT-CLASS-523-454
		US-PATENT-APPL-SN-128230			US-PATENT-CLASS-219-522	US-PATENT-CLASS-523-458
		US-PATENT-APPL-SN-501060			US-PATENT-CLASS-219-541	US-PATENT-CLASS-525-484
		US-PATENT-CLASS-364-900			US-PATENT-CLASS-219-543	US-PATENT-CLASS-528-407
		US-PATENT-4,435,781			US-PATENT-CLASS-338-309	US-PATENT-CLASS-528-92
N84-28492*	c 60	NASA-CASE-MSC-20258-1			US-PATENT-CLASS-428-432	US-PATENT-4,473,674
		US-PATENT-APPL-SN-235472			US-PATENT-4,459,470	NAS 1.71:NPO-15519-1
		US-PATENT-CLASS-340-825.21			NAS 1.71:MFS-25302-2	NASA-CASE-NPO-15519-1
		US-PATENT-CLASS-340-825.5			NASA-CASE-MFS-25302-2	US-PATENT-APPL-SN-314928
		US-PATENT-CLASS-364-900			US-PATENT-APPL-SN-243683	US-PATENT-CLASS-343-5-CM
		US-PATENT-4,446,459			US-PATENT-APPL-SN-481086	US-PATENT-CLASS-343-5-FT
N84-28565*	c 70	NASA-CASE-LEW-12919-2			US-PATENT-CLASS-307-87	US-PATENT-CLASS-343-5-FT
		US-PATENT-APPL-SN-264378			US-PATENT-CLASS-322-25	US-PATENT-4,471,357
		US-PATENT-APPL-SN-364072			US-PATENT-CLASS-322-29	NAS 1.71:NPO-15558-1
		US-PATENT-CLASS-313-106			US-PATENT-CLASS-322-47	NASA-CASE-NPO-15558-1
		US-PATENT-CLASS-313-107			US-PATENT-CLASS-322-95	US-PATENT-APPL-SN-373770
		US-PATENT-CLASS-313-351			US-PATENT-4,388,585	US-PATENT-CLASS-250-343
		US-PATENT-CLASS-315-5.38			US-PATENT-4,473,792	US-PATENT-CLASS-250-351
		US-PATENT-4,349,424			NAS 1.71:MFS-25852-1	US-PATENT-CLASS-356-434
		US-PATENT-4,417,175			NASA-CASE-MFS-25852-1	US-PATENT-CLASS-356-51
N84-28568*	c 71	NASA-CASE-MFS-25828-1			US-PATENT-APPL-SN-450319	US-PATENT-4,474,471
		US-PATENT-APPL-SN-493866			US-PATENT-CLASS-318-729	NAS 1.71:NPO-15808-1
		US-PATENT-CLASS-137-838			US-PATENT-CLASS-318-802	NASA-CASE-NPO-15808-1
		US-PATENT-CLASS-366-106			US-PATENT-4,469,998	US-PATENT-APPL-SN-383068
		US-PATENT-CLASS-425-6			NAS 1.71:LEW-13495-1	US-PATENT-CLASS-126-415
		US-PATENT-CLASS-65-142			NASA-CASE-LEW-13495-1	US-PATENT-CLASS-4-498
		US-PATENT-CLASS-65-160			US-PATENT-APPL-SN-368188	US-PATENT-4,470,403
		US-PATENT-CLASS-65-21.3			US-PATENT-CLASS-323-901	NASA-CASE-GSC-12652-1
		US-PATENT-CLASS-65-21.4			US-PATENT-CLASS-363-22	US-PATENT-APPL-SN-377891
		US-PATENT-4,447,251			US-PATENT-CLASS-363-49	US-PATENT-CLASS-128-24-A
N84-28575*	c 72	NASA-CASE-MFS-25641-1			US-PATENT-4,464,710	US-PATENT-CLASS-128-328
		US-PATENT-APPL-SN-342857			NAS 1.71:GSC-12682-1	US-PATENT-4,474,180
		US-PATENT-CLASS-250-305			NASA-CASE-NPO-13556-1	NASA-CASE-NPO-15786-1
		US-PATENT-CLASS-324-457			US-PATENT-APPL-SN-350477	US-PATENT-APPL-SN-366103
		US-PATENT-CLASS-324-71.3			US-PATENT-CLASS-250-367	US-PATENT-CLASS-204-1T
		US-PATENT-CLASS-324-72.5			US-PATENT-CLASS-250-385	US-PATENT-CLASS-204-37.6
		US-PATENT-4,455,532			US-PATENT-CLASS-250-483.1	US-PATENT-CLASS-204-56R
N84-28590*	c 74	NASA-CASE-NPO-15805-1			US-PATENT-CLASS-357-29	US-PATENT-CLASS-324-158D
		US-PATENT-APPL-SN-296137			US-PATENT-CLASS-357-30	US-PATENT-CLASS-324-158T
		US-PATENT-CLASS-250-332			US-PATENT-CLASS-357-32	US-PATENT-4,462,871
		US-PATENT-CLASS-250-338			US-PATENT-4,472,728	NASA-CASE-NPO-15629-1
		US-PATENT-4,443,701			NAS 1.71:NPO-13556-1	US-PATENT-APPL-SN-371351
N84-28732*	c 02	NASA-CASE-LAR-12396-1			NASA-CASE-NPO-13556-1	US-PATENT-CLASS-156-DIG.64
		US-PATENT-APPL-SN-017889			US-PATENT-APPL-SN-561369	US-PATENT-CLASS-156-DIG.88
		US-PATENT-CLASS-244-35R			US-PATENT-CLASS-250-339	US-PATENT-CLASS-156-DIG.98
		US-PATENT-CLASS-416-223R			US-PATENT-CLASS-356-188	US-PATENT-CLASS-156-608
		US-PATENT-CLASS-416-242			US-PATENT-CLASS-356-189	US-PATENT-CLASS-156-617-SP
		US-PATENT-4,459,083			US-PATENT-CLASS-356-73	US-PATENT-CLASS-156-617-V
N84-32447* #	c 25	NAS 1.71:LEW-13257-1			US-PATENT-CLASS-356-74	US-PATENT-CLASS-422-246
		NASA-CASE-LAR-13257-1			US-PATENT-4,043,668	US-PATENT-CLASS-422-249
		US-PATENT-APPL-SN-633178			NAS 1.71:NPO-15644-1	US-PATENT-4,469,552
N84-33394*	c 03	NAS 1.71:ARC-11423-1			NASA-CASE-NPO-15644-1	NAS 1.71:LEW-12787-2
		NASA-CASE-ARC-11423-1			US-PATENT-APPL-SN-358088	NASA-CASE-LAR-12787-2

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N85-21596*	c 35	US-PATENT-CLASS-222-340	N85-21992*	c 60	US-PATENT-CLASS-343-5W	N85-29118*	c 32	US-PATENT-CLASS-358-109
		US-PATENT-CLASS-222-43			US-PATENT-4,463,357			US-PATENT-CLASS-358-133
		US-PATENT-CLASS-222-48			NAS 1.71:NPO-15295-1			US-PATENT-4,513,317
		US-PATENT-4,488,663			NASA-CASE-NPO-15295-1			NASA-CASE-NPO-15743-1
N85-21597*	c 35	NASA-CASE-NPO-15759-1	N85-22104*	c 71	US-PATENT-APPL-SN-291645	N85-29142*	c 33	US-PATENT-APPL-SN-448881
		US-PATENT-APPL-SN-367136			US-PATENT-CLASS-364-200			US-PATENT-CLASS-343-876
		US-PATENT-CLASS-324-427			US-PATENT-4,481,570			US-PATENT-CLASS-455-73
		US-PATENT-CLASS-429-58			NAS 1.71:NPO-15466-1			US-PATENT-4,503,436
N85-21597*	c 35	US-PATENT-4,499,424	N85-22105*	c 71	NASA-CASE-NPO-15466-1	N85-29143*	c 33	NASA-CASE-NPO-15553-1
		US-PATENT-4,498,333			US-PATENT-APPL-SN-361217			US-PATENT-APPL-SN-437912
		NAS 1.71:NPO-16027-1			US-PATENT-CLASS-23-313R			US-PATENT-CLASS-156-DIG.62
		NASA-CASE-NPO-16027-1			US-PATENT-CLASS-55-15			US-PATENT-CLASS-364-400
N85-21598*	c 35	US-PATENT-APPL-SN-500044	N85-22139*	c 74	US-PATENT-CLASS-55-277	N85-29144*	c 33	US-PATENT-CLASS-364-453
		US-PATENT-CLASS-73-40.5A			US-PATENT-4,475,921			US-PATENT-CLASS-74-5.6D
		US-PATENT-CLASS-73-753			NAS 1.71:NPO-16022-1			US-PATENT-4,521,854
		US-PATENT-4,498,333			NASA-CASE-NPO-16022-1			NASA-CASE-NPO-15890-1-CU
N85-21631*	c 36	NAS 1.71:WLP-10055-2	N85-22396*	c 74	US-PATENT-APPL-SN-526750	N85-29145*	c 33	US-PATENT-APPL-SN-556513
		NASA-CASE-WLP-10055-2			US-PATENT-CLASS-73-505			US-PATENT-CLASS-331-31
		US-PATENT-APPL-SN-352827			US-PATENT-4,463,606			US-PATENT-CLASS-331-36C
		US-PATENT-APPL-SN-526770			NAS 1.71:NPO-15155-1			US-PATENT-CLASS-331-94.1
N85-21631*	c 36	US-PATENT-CLASS-29-610SG	N85-22877*	c 33	NASA-CASE-NPO-15155-1	N85-29146*	c 33	US-PATENT-CLASS-331-96
		US-PATENT-4,425,808			US-PATENT-CLASS-250-221			US-PATENT-CLASS-333-231
		US-PATENT-4,498,231			US-PATENT-CLASS-340-555			US-PATENT-4,517,530
		NAS 1.71:NPO-15790-1			US-PATENT-4,479,053			NASA-CASE-LEW-13102-1
N85-21639*	c 36	NASA-CASE-NPO-15790-1	N85-23396*	c 74	NAS 1.71:MFS-25861-1	N85-29147*	c 33	US-PATENT-APPL-SN-282298
		US-PATENT-APPL-SN-423016			NASA-CASE-MFS-25861-1			US-PATENT-CLASS-429-206
		US-PATENT-CLASS-250-339			US-PATENT-APPL-SN-504345			US-PATENT-CLASS-429-249
		US-PATENT-CLASS-250-343			US-PATENT-CLASS-318-729			US-PATENT-4,505,998
N85-21639*	c 36	US-PATENT-4,489,239	N85-23396*	c 74	US-PATENT-CLASS-318-812	N85-29145*	c 33	NASA-CASE-GSC-12788-1
		NAS 1.71:GSC-12558-1			US-PATENT-4,489,264			US-PATENT-APPL-SN-434085
		NASA-CASE-GSC-12558-1			NAS 1.71:NPO-15801-1			US-PATENT-CLASS-307-271
		US-PATENT-APPL-SN-383086			NASA-CASE-NPO-15801-1			US-PATENT-CLASS-307-520
N85-21649*	c 37	US-PATENT-CLASS-356-43	N85-23396*	c 74	US-PATENT-APPL-SN-478130	N85-29146*	c 33	US-PATENT-CLASS-307-521
		US-PATENT-CLASS-356-45			US-PATENT-CLASS-350-168			US-PATENT-CLASS-307-529
		US-PATENT-CLASS-374-137			US-PATENT-CLASS-350-505			US-PATENT-CLASS-328-167
		US-PATENT-CLASS-73-705			US-PATENT-CLASS-350-619			US-PATENT-CLASS-330-302
N85-21649*	c 37	US-PATENT-4,493,553	N85-23396*	c 74	US-PATENT-CLASS-356-323	N85-29146*	c 33	US-PATENT-CLASS-330-306
		NAS 1.71:MSC-20319-1			US-PATENT-CLASS-356-330			US-PATENT-4,521,702
		NASA-CASE-MSC-20319-1			US-PATENT-CLASS-356-331			NASA-CASE-GSC-12817-1
		US-PATENT-APPL-SN-393582			US-PATENT-4,497,540			US-PATENT-APPL-SN-506477
N85-21650*	c 37	US-PATENT-CLASS-292-252	N85-25436* #	c 24	NAS 1.15:76884	N85-29147*	c 33	US-PATENT-CLASS-336-198
		US-PATENT-CLASS-403-317			NASA-TM-76884			US-PATENT-CLASS-336-84C
		US-PATENT-CLASS-81-177G			NASA-CASE-LAR-13262-1			US-PATENT-4,510,476
		US-PATENT-4,483,639			US-PATENT-APPL-SN-608741			NASA-CASE-GSC-12818-1
N85-21650*	c 37	NAS 1.71:NPO-15483-1	N85-28973*	c 23	US-PATENT-CLASS-525-532	N85-29147*	c 33	US-PATENT-APPL-SN-511362
		NASA-CASE-NPO-15483-1			US-PATENT-CLASS-525-534			US-PATENT-CLASS-307-82
		US-PATENT-APPL-SN-387648			US-PATENT-CLASS-528-86			US-PATENT-CLASS-363-100
		US-PATENT-CLASS-125-13R			US-PATENT-4,510,296			US-PATENT-CLASS-363-19
N85-21650*	c 37	US-PATENT-CLASS-125-15	N85-28982*	c 25	US-PATENT-4,510,296	N85-29179*	c 34	US-PATENT-CLASS-363-23
		US-PATENT-CLASS-51-73R			NASA-CASE-LEW-13770-2			US-PATENT-CLASS-363-61
		US-PATENT-CLASS-82-90			US-PATENT-APPL-SN-404809			US-PATENT-CLASS-363-71
		US-PATENT-CLASS-83-664			US-PATENT-APPL-SN-516217			US-PATENT-CLASS-378-104
N85-21651*	c 37	US-PATENT-CLASS-83-676	N85-29005*	c 26	US-PATENT-CLASS-526-262	N85-29179*	c 34	US-PATENT-CLASS-378-112
		US-PATENT-4,475,527			US-PATENT-CLASS-528-322			US-PATENT-4,517,472
		NAS 1.71:LAR-12868-1			US-PATENT-CLASS-528-342			NASA-CASE-LEW-12950-2
		NASA-CASE-LAR-12868-1			US-PATENT-4,455,418			US-PATENT-APPL-SN-202228
N85-21652*	c 37	US-PATENT-APPL-SN-322321	N85-29005*	c 26	US-PATENT-4,514,557	N85-29180*	c 34	US-PATENT-APPL-SN-507626
		US-PATENT-CLASS-374-208			NASA-CASE-NPO-15928-1			US-PATENT-CLASS-165-104.14
		US-PATENT-CLASS-374-210			US-PATENT-APPL-SN-537616			US-PATENT-CLASS-165-32
		US-PATENT-4,491,427			US-PATENT-CLASS-204-192N			US-PATENT-CLASS-310-306
N85-21652*	c 37	NAS 1.71:NPO-15851-1	N85-29043*	c 27	US-PATENT-CLASS-427-38	N85-29180*	c 34	US-PATENT-4,506,183
		NASA-CASE-NPO-15851-1			US-PATENT-CLASS-427-47			NASA-CASE-MSC-20497-1
		US-PATENT-APPL-SN-415879			US-PATENT-4,522,844			US-PATENT-APPL-SN-615505
		US-PATENT-CLASS-134-37			NASA-CASE-NPO-16103-1			US-PATENT-CLASS-122-366
N85-21723*	c 43	US-PATENT-CLASS-15-406	N85-29044*	c 27	US-PATENT-APPL-SN-617871	N85-29212*	c 35	US-PATENT-CLASS-165-1
		US-PATENT-CLASS-422-129			US-PATENT-CLASS-525-26			US-PATENT-CLASS-165-1
		US-PATENT-CLASS-422-199			US-PATENT-CLASS-525-47			US-PATENT-CLASS-165-104.26
		US-PATENT-4,500,492			US-PATENT-CLASS-526-328			US-PATENT-4,515,207
N85-21723*	c 43	NAS 1.71:NPO-15651-1	N85-29044*	c 27	US-PATENT-CLASS-526-329.2	N85-29182* #	c 34	NAS 1.71:NPO-16494-1-CU
		NASA-CASE-NPO-15651-1			US-PATENT-CLASS-528-288			NASA-CASE-NPO-16494-1-CU
		US-PATENT-APPL-SN-375620			US-PATENT-CLASS-528-289			US-PATENT-APPL-SN-739789
		US-PATENT-CLASS-343-352			US-PATENT-CLASS-528-303			NASA-CASE-NPO-15722-1
N85-21768*	c 44	US-PATENT-CLASS-374-122	N85-29044*	c 27	US-PATENT-CLASS-528-304	N85-29212*	c 35	US-PATENT-APPL-SN-457992
		US-PATENT-4,499,470			US-PATENT-4,523,008			US-PATENT-CLASS-204-1T
		NAS 1.71:LEW-13827-1			NASA-CASE-GSC-12883-1			US-PATENT-CLASS-204-430
		NASA-CASE-LEW-13827-1			US-PATENT-APPL-SN-604337			US-PATENT-CLASS-73-336.5
N85-21768*	c 44	US-PATENT-APPL-SN-486470	N85-29044*	c 27	US-PATENT-CLASS-523-135	N85-29213*	c 35	US-PATENT-4,514,178
		US-PATENT-CLASS-136-225			US-PATENT-CLASS-524-388			NASA-CASE-MSC-18866-1
		US-PATENT-CLASS-136-246			US-PATENT-CLASS-524-567			US-PATENT-APPL-SN-350471
		US-PATENT-CLASS-357-30			US-PATENT-4,518,722			US-PATENT-CLASS-422-103
N85-21769*	c 44	US-PATENT-4,482,778	N85-29082*	c 31	NASA-CASE-NPO-16257-1	N85-29214*	c 35	US-PATENT-CLASS-422-86
		NAS 1.71:MFS-25637-1			US-PATENT-APPL-SN-588164			US-PATENT-CLASS-422-88
		NASA-CASE-MFS-25637-1			US-PATENT-CLASS-62-3			US-PATENT-CLASS-436-2
		US-PATENT-APPL-SN-375684			US-PATENT-4,507,928			US-PATENT-CLASS-73-40.7
N85-21846*	c 46	US-PATENT-CLASS-290-1R	N85-29083*	c 31	NASA-CASE-LAR-13181-1	N85-29214*	c 35	US-PATENT-CLASS-73-863.86
		US-PATENT-CLASS-290-4R			US-PATENT-APPL-SN-507623			US-PATENT-CLASS-73-864.52
		US-PATENT-CLASS-307-64			US-PATENT-CLASS-156-272.4			US-PATENT-4,515,751
		US-PATENT-CLASS-307-66			US-PATENT-CLASS-156-273.9			NASA-CASE-MSC-25707-1
N85-21846*	c 46	US-PATENT-CLASS-318-46	N85-29117*	c 32	US-PATENT-CLASS-156-380.2	N85-29264*	c 36	US-PATENT-APPL-SN-359627
		US-PATENT-CLASS-318-729			US-PATENT-CLASS-219-10.43			US-PATENT-CLASS-126-263
		US-PATENT-4,489,243			US-PATENT-CLASS-219-10.49			US-PATENT-CLASS-165-48R
		NAS 1.71:NPO-15430-1			US-PATENT-CLASS-219-10.53			US-PATENT-CLASS-165-61
N85-21846*	c 46	NASA-CASE-NPO-15430-1	N85-29117*	c 32	US-PATENT-CLASS-219-10.77	N85-29264*	c 36	US-PATENT-CLASS-165-64
		US-PATENT-APPL-SN-322317			US-PATENT-4,521,659			US-PATENT-CLASS-244-163
		US-PATENT-CLASS-343-352			NASA-CASE-NPO-15432-1			US-PATENT-4,513,810
		US-PATENT-CLASS-343-460			US-PATENT-APPL-SN-425204			NASA-CASE-NPO-16000-1

		US-PATENT-APPL-SN-384547		US-PATENT-APPL-SN-516217		US-PATENT-CLASS-148-33.2
		US-PATENT-CLASS-250-339		US-PATENT-APPL-SN-561434		US-PATENT-CLASS-156-DIG.65
		US-PATENT-CLASS-364-556		US-PATENT-CLASS-526-204		US-PATENT-CLASS-156-DIG.88
		US-PATENT-4,509,130		US-PATENT-CLASS-526-217		US-PATENT-CLASS-156-612
N85-29282*	c 37	NASA-CASE-NPO-15037-2		US-PATENT-CLASS-526-262		US-PATENT-CLASS-29-576E
		US-PATENT-APPL-SN-161257		US-PATENT-CLASS-528-314		US-PATENT-CLASS-29-576J
		US-PATENT-APPL-SN-431420		US-PATENT-CLASS-528-322		US-PATENT-CLASS-29-576W
		US-PATENT-CLASS-415-1		US-PATENT-4,495,339		US-PATENT-CLASS-29-578
		US-PATENT-CLASS-415-68	N85-30187*	c 33	NASA-CASE-NPO-16021-1	US-PATENT-CLASS-357-4
		US-PATENT-4,514,137		US-PATENT-APPL-SN-402205		US-PATENT-CLASS-357-50
N85-29283*	c 37	NASA-CASE-MSC-18852-1		US-PATENT-CLASS-324-158R		US-PATENT-4,522,661
		US-PATENT-APPL-SN-392094		US-PATENT-CLASS-324-65R	N85-30923*	c 76
		US-PATENT-CLASS-239-DIG.23		US-PATENT-4,516,071		NASA-CASE-LAR-12893-1
		US-PATENT-CLASS-239-288	N85-30281*	c 35	NASA-CASE-GSC-12851-1	US-PATENT-APPL-SN-364041
		US-PATENT-CLASS-239-322		US-PATENT-APPL-SN-459842		US-PATENT-CLASS-204-1T
		US-PATENT-CLASS-239-327		US-PATENT-CLASS-250-363S		US-PATENT-CLASS-324-158D
		US-PATENT-CLASS-239-375		US-PATENT-CLASS-250-369		US-PATENT-CLASS-324-71.5
		US-PATENT-CLASS-239-590		US-PATENT-4,521,688		US-PATENT-4,511,838
		US-PATENT-CLASS-55-DIG.42	N85-30282*	c 35	NASA-CASE-LAR-12966-1	N85-30934* #
		US-PATENT-4,519,545		US-PATENT-APPL-SN-414237		c 76
N85-29284*	c 37	NASA-CASE-MSC-20148-1		US-PATENT-CLASS-356-351		NAS 1.71:NPO-16306-1-CU
		US-PATENT-APPL-SN-636465		US-PATENT-CLASS-356-358		NASA-CASE-NPO-16306-1-CU
		US-PATENT-CLASS-251-325		US-PATENT-CLASS-356-358	N85-33187*	c 23
		US-PATENT-CLASS-251-349		US-PATENT-CLASS-73-657		NASA-CASE-ARC-11243-2
		US-PATENT-CLASS-251-353		US-PATENT-4,512,661		US-PATENT-APPL-SN-183707
		US-PATENT-CLASS-277-135	N85-30305*	c 36	NASA-CASE-NPO-15980-1	US-PATENT-CLASS-549-335
		US-PATENT-CLASS-277-80		US-PATENT-APPL-SN-385220		US-PATENT-4,528,386
		US-PATENT-4,523,741		US-PATENT-CLASS-357-17	N85-33433*	c 34
N85-29285*	c 37	NASA-CASE-LAR-13009-1		US-PATENT-CLASS-357-40		NASA-CASE-LEW-14039-1
		US-PATENT-APPL-SN-495380		US-PATENT-CLASS-357-40		US-PATENT-APPL-SN-580419
		US-PATENT-CLASS-403-28		US-PATENT-CLASS-357-46		US-PATENT-CLASS-415-115
		US-PATENT-CLASS-403-408		US-PATENT-CLASS-372-38		US-PATENT-CLASS-416-97A
		US-PATENT-CLASS-411-368		US-PATENT-CLASS-372-46		US-PATENT-4,529,358
		US-PATENT-CLASS-411-378		US-PATENT-CLASS-372-50	N85-33489*	c 37
		US-PATENT-CLASS-411-426		US-PATENT-4,513,423		NASA-CASE-LEW-13914-1
		US-PATENT-CLASS-411-501	N85-30333*	c 37	NASA-CASE-LEW-13717-1	US-PATENT-APPL-SN-537615
		US-PATENT-CLASS-411-531		US-PATENT-APPL-SN-463456		US-PATENT-CLASS-315-3.5
		US-PATENT-4,512,699		US-PATENT-CLASS-310-77		US-PATENT-CLASS-315-5.38
N85-29286*	c 37	NASA-CASE-LAR-13040-1		US-PATENT-CLASS-310-93		US-PATENT-CLASS-445-35
		US-PATENT-APPL-SN-547176		US-PATENT-CLASS-318-611	N85-33490*	c 37
		US-PATENT-CLASS-219-201		US-PATENT-CLASS-335-100		NASA-CASE-LEW-13506-1
		US-PATENT-CLASS-219-221	N85-30334*	c 37	US-PATENT-4,517,505	US-PATENT-APPL-SN-596960
		US-PATENT-CLASS-219-285		NASA-CASE-MSC-20080-1		US-PATENT-CLASS-384-101
		US-PATENT-CLASS-414-217		US-PATENT-APPL-SN-393584	N85-33701*	c 60
		US-PATENT-CLASS-73-863.11		US-PATENT-CLASS-403-15		NASA-CASE-MFS-25319-1
		US-PATENT-CLASS-73-864.81		US-PATENT-CLASS-403-16		US-PATENT-CLASS-364-723
		US-PATENT-4,516,435		US-PATENT-CLASS-403-322		US-PATENT-CLASS-364-853
N85-29693*	c 71	NASA-CASE-NPO-16147-1-CU	N85-30335*	c 37	US-PATENT-CLASS-89-1.57	US-PATENT-4,528,639
		US-PATENT-APPL-SN-559988		US-PATENT-4,512,678	N85-33826*	c 76
		US-PATENT-CLASS-73-505		NASA-CASE-LAR-12738-2		NASA-CASE-MSC-20036-1
		US-PATENT-4,520,656		US-PATENT-APPL-SN-539230		US-PATENT-APPL-SN-569372
N85-29749*	c 74	NASA-CASE-NPO-15464-1		US-PATENT-CLASS-244-158-A		US-PATENT-CLASS-204-192C
		US-PATENT-APPL-SN-342828		US-PATENT-CLASS-411-103		US-PATENT-CLASS-204-192P
		US-PATENT-CLASS-156-166		US-PATENT-CLASS-411-108		US-PATENT-CLASS-350-342
		US-PATENT-CLASS-350-320		US-PATENT-CLASS-52-127.7		US-PATENT-CLASS-428-432
		US-PATENT-CLASS-350-96.15		US-PATENT-CLASS-52-506		US-PATENT-CLASS-428-698
		US-PATENT-4,523,810		US-PATENT-CLASS-52-745		US-PATENT-CLASS-428-913
N85-29750*	c 74	NASA-CASE-MSC-18417-1	N85-30336*	c 37	US-PATENT-4,520,601	US-PATENT-4,522,469
		US-PATENT-APPL-SN-523559		NASA-CASE-LAR-12864-1	N85-34280*	c 27
		US-PATENT-CLASS-350-312		US-PATENT-APPL-SN-387646		NASA-CASE-ARC-11522-2
		US-PATENT-CLASS-350-319		US-PATENT-CLASS-403-102		US-PATENT-APPL-SN-641143
		US-PATENT-CLASS-350-321		US-PATENT-CLASS-403-322		US-PATENT-CLASS-528-168
		US-PATENT-CLASS-52-171		US-PATENT-CLASS-403-348		US-PATENT-CLASS-528-229
		US-PATENT-4,521,077		US-PATENT-4,518,277		US-PATENT-CLASS-528-352
N85-29800*	c 76	NASA-CASE-NPO-15772-1	N85-30474*	c 44	NASA-CASE-NPO-15419-2	US-PATENT-CLASS-528-353
		US-PATENT-APPL-SN-392944		US-PATENT-APPL-SN-259208		US-PATENT-4,536,565
		US-PATENT-CLASS-156-623Q		US-PATENT-APPL-SN-542557	N85-34281*	c 27
		US-PATENT-CLASS-23-295R		US-PATENT-CLASS-126-DIG.1		NASA-CASE-ARC-11424-1
		US-PATENT-4,512,846		US-PATENT-CLASS-126-400		US-PATENT-APPL-SN-598777
N85-29947*	c 05	NASA-CASE-ARC-11444-1		US-PATENT-CLASS-126-415		US-PATENT-CLASS-428-260
		US-PATENT-APPL-SN-489675		US-PATENT-CLASS-126-419		US-PATENT-CLASS-428-408
		US-PATENT-CLASS-416-145		US-PATENT-CLASS-126-900		US-PATENT-CLASS-428-DIG.1
		US-PATENT-CLASS-416-23		US-PATENT-4,512,332		US-PATENT-CLASS-525-107
		US-PATENT-CLASS-416-500	N85-30475*	c 44	NASA-CASE-NPO-16155-1	US-PATENT-CLASS-525-113
		US-PATENT-4,514,143		US-PATENT-APPL-SN-578390		US-PATENT-CLASS-525-119
N85-29991*	c 18	NASA-CASE-MFS-25837-1		US-PATENT-CLASS-136-255		US-PATENT-CLASS-525-186
		US-PATENT-APPL-SN-401282		US-PATENT-CLASS-136-256		US-PATENT-CLASS-525-229
		US-PATENT-CLASS-244-118.1		US-PATENT-CLASS-136-261		US-PATENT-CLASS-528-113
		US-PATENT-CLASS-244-158R		US-PATENT-CLASS-357-30		US-PATENT-CLASS-528-117
		US-PATENT-CLASS-248-503		US-PATENT-4,524,237		US-PATENT-CLASS-528-407
		US-PATENT-CLASS-248-555	N85-30618*	c 52	NASA-CASE-LAR-13028-1	US-PATENT-CLASS-528-94
		US-PATENT-CLASS-403-143		US-PATENT-APPL-SN-582492		US-PATENT-4,537,834
		US-PATENT-CLASS-403-56		US-PATENT-CLASS-128-660	N85-34282*	c 27
		US-PATENT-CLASS-403-76		US-PATENT-CLASS-128-736		NASA-CASE-LAR-13226-1
		US-PATENT-CLASS-403-90		US-PATENT-CLASS-374-117		US-PATENT-APPL-SN-548583
		US-PATENT-CLASS-410-79		US-PATENT-CLASS-374-160		US-PATENT-CLASS-523-454
		US-PATENT-CLASS-410-90		US-PATENT-4,513,750		US-PATENT-CLASS-523-458
		US-PATENT-4,508,296	N85-30765*	c 71	NASA-CASE-NPO-15559-1	US-PATENT-CLASS-528-106
N85-30027*	c 24	NASA-CASE-LEW-13828-1		US-PATENT-APPL-SN-379601		US-PATENT-CLASS-528-229
		US-PATENT-APPL-SN-560035		US-PATENT-CLASS-181-0.5	N85-34327*	c 32
		US-PATENT-CLASS-219-76.14		US-PATENT-CLASS-209-422		NASA-CASE-NPO-15704-1
		US-PATENT-CLASS-427-178		US-PATENT-CLASS-209-638		US-PATENT-APPL-SN-359382
		US-PATENT-CLASS-427-37	N85-30922*	c 76	US-PATENT-4,523,882	US-PATENT-CLASS-343-17.2-PC
		US-PATENT-CLASS-427-422		NASA-CASE-NPO-15813-1		US-PATENT-CLASS-343-5-CM
		US-PATENT-4,518,625		US-PATENT-APPL-SN-507624		US-PATENT-CLASS-343-5-W
N85-30039*	c 25	NASA-CASE-LEW-13770-6		US-PATENT-CLASS-148-DIG.26	N85-34333*	c 33
				US-PATENT-CLASS-148-174		NASA-CASE-NPO-15696-1
				US-PATENT-CLASS-148-175		US-PATENT-APPL-SN-387647
						US-PATENT-CLASS-364-571
						US-PATENT-CLASS-364-578
						US-PATENT-CLASS-372-32

N85-34373*	c 35	US-PATENT-4,509,132	N86-12547*	c 34	US-PATENT-CLASS-428-704	N86-19580*	c 35	US-PATENT-CLASS-357-23.6	
		NAS 1.71:NPO-15493-2			US-PATENT-4,535,035			US-PATENT-CLASS-357-30	
		NAS 1.71:NPO-15494-2			NASA-CASE-LAR-13220-1			US-PATENT-CLASS-357-58	
		US-PATENT-APPL-SN-563890			US-PATENT-APPL-SN-633179			US-PATENT-CLASS-357-59	
N85-34374*	c 35	US-PATENT-CLASS-324-65-P	N86-19304*	c 04	US-PATENT-CLASS-73-3	N86-19581*	c 35	US-PATENT-4,531,143	
		US-PATENT-CLASS-73-75			US-PATENT-CLASS-73-861.07			NASA-CASE-GSC-12795-1	
		US-PATENT-4,532,797			US-PATENT-4,538,446			US-PATENT-APPL-SN-462508	
		NASA-CASE-ARC-11503-1			NASA-CASE-KSC-11155-1			US-PATENT-CLASS-374-115	
N85-34375*	c 35	US-PATENT-APPL-SN-582643	N86-19310*	c 05	US-PATENT-APPL-SN-425201	N86-19581*	c 35	US-PATENT-CLASS-374-120	
		US-PATENT-CLASS-250-374			US-PATENT-CLASS-343-6.8-R			US-PATENT-CLASS-374-163	
		US-PATENT-CLASS-250-379			US-PATENT-4,540,986			US-PATENT-4,556,327	
		US-PATENT-4,538,066			NASA-CASE-LAR-13155-1			NASA-CASE-MSC-20250-1	
N85-34401*	c 37	NASA-CASE-LAR-13243-1	N86-19376*	c 23	US-PATENT-APPL-SN-469371	N86-19603*	c 37	US-PATENT-APPL-SN-491113	
		US-PATENT-APPL-SN-590923			US-PATENT-CLASS-244-158-A			US-PATENT-CLASS-73-862.01	
		US-PATENT-CLASS-73-831			US-PATENT-CLASS-244-158-R			US-PATENT-CLASS-73-862.54	
		US-PATENT-CLASS-73-856			US-PATENT-CLASS-244-172			US-PATENT-4,557,149	
N85-34401*	c 37	US-PATENT-4,535,636	N86-19376*	c 23	US-PATENT-4,557,444	N86-19603*	c 37	NASA-CASE-MFS-25949-1	
		NASA-CASE-MFS-25907-1			NASA-CASE-ARC-11428-1			US-PATENT-APPL-SN-538063	
		US-PATENT-APPL-SN-510137			US-PATENT-APPL-SN-499126			US-PATENT-APPL-SN-538063	
		US-PATENT-CLASS-244-118.1			US-PATENT-CLASS-260-927-N			US-PATENT-CLASS-414-730	
N85-34403*	c 37	US-PATENT-CLASS-244-158R	N86-19380*	c 24	US-PATENT-CLASS-428-410	N86-19604*	c 37	US-PATENT-CLASS-901-31	
		US-PATENT-CLASS-248-550			US-PATENT-CLASS-528-310			US-PATENT-CLASS-901-50	
		US-PATENT-CLASS-267-150			US-PATENT-CLASS-548-413			US-PATENT-4,545,723	
		US-PATENT-CLASS-267-8R			US-PATENT-CLASS-564-113			NASA-CASE-NPO-15960-1	
N85-34403*	c 37	US-PATENT-CLASS-410-156	N86-19380*	c 24	US-PATENT-CLASS-564-113	N86-19604*	c 37	US-PATENT-APPL-SN-527613	
		US-PATENT-4,536,114			US-PATENT-4,550,177			US-PATENT-CLASS-337-140	
		NASA-CASE-MSC-20127-2			NASA-CASE-ARC-11427-1			US-PATENT-CLASS-60-527	
		US-PATENT-APPL-SN-646044			US-PATENT-APPL-SN-493865			US-PATENT-CLASS-60-528	
N85-34441*	c 44	US-PATENT-CLASS-137-116.3	N86-19413*	c 25	US-PATENT-CLASS-523-433	N86-19605*	c 37	US-PATENT-4,553,393	
		US-PATENT-CLASS-137-99			US-PATENT-CLASS-523-445			NASA-CASE-NPO-16038-1	
		US-PATENT-4,509,548			US-PATENT-CLASS-523-66468			US-PATENT-APPL-SN-469864	
		NASA-CASE-LEW-14077-1			US-PATENT-CLASS-525-423			US-PATENT-CLASS-16-294	
N85-34629*	c 74	US-PATENT-APPL-SN-580573	N86-19413*	c 25	US-PATENT-CLASS-525-527	N86-19606*	c 37	US-PATENT-CLASS-403-113	
		US-PATENT-CLASS-136-253			US-PATENT-CLASS-528-102			US-PATENT-CLASS-403-120	
		US-PATENT-4,528,417			US-PATENT-CLASS-528-103			US-PATENT-4,558,967	
		NASA-CASE-NPO-15865-1			US-PATENT-4,550,129			NASA-CASE-LEW-13670-1	
N85-34722*	c 85	US-PATENT-APPL-SN-425202	N86-19413*	c 25	US-PATENT-APPL-SN-571616	N86-19606*	c 37	US-PATENT-APPL-SN-603374	
		US-PATENT-CLASS-343-13-R			US-PATENT-CLASS-374-46			US-PATENT-CLASS-384-103	
		US-PATENT-CLASS-356-5			US-PATENT-CLASS-374-8			US-PATENT-CLASS-384-106	
		US-PATENT-4,533,242			US-PATENT-CLASS-422-78			US-PATENT-4,552,466	
N85-34722*	c 85	NASA-CASE-NPO-15949-1	N86-19455*	c 27	US-PATENT-CLASS-436-155	N86-19711*	c 43	NASA-CASE-NPO-15939-1	
		US-PATENT-APPL-SN-457990			US-PATENT-CLASS-73-7			US-PATENT-APPL-SN-465365	
		US-PATENT-CLASS-414-288			US-PATENT-CLASS-73-7			US-PATENT-CLASS-343-5-CD	
		US-PATENT-CLASS-414-328			US-PATENT-4,561,784			US-PATENT-CLASS-343-5-CM	
N85-35194*	c 07	US-PATENT-CLASS-414-373	N86-19455*	c 27	NASA-CASE-ARC-11405-2	N86-19721*	c 44	US-PATENT-CLASS-343-5-VQ	
		US-PATENT-CLASS-414-786			US-PATENT-APPL-SN-514117			US-PATENT-CLASS-367-88	
		US-PATENT-4,537,554			US-PATENT-CLASS-260-245.75			US-PATENT-4,551,724	
		NASA-CASE-LAR-13019-1			US-PATENT-CLASS-260-245.9			NASA-CASE-LEW-14028-1	
N85-35194*	c 07	US-PATENT-APPL-SN-576308	N86-19456*	c 27	US-PATENT-CLASS-528-327	N86-19721*	c 44	US-PATENT-APPL-SN-642310	
		US-PATENT-CLASS-244-199			US-PATENT-4,522,755			US-PATENT-CLASS-429-109	
		US-PATENT-CLASS-244-55			NASA-CASE-LAR-13135-1			US-PATENT-CLASS-429-15	
		US-PATENT-4,533,101			US-PATENT-APPL-SN-649328			US-PATENT-CLASS-429-51	
N85-35195*	c 07	US-PATENT-CLASS-429-51	N86-19456*	c 27	US-PATENT-CLASS-525-432	N86-19885* #	c 52	US-PATENT-CLASS-429-51	
		NASA-CASE-LEW-13562-2			US-PATENT-CLASS-525-436			US-PATENT-4,543,302	
		US-PATENT-APPL-SN-500651			US-PATENT-CLASS-528-179			NAS 1.71:GSC-12944-1	
		US-PATENT-CLASS-239-402.5			US-PATENT-CLASS-528-182			NASA-CASE-GSC-12944-1	
N85-35200*	c 08	US-PATENT-CLASS-60-39.23	N86-19457*	c 27	US-PATENT-CLASS-528-185	N86-20124*	c 74	US-PATENT-APPL-SN-793006	
		US-PATENT-CLASS-60-748			US-PATENT-CLASS-528-352			NASA-CASE-MFS-25942-1	
		US-PATENT-CLASS-60-748			US-PATENT-CLASS-528-353			US-PATENT-APPL-SN-571613	
		US-PATENT-4,534,166			US-PATENT-CLASS-528-353			US-PATENT-CLASS-378-43	
N85-35200*	c 08	NASA-CASE-LAR-13076-1	N86-19457*	c 27	US-PATENT-4,552,931	N86-20125*	c 74	US-PATENT-4,562,583	
		US-PATENT-APPL-SN-532342			NASA-CASE-LEW-13864-1			NASA-CASE-ARC-11502-1	
		US-PATENT-CLASS-244-113			US-PATENT-APPL-SN-434087			US-PATENT-APPL-SN-594134	
		US-PATENT-CLASS-244-139			US-PATENT-CLASS-528-229			US-PATENT-CLASS-350-276-R	
N85-35227*	c 23	US-PATENT-CLASS-244-139	N86-19458*	c 27	US-PATENT-CLASS-528-322	N86-20125*	c 74	US-PATENT-CLASS-350-319	
		US-PATENT-CLASS-244-75-R			US-PATENT-CLASS-528-342			US-PATENT-CLASS-350-448	
		US-PATENT-4,538,778			US-PATENT-CLASS-528-345			US-PATENT-CLASS-350-537	
		NASA-CASE-NPO-16203-1			US-PATENT-4,560,742			US-PATENT-CLASS-350-580	
N85-35233*	c 24	US-PATENT-APPL-SN-493179	N86-19458*	c 27	US-PATENT-APPL-SN-649330	N86-20126*	c 74	US-PATENT-4,542,963	
		US-PATENT-CLASS-435-160			US-PATENT-CLASS-204-192-C			NASA-CASE-MSC-20418-1	
		US-PATENT-CLASS-435-842			US-PATENT-CLASS-204-192-D			US-PATENT-APPL-SN-438446	
		US-PATENT-4,539,293			US-PATENT-CLASS-204-192-R			US-PATENT-CLASS-378-58	
N85-35253*	c 25	US-PATENT-CLASS-204-298	N86-19479*	c 31	US-PATENT-CLASS-427-248.1	N86-20150*	c 76	US-PATENT-CLASS-378-59	
		US-PATENT-CLASS-427-38			US-PATENT-CLASS-428-446			US-PATENT-4,542,520	
		US-PATENT-CLASS-428-633			US-PATENT-CLASS-428-473.5			NASA-CASE-GSC-12816-1	
		US-PATENT-CLASS-428-656			US-PATENT-CLASS-428-702			US-PATENT-APPL-SN-507625	
N85-35253*	c 25	US-PATENT-CLASS-428-678	N86-19479*	c 31	US-PATENT-CLASS-428-702	N86-20150*	c 76	US-PATENT-CLASS-136-255	
		US-PATENT-CLASS-428-679			US-PATENT-4,560,577			US-PATENT-CLASS-136-262	
		US-PATENT-CLASS-428-680			NASA-CASE-LAR-13098-1			US-PATENT-CLASS-29-572	
		US-PATENT-CLASS-428-681			US-PATENT-APPL-SN-530339			US-PATENT-CLASS-357-15	
N85-35253*	c 25	US-PATENT-CLASS-428-682	N86-19479*	c 31	US-PATENT-CLASS-16-242	N86-20150*	c 76	US-PATENT-CLASS-357-30	
		US-PATENT-4,485,151			US-PATENT-CLASS-16-390			US-PATENT-4,543,442	
		US-PATENT-4,535,033			US-PATENT-CLASS-403-171			NASA-CASE-LEW-13142-2	
		NASA-CASE-NPO-15924-1			US-PATENT-CLASS-403-64			US-PATENT-APPL-SN-413011	
N85-35267*	c 26	US-PATENT-APPL-SN-526768	N86-19515*	c 33	US-PATENT-CLASS-52-632	N86-20389*	c 07	US-PATENT-CLASS-60-39.02	
		US-PATENT-CLASS-201-17			US-PATENT-CLASS-52-637			US-PATENT-CLASS-60-39.07	
		US-PATENT-CLASS-44-1-SR			US-PATENT-CLASS-52-646			US-PATENT-CLASS-60-736	
		US-PATENT-4,511,362			US-PATENT-CLASS-52-648			US-PATENT-4,550,561	
N85-35267*	c 26	NASA-CASE-LEW-13923-1	N86-19515*	c 33	US-PATENT-4,557,097	N86-20469*	c 18	NASA-CASE-MFS-25429-1	
		US-PATENT-APPL-SN-571617			NASA-CASE-GSC-12555-1			US-PATENT-APPL-SN-596959	
		US-PATENT-CLASS-427-191			US-PATENT-APPL-SN-153240			US-PATENT-CLASS-124-56	
		US-PATENT-CLASS-427-228			US-PATENT-CLASS-331-116-FE			US-PATENT-CLASS-244-158-R	
N85-35267*	c 26	US-PATENT-CLASS-427-294	N86-19516*	c 33	US-PATENT-CLASS-331-117-FE	N86-20560*	c 27	US-PATENT-CLASS-403-328	
		US-PATENT-CLASS-427-376.2			US-PATENT-4,553,110			US-PATENT-4,554,905	
		US-PATENT-CLASS-427-380			NASA-CASE-NPO-16112-1			NASA-CASE-ARC-11429-1-CU	
		US-PATENT-CLASS-427-397.7			US-PATENT-APPL-SN-542232			US-PATENT-APPL-SN-553333	
N85-35267*	c 26	US-PATENT-CLASS-428-698	N86-19516*	c 33	US-PATENT-APPL-SN-542232	N86-20560*	c 27	US-PATENT-APPL-SN-553333	

			US-PATENT-CLASS-524-548				NASA-CASE-ARC-11349-1				US-PATENT-CLASS-428-474.4
			US-PATENT-CLASS-525-186				US-PATENT-APPL-SN-746160				US-PATENT-CLASS-428-477.7
			US-PATENT-CLASS-526-262				NAS 1.71:NPO-16233-1				US-PATENT-CLASS-528-170
			US-PATENT-CLASS-526-265				NASA-CASE-NPO-16233-1				US-PATENT-CLASS-528-220
			US-PATENT-4,526,925				US-PATENT-APPL-SN-737018				US-PATENT-CLASS-528-321
N86-20561*	c 27		NASA-CASE-LAR-13384-1				NASA-CASE-MFS-25910-1				US-PATENT-CLASS-528-322
			US-PATENT-APPL-SN-663840				US-PATENT-APPL-SN-548582				US-PATENT-4,579,782
			US-PATENT-CLASS-156-307				US-PATENT-CLASS-73-150-A				NASA-CASE-NPO-16392-1
			US-PATENT-CLASS-156-309.9				US-PATENT-CLASS-73-827				US-PATENT-APPL-SN-633363
			US-PATENT-CLASS-156-331.5				US-PATENT-4,548,083				US-PATENT-CLASS-208-11
			US-PATENT-CLASS-256-308.2				NASA-CASE-LAR-12968-1				US-PATENT-CLASS-48-197-R
			US-PATENT-CLASS-427-385.5				US-PATENT-APPL-SN-523560				US-PATENT-CLASS-8-DIG.9
			US-PATENT-CLASS-427-388.1				US-PATENT-CLASS-364-728				US-PATENT-4,582,590
			US-PATENT-CLASS-428-458				US-PATENT-4,545,025				NASA-CASE-MFS-28030-1
			US-PATENT-CLASS-428-473.5				NASA-CASE-LAR-13153-1				US-PATENT-APPL-SN-719799
			US-PATENT-4,543,295				US-PATENT-APPL-SN-590921				US-PATENT-CLASS-73-861.58
N86-20647*	c 32		NASA-CASE-MFS-25750-1				US-PATENT-CLASS-72-324				US-PATENT-4,572,004
			US-PATENT-APPL-SN-530185				US-PATENT-CLASS-72-341				NASA-CASE-NPO-16271-1
			US-PATENT-CLASS-250-225				US-PATENT-CLASS-73-1-DV				US-PATENT-APPL-SN-556514
			US-PATENT-CLASS-350-354				US-PATENT-4,558,585				US-PATENT-CLASS-356-311
			US-PATENT-CLASS-358-168				NASA-CASE-MFS-25752-1				US-PATENT-CLASS-356-318
			US-PATENT-4,546,248				US-PATENT-APPL-SN-473499				US-PATENT-4,585,344
N86-20668*	c 33		NASA-CASE-GSC-12804-1				US-PATENT-CLASS-350-335				NASA-CASE-LAR-13117-1
			US-PATENT-APPL-SN-529803				US-PATENT-CLASS-356-345				US-PATENT-APPL-SN-556512
			US-PATENT-CLASS-331-1-A				US-PATENT-CLASS-356-4.5				US-PATENT-CLASS-244-159
			US-PATENT-CLASS-331-2				US-PATENT-CLASS-358-105				US-PATENT-CLASS-244-173
			US-PATENT-4,550,292				US-PATENT-CLASS-358-125				US-PATENT-CLASS-343-881
N86-20669*	c 33		NASA-CASE-GSC-12899-1				US-PATENT-CLASS-358-88				US-PATENT-CLASS-343-882
			US-PATENT-APPL-SN-613140				US-PATENT-CLASS-364-822				US-PATENT-CLASS-52-111
			US-PATENT-CLASS-191-12.2-R				US-PATENT-CLASS-382-42				US-PATENT-CLASS-52-645
			US-PATENT-CLASS-242-107				US-PATENT-4,556,986				US-PATENT-CLASS-52-648
			US-PATENT-CLASS-242-54-R				NASA-CASE-ARC-11402-3				US-PATENT-4,578,920
			US-PATENT-4,542,858				US-PATENT-APPL-SN-741405				NASA-CASE-LEW-14170-1
N86-20670*	c 33		NASA-CASE-MFS-25868-1				US-PATENT-CLASS-564-243				US-PATENT-APPL-SN-672224
			US-PATENT-APPL-SN-638584				US-PATENT-4,567,301				US-PATENT-CLASS-227-27
			US-PATENT-CLASS-330-258				NASA-CASE-ARC-11538-1SB				US-PATENT-CLASS-227-28
			US-PATENT-CLASS-330-261				US-PATENT-APPL-SN-719796				US-PATENT-4,580,791
			US-PATENT-CLASS-330-311				US-PATENT-CLASS-526-262				NASA-CASE-LAR-13169-1
			US-PATENT-4,551,687				US-PATENT-4,568,733				US-PATENT-APPL-SN-606431
N86-20671*	c 33		NASA-CASE-LEW-13773-2				NASA-CASE-LAR-12931-2				US-PATENT-CLASS-343-DIG.2
			US-PATENT-APPL-SN-638541				US-PATENT-APPL-SN-527914				US-PATENT-CLASS-343-883
			US-PATENT-CLASS-244-134-D				US-PATENT-CLASS-260-544-D				US-PATENT-CLASS-52-110
			US-PATENT-CLASS-310-324				US-PATENT-CLASS-556-436				US-PATENT-4,587,526
			US-PATENT-CLASS-39-25.35				US-PATENT-CLASS-585-24				NASA-CASE-LEW-13822-1
			US-PATENT-4,545,553				US-PATENT-4,565,886				US-PATENT-APPL-SN-625077
N86-20672*	c 33		NASA-CASE-LEW-13922-1				NASA-CASE-MFS-25905-2				US-PATENT-CLASS-42-101
			US-PATENT-APPL-SN-537614				US-PATENT-APPL-SN-601130				US-PATENT-CLASS-429-27
			US-PATENT-CLASS-307-264				US-PATENT-CLASS-65-1				US-PATENT-CLASS-429-57
			US-PATENT-CLASS-307-270				US-PATENT-CLASS-65-11.1				US-PATENT-4,584,249
			US-PATENT-CLASS-307-566				US-PATENT-CLASS-65-12				NASA-CASE-GSC-12849-1
			US-PATENT-CLASS-307-570				US-PATENT-CLASS-65-2				US-PATENT-APPL-SN-556481
			US-PATENT-CLASS-307-572				US-PATENT-4,565,557				US-PATENT-CLASS-250-228
			US-PATENT-4,547,686				NASA-CASE-LEW-13981-2				US-PATENT-CLASS-356-236
N86-20680* #	c 33		NAS 1.71:LEW-14127-1				US-PATENT-APPL-SN-714051				US-PATENT-CLASS-356-244
			NASA-CASE-LEW-14127-1				US-PATENT-CLASS-315-3.5				US-PATENT-CLASS-356-446
			US-PATENT-APPL-SN-748536				US-PATENT-CLASS-315-3.6				US-PATENT-CLASS-56-73
N86-20681* #	c 33		NAS 1.71:NPO-16420-1				US-PATENT-CLASS-315-39.3				US-PATENT-4,583,860
			NASA-CASE-NPO-16420-1				US-PATENT-CLASS-330-43				NASA-CASE-MFS-25966-1
			US-PATENT-APPL-SN-727838				US-PATENT-4,564,787				US-PATENT-APPL-SN-643522
N86-20750*	c 35		NASA-CASE-MFS-25963-1				NASA-CASE-MFS-25807-2				US-PATENT-CLASS-244-161
			US-PATENT-APPL-SN-571614				US-PATENT-APPL-SN-685607				US-PATENT-4,582,277
			US-PATENT-CLASS-165-30				US-PATENT-CLASS-219-124.34				NASA-CASE-MFS-25946-1
			US-PATENT-CLASS-165-61				US-PATENT-CLASS-318-577				US-PATENT-APPL-SN-561432
			US-PATENT-CLASS-165-65				US-PATENT-CLASS-358-101				US-PATENT-CLASS-244-158.R
			US-PATENT-CLASS-219-390				US-PATENT-CLASS-901-42				US-PATENT-CLASS-244-169
			US-PATENT-CLASS-219-395				US-PATENT-CLASS-901-47				US-PATENT-CLASS-60-203.1
			US-PATENT-CLASS-219-396				US-PATENT-4,567,348				US-PATENT-CLASS-60-39.465
			US-PATENT-CLASS-432-18				NASA-CASE-LAR-12259-2				US-PATENT-4,585,191
			US-PATENT-4,544,025				US-PATENT-APPL-SN-280152				NAS 1.71:LAR-13532-1
N86-20751*	c 35		NASA-CASE-ARC-11422-1				US-PATENT-CLASS-128-80-E				NASA-CASE-LAR-13532-1
			US-PATENT-APPL-SN-523991				US-PATENT-4,566,447				US-PATENT-APPL-SN-838649
			US-PATENT-CLASS-211-126				NAS 1.71:MFS-28013-1				NASA-CASE-MSC-20653-1
			US-PATENT-CLASS-211-74				NASA-CASE-MFS-28013-1				US-PATENT-APPL-SN-659474
			US-PATENT-4,544,068				US-PATENT-APPL-SN-765979				US-PATENT-CLASS-73-863.21
N86-20752*	c 35		NASA-CASE-NPO-16142-1-CU				NAS 1.71:KSC-11304-2				US-PATENT-CLASS-73-863.31
			US-PATENT-APPL-SN-561433				NASA-CASE-KSC-11304-2				US-PATENT-CLASS-73-863.72
			US-PATENT-CLASS-73-505				US-PATENT-APPL-SN-789713				US-PATENT-CLASS-73-864.34
			US-PATENT-4,549,435				NAS 1.71:NPO-16464-1CU				US-PATENT-4,584,887
N86-20756* #	c 35		NAS 1.71:MSC-20783-1				NASA-CASE-NPO-16464-1CU				NAS 1.71:MFS-26002-1-CU
			NASA-CASE-MSC-20783-1				US-PATENT-APPL-SN-815099				NASA-CASE-MFS-26002-1-CU
			US-PATENT-APPL-SN-738931				NASA-CASE-MSC-20676-1				US-PATENT-APPL-SN-765991
N86-20788*	c 37		NASA-CASE-MFS-25842-2				US-PATENT-APPL-SN-587764				NASA-CASE-NPO-16171-1CU
			US-PATENT-APPL-SN-692875				US-PATENT-CLASS-244-159				US-PATENT-APPL-SN-551536
			US-PATENT-CLASS-277-53				US-PATENT-4,579,302				US-PATENT-CLASS-343-357
			US-PATENT-CLASS-415-174				NAS 1.71:LAR-13448-1				US-PATENT-CLASS-343-418
			US-PATENT-4,545,586				NASA-CASE-LAR-13448-1				US-PATENT-4,578,678
N86-20789*	c 37		NASA-CASE-MFS-25906-1				US-PATENT-APPL-SN-838654				NASA-CASE-LAR-12518-1
			US-PATENT-APPL-SN-537757				NAS 1.71:LAR-13292-1				US-PATENT-APPL-SN-578388
			US-PATENT-CLASS-212-230				NASA-CASE-LAR-13292-1				US-PATENT-CLASS-244-181
			US-PATENT-CLASS-414-4				US-PATENT-APPL-SN-834978				US-PATENT-CLASS-340-968
			US-PATENT-CLASS-414-718				NAS 1.71:NPO-16584-1CU				US-PATENT-CLASS-364-433
			US-PATENT-CLASS-414-753				NASA-CASE-NPO-16584-1CU				US-PATENT-CLASS-364-435
			US-PATENT-CLASS-901-25				US-PATENT-APPL-SN-802769				US-PATENT-CLASS-73-1787
			US-PATENT-CLASS-901-31				NASA-CASE-ARC-11421-3				US-PATENT-4,586,140
			US-PATENT-4,547,121				US-PATENT-APPL-SN-771538				NASA-CASE-ARC-11372-1
N86-20797* #	c 37		NAS 1.71:ARC-11349-1				US-PATENT-CLASS-428-473.5				US-PATENT-APPL-SN-415878

		US-PATENT-CLASS-200-157			US-PATENT-APPL-SN-698641			N86-32526* #	c 23	NAS 1.71:LAR-13555-1
		US-PATENT-CLASS-244-234			US-PATENT-CLASS-350-276R					NASA-CASE-LAR-13555-1
		US-PATENT-CLASS-250-211K			US-PATENT-CLASS-350-505					US-PATENT-APPL-SN-871207
		US-PATENT-CLASS-318-584			US-PATENT-CLASS-354-479			N86-32550*	c 26	NASA-CASE-GSC-12880-1
		US-PATENT-CLASS-318-640			US-PATENT-CLASS-358-222					US-PATENT-APPL-SN-590925
		US-PATENT-4,584,510			US-PATENT-4,598,981					US-PATENT-CLASS-427-191
N86-27431*	c 25	NASA-CASE-MSC-20206-1	N86-28760*	c 76	NASA-CASE-NPO-15904-1					US-PATENT-CLASS-427-192
		US-PATENT-APPL-SN-478129			US-PATENT-APPL-SN-465369					US-PATENT-CLASS-427-421
		US-PATENT-CLASS-141-198			US-PATENT-CLASS-156-DIG.88					US-PATENT-CLASS-427-427
		US-PATENT-CLASS-200-61.05			US-PATENT-CLASS-156-610					US-PATENT-4,552,784
		US-PATENT-CLASS-340-605			US-PATENT-CLASS-156-624			N86-32551*	c 26	NASA-CASE-NPO-15658-1
		US-PATENT-4,591,838			US-PATENT-4,596,626					US-PATENT-APPL-SN-451896
N86-27450*	c 27	NASA-CASE-LAR-13316-1	N86-29039*	c 27	NASA-CASE-LAR-13353-1					US-PATENT-CLASS-219-121LE
		US-PATENT-APPL-SN-613139			US-PATENT-APPL-SN-643524					US-PATENT-CLASS-219-121LY
		US-PATENT-CLASS-260-544P			US-PATENT-CLASS-264-204					US-PATENT-CLASS-264-5
		US-PATENT-CLASS-525-534			US-PATENT-CLASS-264-216					US-PATENT-CLASS-425-6
		US-PATENT-CLASS-525-535			US-PATENT-CLASS-264-236					US-PATENT-CLASS-65-142
		US-PATENT-CLASS-526-285			US-PATENT-CLASS-264-347					US-PATENT-CLASS-65-21.2
		US-PATENT-CLASS-528-171			US-PATENT-CLASS-528-183					US-PATENT-CLASS-73-505
		US-PATENT-CLASS-528-174			US-PATENT-CLASS-528-222					US-PATENT-4,553,917
		US-PATENT-CLASS-528-176			US-PATENT-CLASS-528-341			N86-32568* #	c 27	NASA-CASE-ARC-11512-2
		US-PATENT-4,587,312			US-PATENT-4,595,548					US-PATENT-APPL-SN-641153
N86-27451*	c 27	NASA-CASE-ARC-11427-2	N86-29055*	c 31	NASA-CASE-MFS-25825-1					US-PATENT-CLASS-528-336
		US-PATENT-APPL-SN-765980			US-PATENT-APPL-SN-657309					US-PATENT-CLASS-528-337
		US-PATENT-CLASS-523-434			US-PATENT-CLASS-318-605					US-PATENT-CLASS-528-340
		US-PATENT-CLASS-523-445			US-PATENT-CLASS-318-636					US-PATENT-CLASS-528-347
		US-PATENT-CLASS-523-461			US-PATENT-CLASS-318-661					US-PATENT-CLASS-564-15
		US-PATENT-CLASS-525-108			US-PATENT-CLASS-340-347CC					US-PATENT-CLASS-568-14
		US-PATENT-CLASS-525-115			US-PATENT-CLASS-340-347SY					US-PATENT-4,602,081
		US-PATENT-CLASS-525-119			US-PATENT-4,594,540			N86-32569*	c 27	NASA-CASE-LEW-14072-2
		US-PATENT-CLASS-525-122			NASA-CASE-LAR-13254-1CU					US-PATENT-APPL-SN-761235
		US-PATENT-4,588,778			US-PATENT-APPL-SN-668432					US-PATENT-CLASS-204-192C
N86-27513*	c 32	NASA-CASE-KSC-11285-1			US-PATENT-CLASS-261-78A					US-PATENT-CLASS-204-192D
		US-PATENT-APPL-SN-655601			US-PATENT-CLASS-55-255					US-PATENT-CLASS-204-298
		US-PATENT-CLASS-179-188C			US-PATENT-CLASS-55-259					US-PATENT-4,604,181
		US-PATENT-CLASS-340-347DD			US-PATENT-CLASS-55-521			N86-32587*	c 31	NASA-CASE-LEW-14130-1
		US-PATENT-CLASS-365-768			US-PATENT-CLASS-55-528					US-PATENT-APPL-SN-659475
		US-PATENT-4,588,986			US-PATENT-4,595,399					US-PATENT-CLASS-204-192C
N86-27593*	c 34	NASA-CASE-MSC-20812-1	N86-29204*	c 36	NAS 1.71:LAR-13256-1					US-PATENT-CLASS-204-192D
		US-PATENT-APPL-SN-616002			NASA-CASE-LAR-13256-1					US-PATENT-CLASS-204-298
		US-PATENT-CLASS-122-366			US-PATENT-APPL-SN-745973					US-PATENT-CLASS-313-106
		US-PATENT-CLASS-165-104.14			US-PATENT-CLASS-372-79					US-PATENT-CLASS-313-107
		US-PATENT-CLASS-165-104.26			US-PATENT-4,594,720					US-PATENT-CLASS-315-5.38
		US-PATENT-CLASS-165-41			NASA-CASE-ARC-11534-1					US-PATENT-CLASS-427-39
		US-PATENT-4,583,587			US-PATENT-APPL-SN-642602					US-PATENT-4,607,193
N86-27629*	c 37	NASA-CASE-ARC-11525-1			US-PATENT-CLASS-138-120			N86-32589* #	c 31	NAS 1.71:MFS-28153-1
		US-PATENT-APPL-SN-681041			US-PATENT-CLASS-2-2.1A					NASA-CASE-MFS-28153-1
		US-PATENT-CLASS-318-48			US-PATENT-CLASS-285-168					US-PATENT-APPL-SN-875891
		US-PATENT-CLASS-318-632			US-PATENT-CLASS-285-184			N86-32624*	c 33	NASA-CASE-GSC-12958-1
		US-PATENT-CLASS-318-663			US-PATENT-CLASS-285-227					US-PATENT-APPL-SN-727035
		US-PATENT-CLASS-318-8			US-PATENT-CLASS-403-164					US-PATENT-CLASS-331-108D
		US-PATENT-4,591,772			US-PATENT-4,598,428					US-PATENT-CLASS-331-116R
N86-27630*	c 37	NASA-CASE-LAR-13250-1	N86-29650* #	c 74	NASA-CASE-GSC-12911-1					US-PATENT-CLASS-331-166
		US-PATENT-APPL-SN-573162			US-PATENT-APPL-SN-606426					US-PATENT-CLASS-374-183
		US-PATENT-CLASS-403-312			US-PATENT-CLASS-350-315					US-PATENT-4,603,306
		US-PATENT-CLASS-403-388			US-PATENT-CLASS-350-318			N86-32695* #	c 35	NASA-CASE-NPO-16479-1CU
		US-PATENT-CLASS-403-408.1			US-PATENT-CLASS-356-402					US-PATENT-APPL-SN-719794
		US-PATENT-4,579,475			US-PATENT-CLASS-356-419					US-PATENT-CLASS-73-502
N86-27706*	c 44	NASA-CASE-NPO-16236-1			US-PATENT-4,599,001					US-PATENT-CLASS-73-521
		US-PATENT-APPL-SN-582495			NASA-CASE-ARC-11421-2					US-PATENT-4,602,509
		US-PATENT-CLASS-126-418			US-PATENT-APPL-SN-739760			N86-32696*	c 35	NASA-CASE-LAR-13294-1
		US-PATENT-CLASS-126-419			US-PATENT-CLASS-428-473.5					US-PATENT-APPL-SN-706681
		US-PATENT-CLASS-126-438			US-PATENT-CLASS-528-170					US-PATENT-CLASS-73-147
		US-PATENT-4,586,487			US-PATENT-CLASS-528-220					US-PATENT-CLASS-73-862.04
N86-28131*	c 24	NASA-CASE-ARC-11615-1SB			US-PATENT-CLASS-528-321					US-PATENT-CLASS-73-862.61
		US-PATENT-APPL-SN-706682			US-PATENT-CLASS-528-322					US-PATENT-4,604,903
		US-PATENT-CLASS-428-116			US-PATENT-4,600,769			N86-32697*	c 35	NAS 1.71:ARC-11510-1
		US-PATENT-CLASS-428-408			NASA-CASE-LAR-13351-1					NASA-CASE-ARC-11510-1
		US-PATENT-CLASS-428-921			US-PATENT-APPL-SN-643589					US-PATENT-APPL-SN-602049
		US-PATENT-CLASS-526-265			US-PATENT-CLASS-264-212					US-PATENT-CLASS-356-28.5
		US-PATENT-4,598,007			US-PATENT-CLASS-264-236					US-PATENT-CLASS-356-72
N86-28618*	c 54	NASA-CASE-ARC-11616-1			US-PATENT-CLASS-427-162					US-PATENT-CLASS-356-73
		US-PATENT-APPL-SN-684193			US-PATENT-CLASS-427-164					US-PATENT-CLASS-434-4
		US-PATENT-CLASS-128-202.11			US-PATENT-CLASS-427-165					US-PATENT-4,600,301
		US-PATENT-CLASS-2-2.1A			US-PATENT-CLASS-428-336			N86-32698*	c 35	NASA-CASE-MFS-25833-1
		US-PATENT-CLASS-2-2.1R			US-PATENT-CLASS-428-473.5					US-PATENT-APPL-SN-473827
		US-PATENT-CLASS-414-1			US-PATENT-4,603,061					US-PATENT-CLASS-324-226
		US-PATENT-CLASS-414-5			NASA-CASE-GSC-12761-1					US-PATENT-CLASS-324-238
		US-PATENT-CLASS-414-7			US-PATENT-APPL-SN-406820					US-PATENT-CLASS-324-240
		US-PATENT-CLASS-414-8			US-PATENT-CLASS-356-4.5					US-PATENT-CLASS-324-262
		US-PATENT-4,593,415			US-PATENT-CLASS-356-5					US-PATENT-CLASS-73-37.5
N86-28619*	c 54	NASA-CASE-ARC-11610-1			US-PATENT-4,600,299					US-PATENT-4,551,677
		US-PATENT-APPL-SN-684190			NASA-CASE-ARC-11504-1			N86-32736* #	c 37	NASA-CASE-MFS-19796-1
		US-PATENT-CLASS-138-120			US-PATENT-APPL-SN-565481					US-PATENT-APPL-SN-770920
		US-PATENT-CLASS-2-2.1A			US-PATENT-CLASS-356-73					US-PATENT-CLASS-138-97
		US-PATENT-CLASS-2-2.1R			US-PATENT-4,605,303					US-PATENT-CLASS-165-76
		US-PATENT-CLASS-285-168			NASA-CASE-ARC-11506-2					US-PATENT-CLASS-228-119
		US-PATENT-4,598,427			US-PATENT-APPL-SN-641142					US-PATENT-CLASS-29-402.16
N86-28620*	c 54	NASA-CASE-ARC-11543-1			US-PATENT-CLASS-528-108					US-PATENT-4,605,155
		US-PATENT-APPL-SN-684192			US-PATENT-CLASS-528-124			N86-32737*	c 37	NASA-CASE-LAR-13081-1
		US-PATENT-CLASS-138-120			US-PATENT-CLASS-528-337					US-PATENT-APPL-SN-760378
		US-PATENT-CLASS-2-2.1A			US-PATENT-CLASS-528-352					US-PATENT-CLASS-52-111
		US-PATENT-CLASS-285-168			US-PATENT-CLASS-528-399					US-PATENT-CLASS-52-632
		US-PATENT-CLASS-414-7			US-PATENT-CLASS-528-406					US-PATENT-CLASS-52-645
		US-PATENT-4,594,734			US-PATENT-CLASS-528-407					US-PATENT-CLASS-52-646
N86-28732*	c 74	NASA-CASE-GSC-12825-1			US-PATENT-4,587,324					US-PATENT-4,604,844

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			US-PATENT-CLASS-528-331				US-PATENT-CLASS-307-80				US-PATENT-CLASS-333-217
			US-PATENT-CLASS-528-362				US-PATENT-CLASS-318-107				US-PATENT-4,644,306
			US-PATENT-4,649,189				US-PATENT-CLASS-318-161		N87-22950*	c 34	NASA-CASE-MSC-20841-1
N87-21159*	c 31		NASA-CASE-NPO-16393-1-CU				US-PATENT-4,649,287				US-PATENT-APPL-SN-755288
			US-PATENT-APPL-SN-701486		N87-21591*	c 60	NASA-CASE-NPO-15982-1				US-PATENT-CLASS-165-1
			US-PATENT-CLASS-62-384				US-PATENT-APPL-SN-673685				US-PATENT-CLASS-165-104.14
			US-PATENT-CLASS-62-48				US-PATENT-CLASS-371-37				US-PATENT-CLASS-165-104.25
			US-PATENT-CLASS-62-514-R				US-PATENT-CLASS-371-40				US-PATENT-CLASS-165-104.26
			US-PATENT-4,641,499				US-PATENT-4,649,541				US-PATENT-CLASS-165-34
N87-21160*	c 31		NASA-CASE-LEW-13899-1		N87-21652*	c 71	NASA-CASE-LAR-13111-1-CU		N87-22953*	c 35	NASA-CASE-NPO-16544-1-CU
			US-PATENT-APPL-SN-775968				US-PATENT-APPL-SN-751695				US-PATENT-APPL-SN-746809
			US-PATENT-CLASS-156-345				US-PATENT-CLASS-73-583				US-PATENT-CLASS-324-61-R
			US-PATENT-CLASS-156-643				US-PATENT-CLASS-73-589				US-PATENT-CLASS-73-336.5
			US-PATENT-CLASS-156-646				US-PATENT-CLASS-73-599				US-PATENT-4,662,220
			US-PATENT-CLASS-156-659.1				US-PATENT-4,644,794		N87-22976*	c 37	NASA-CASE-LAR-13009-2
			US-PATENT-CLASS-156-661.1		N87-21653*	c 71	NASA-CASE-LAR-13440-1				US-PATENT-APPL-SN-495380
			US-PATENT-CLASS-156-904				US-PATENT-APPL-SN-775989				US-PATENT-APPL-SN-698279
			US-PATENT-CLASS-204-298				US-PATENT-CLASS-73-1-DV				US-PATENT-CLASS-411-166
			US-PATENT-4,620,898				US-PATENT-CLASS-73-599				US-PATENT-CLASS-411-368
N87-21206*	c 32		NASA-CASE-LAR-13455-1		N87-21660*	c 72	NASA-CASE-NPO-16061-1-CU				US-PATENT-CLASS-411-424
			US-PATENT-APPL-SN-804040				US-PATENT-APPL-SN-729768				US-PATENT-CLASS-411-427
			US-PATENT-CLASS-250-341				US-PATENT-CLASS-250-288				US-PATENT-CLASS-411-531
			US-PATENT-CLASS-374-122				US-PATENT-CLASS-250-423-R				US-PATENT-4,572,699
			US-PATENT-CLASS-374-9				US-PATENT-CLASS-250-424		N87-22977*	c 37	NASA-CASE-MFS-25964-2
			US-PATENT-4,645,358				US-PATENT-CLASS-250-427				US-PATENT-APPL-SN-692801
N87-21207*	c 32		NASA-CASE-NPO-16256-1				US-PATENT-CLASS-313-359.1				US-PATENT-APPL-SN-853361
			US-PATENT-APPL-SN-638586				US-PATENT-CLASS-313-361.1				US-PATENT-CLASS-285-305
			US-PATENT-CLASS-329-107				US-PATENT-CLASS-313-362.1				US-PATENT-CLASS-285-81
			US-PATENT-CLASS-375-110				US-PATENT-4,649,278				US-PATENT-CLASS-285-85
			US-PATENT-CLASS-375-120		N87-21661*	c 72	NASA-CASE-NPO-16640-1-CU				US-PATENT-CLASS-285-91
			US-PATENT-CLASS-375-23				US-PATENT-APPL-SN-852468				US-PATENT-4,655,482
			US-PATENT-CLASS-455-608				US-PATENT-CLASS-250-251		N87-22985*	c 37	NASA-CASE-MSC-20979-1
			US-PATENT-4,648,133				US-PATENT-CLASS-250-396-R				US-PATENT-APPL-SN-796053
N87-21232*	c 33		NASA-CASE-GSC-13018-1				US-PATENT-CLASS-250-423-P				US-PATENT-CLASS-244/161
			US-PATENT-APPL-SN-862959				US-PATENT-CLASS-376-127				US-PATENT-4,664,344
			US-PATENT-CLASS-331-116-R				US-PATENT-4,649,273		N87-23259*	c 74	NASA-CASE-NPO-16558-1-CU
			US-PATENT-CLASS-331-117-R				US-PATENT-APPL-SN-606432				US-PATENT-APPL-SN-779744
			US-PATENT-CLASS-331-56				US-PATENT-CLASS-350-6.5				US-PATENT-CLASS-250-231-GY
			US-PATENT-4,660,000				US-PATENT-4,647,144				US-PATENT-CLASS-356-350
N87-21233*	c 33		NASA-CASE-MFS-28080-1				NASA-CASE-KSC-11282-1		N87-23286*	c 76	NASA-CASE-NPO-15800-2
			US-PATENT-APPL-SN-775548				US-PATENT-APPL-SN-751644				US-PATENT-APPL-SN-442815
			US-PATENT-CLASS-318-138				US-PATENT-CLASS-180-19.2				US-PATENT-APPL-SN-674395
			US-PATENT-CLASS-318-254				US-PATENT-CLASS-180-305				US-PATENT-CLASS-156-607
			US-PATENT-CLASS-318-439				US-PATENT-CLASS-280-47.11				US-PATENT-CLASS-156-617-H
			US-PATENT-4,644,234				US-PATENT-CLASS-296-20				US-PATENT-CLASS-156-617-SF
N87-21234*	c 33		NASA-CASE-LEW-13935-1				US-PATENT-CLASS-5-81-R				US-PATENT-4,654,110
			US-PATENT-APPL-SN-700255				US-PATENT-CLASS-60-415		N87-23631*	c 08	NASA-CASE-ARC-11633-1
			US-PATENT-CLASS-250-423-R				US-PATENT-4,646,860				US-PATENT-APPL-SN-846439
			US-PATENT-CLASS-315-111.81				US-PATENT-CLASS-12984-1				US-PATENT-CLASS-416-114
			US-PATENT-4,642,523				US-PATENT-APPL-SN-578387				US-PATENT-CLASS-416-158
N87-21235*	c 33		NASA-CASE-LAR-13151-1		N87-22678*	c 06	US-PATENT-CLASS-244-1-R				US-PATENT-4,669,958
			US-PATENT-APPL-SN-683101				US-PATENT-CLASS-340-945				NASA-CASE-ARC-11643-1-SB
			US-PATENT-CLASS-307-261				US-PATENT-CLASS-340-971		N87-23698*	c 23	US-PATENT-APPL-SN-901496
			US-PATENT-CLASS-307-354				US-PATENT-CLASS-340-975				US-PATENT-CLASS-423-276
			US-PATENT-CLASS-328-147				US-PATENT-CLASS-373-178-R				US-PATENT-CLASS-423-284
			US-PATENT-CLASS-328-164				US-PATENT-4,683,627				US-PATENT-4,676,962
			US-PATENT-CLASS-328-28				NASA-CASE-ARC-11429-2-CU		N87-23713* #	c 25	NASA-CASE-LAR-13597-1-CU
			US-PATENT-4,652,833				US-PATENT-APPL-SN-553339				US-PATENT-APPL-SN-008199
N87-21255*	c 34		NASA-CASE-ARC-11631-1		N87-22845*	c 27	US-PATENT-APPL-SN-725727				NASA-CASE-LEW-14072-3
			US-PATENT-APPL-SN-846428				US-PATENT-CLASS-524-404		N87-23736*	c 27	US-PATENT-APPL-SN-834977
			US-PATENT-CLASS-239-426				US-PATENT-CLASS-524-548				US-PATENT-CLASS-428-421
			US-PATENT-CLASS-239-434				US-PATENT-CLASS-525-182				US-PATENT-CLASS-428-422
			US-PATENT-CLASS-239-545				US-PATENT-CLASS-526-262				US-PATENT-CLASS-428-447
			US-PATENT-CLASS-73-147				US-PATENT-4,526,925				US-PATENT-CLASS-428-473.5
			US-PATENT-4,648,267				US-PATENT-4,647,615				US-PATENT-CLASS-428-702
N87-21304*	c 35		NASA-CASE-NPO-15617-1		N87-22847*	c 27	NASA-CASE-LAR-13444-1-CU				US-PATENT-4,664,980
			US-PATENT-APPL-SN-403849				US-PATENT-APPL-SN-734366		N87-23737* #	c 27	NAS 1.71:ARC-11652-1
			US-PATENT-CLASS-74-424.8-R				US-PATENT-CLASS-528-229				NASA-CASE-ARC-11652-1
			US-PATENT-CLASS-74-441				US-PATENT-CLASS-546-262				US-PATENT-APPL-SN-008242
			US-PATENT-CLASS-74-458				US-PATENT-CLASS-546-264		N87-23751*	c 27	NASA-CASE-ARC-11533-1
			US-PATENT-CLASS-74-468				US-PATENT-CLASS-564-330				US-PATENT-APPL-SN-641147
			US-PATENT-CLASS-74-89.15				US-PATENT-CLASS-564-396				US-PATENT-CLASS-548-413
			US-PATENT-4,586,394				US-PATENT-CLASS-564-430				US-PATENT-4,670,565
N87-21332*	c 37		NASA-CASE-MFS-28058-1		N87-22848*	c 27	US-PATENT-4,663,483				NASA-CASE-NPO-16467-1-CU
			US-PATENT-APPL-SN-751691				NASA-CASE-LAR-13452-1		N87-23879*	c 33	US-PATENT-APPL-SN-838648
			US-PATENT-CLASS-137-606				US-PATENT-CLASS-525-36				US-PATENT-CLASS-136-249
			US-PATENT-CLASS-251-165				US-PATENT-CLASS-528-176				US-PATENT-CLASS-136-255
			US-PATENT-4,657,044				US-PATENT-CLASS-528-184				US-PATENT-CLASS-357-30
N87-21333*	c 37		NASA-CASE-MFS-25956-1				US-PATENT-CLASS-528-192				US-PATENT-CLASS-357-35
			US-PATENT-APPL-SN-580397				US-PATENT-CLASS-528-193				US-PATENT-4,665,277
			US-PATENT-CLASS-248-316.4				US-PATENT-4,661,558		N87-23904*	c 33	NASA-CASE-GSC-12773-2
			US-PATENT-CLASS-248-550				NASA-CASE-NPO-16337-1-CU				US-PATENT-APPL-SN-809851
			US-PATENT-4,582,289				US-PATENT-APPL-SN-683111				US-PATENT-CLASS-290-1-R
N87-21334*	c 37		NASA-CASE-NPO-16423-1-CU		N87-22894*	c 33	US-PATENT-CLASS-324-158-D				US-PATENT-CLASS-310-15
			US-PATENT-APPL-SN-765978				US-PATENT-CLASS-324-158-R				US-PATENT-CLASS-310-30
			US-PATENT-CLASS-228-124				US-PATENT-4,661,770				US-PATENT-4,675,563
			US-PATENT-CLASS-228-208				NASA-CASE-GSC-12961-1		N87-23941* #	c 35	NAS 1.71:LAR-13689-1
			US-PATENT-CLASS-228-209				US-PATENT-APPL-SN-754707				NASA-CASE-LAR-13689-1-NP
			US-PATENT-CLASS-427-229				US-PATENT-CLASS-307-490				US-PATENT-APPL-SN-929869
			US-PATENT-4,650,108		N87-22895*	c 33	US-PATENT-CLASS-330-107				NASA-CASE-MFS-28087-1
N87-21410*	c 44		NASA-CASE-MFS-25978-1				US-PATENT-CLASS-330-294		N87-23944*	c 35	US-PATENT-APPL-SN-805010
			US-PATENT-APPL-SN-636459				US-PATENT-CLASS-331-177-R				US-PATENT-CLASS-373-10
			US-PATENT-CLASS-307-131				US-PATENT-CLASS-333-214				US-PATENT-CLASS-373-15
			US-PATENT-CLASS-307-31								
			US-PATENT-CLASS-307-64								
			US-PATENT-CLASS-307-66								

		US-PATENT-4,677,642	N87-25491*	c 31	NASA-CASE-MFS-28044-1		US-PATENT-4,683,809	
N87-23960*	c 36	NASA-CASE-NPO-16542-1-CU			US-PATENT-APPL-SN-804039	N87-28006*	c 36	NASA-CASE-NPO-16567-1-CU
		US-PATENT-APPL-SN-781812			US-PATENT-CLASS-408-1-R			US-PATENT-APPL-SN-760790
		US-PATENT-CLASS-350-3.73			US-PATENT-CLASS-51-281-R			US-PATENT-CLASS-250-339
		US-PATENT-CLASS-350-3.81			US-PATENT-4,680,897			US-PATENT-CLASS-250-343
		US-PATENT-CLASS-372-103	N87-25492*	c 31	NASA-CASE-LAR-13113-1			US-PATENT-CLASS-250-373
		US-PATENT-CLASS-372-18			US-PATENT-APPL-SN-831371			US-PATENT-CLASS-356-256
		US-PATENT-CLASS-372-43			US-PATENT-CLASS-182-152			US-PATENT-CLASS-356-409
		US-PATENT-4,677,629			US-PATENT-CLASS-52-108			US-PATENT-CLASS-356-51
N87-23961*	c 36	NASA-CASE-NPO-16433-1			US-PATENT-CLASS-52-632			US-PATENT-4,684,258
		US-PATENT-APPL-SN-790594			US-PATENT-CLASS-52-646	N87-28416*	c 74	NASA-CASE-ARC-11611-1
		US-PATENT-CLASS-372-68			US-PATENT-4,677,803			US-PATENT-APPL-SN-765981
		US-PATENT-CLASS-372-81	N87-25495* #	c 31	NASA-CASE-MSC-21025-1			US-PATENT-CLASS-156-163
		US-PATENT-4,677,636			US-PATENT-APPL-SN-035401			US-PATENT-CLASS-156-229
N87-23970*	c 37	NASA-CASE-NPO-15482-1	N87-25511*	c 32	NASA-CASE-NPO-16414-1-CU			US-PATENT-CLASS-156-286
		US-PATENT-APPL-SN-526739			US-PATENT-APPL-SN-729719			US-PATENT-CLASS-156-382
		US-PATENT-CLASS-310-306			US-PATENT-CLASS-332-23-A			US-PATENT-CLASS-156-494
		US-PATENT-CLASS-337-393			US-PATENT-CLASS-375-101			US-PATENT-CLASS-264-291
		US-PATENT-4,665,334			US-PATENT-CLASS-375-102			US-PATENT-4,684,424
N87-23981*	c 37	NASA-CASE-MSC-20797-1			US-PATENT-CLASS-375-39	N87-28605*	c 23	NASA-CASE-ARC-11425-2
		US-PATENT-APPL-SN-771537			US-PATENT-CLASS-375-54			US-PATENT-APPL-SN-641152
		US-PATENT-CLASS-156-286			US-PATENT-CLASS-455-65			US-PATENT-CLASS-558-145
		US-PATENT-CLASS-156-289			US-PATENT-4,675,880			US-PATENT-CLASS-558-190
		US-PATENT-CLASS-156-298	N87-25531*	c 33	NASA-CASE-MSC-20187-1			US-PATENT-CLASS-558-193
		US-PATENT-CLASS-156-307.1			US-PATENT-APPL-SN-649327			US-PATENT-4,689,421
		US-PATENT-CLASS-156-307.3			US-PATENT-CLASS-371-43	N87-28647*	c 26	NASA-CASE-LEW-14262-1
		US-PATENT-CLASS-156-307.7			US-PATENT-CLASS-375-120			US-PATENT-APPL-SN-832296
		US-PATENT-CLASS-156-87			US-PATENT-CLASS-375-54			US-PATENT-CLASS-148-162
		US-PATENT-4,676,853			US-PATENT-CLASS-375-59			US-PATENT-CLASS-148-410
N87-23982*	c 37	NASA-CASE-LAR-13100-1			US-PATENT-CLASS-375-76			US-PATENT-4,676,846
		US-PATENT-APPL-SN-831377			US-PATENT-4,682,343	N87-28656*	c 27	NASA-CASE-LEW-14392-1
		US-PATENT-CLASS-250-238	N87-25555* #	c 35	NASA-CASE-MSC-21166-1			US-PATENT-APPL-SN-886149
		US-PATENT-CLASS-250-352			US-PATENT-APPL-SN-032685			US-PATENT-CLASS-264-332
		US-PATENT-CLASS-62-514-R	N87-25558* #	c 35	NASA-CASE-LAR-13564-1			US-PATENT-CLASS-264-60
		US-PATENT-4,672,202			US-PATENT-APPL-SN-044180			US-PATENT-CLASS-264-63
N87-23983*	c 37	NASA-CASE-LAR-13198-1	N87-25561* #	c 35	NASA-CASE-LAR-13680-1			US-PATENT-CLASS-428-367
		US-PATENT-APPL-SN-729704			US-PATENT-APPL-SN-052941			US-PATENT-4,689,188
		US-PATENT-CLASS-60-634	N87-25567*	c 36	NASA-CASE-NPO-16497-1-CU	N87-28657*	c 27	NASA-CASE-LAR-13450-1
		US-PATENT-CLASS-60-638			US-PATENT-APPL-SN-783887			US-PATENT-APPL-SN-840816
		US-PATENT-CLASS-89-1.14			US-PATENT-CLASS-307-425			US-PATENT-CLASS-428-290
		US-PATENT-4,669,354			US-PATENT-CLASS-372-20			US-PATENT-CLASS-525-426
N87-24564*	c 27	NASA-CASE-ARC-11533-3			US-PATENT-CLASS-372-4			US-PATENT-CLASS-525-432
		US-PATENT-APPL-SN-852467			US-PATENT-CLASS-372-69			US-PATENT-CLASS-525-436
		US-PATENT-CLASS-528-413			US-PATENT-CLASS-372-99			US-PATENT-CLASS-525-903
		US-PATENT-4,675,379			US-PATENT-4,682,053			US-PATENT-4,695,610
N87-24575* #	c 27	NAS 1.71: LAR-13633-1	N87-25573*	c 37	NASA-CASE-ARC-11620-1	N87-28831*	c 33	NASA-CASE-LAR-13407-1
		NASA-CASE-LAR-13633-1			US-PATENT-APPL-SN-795945			US-PATENT-APPL-SN-804196
		US-PATENT-APPL-SN-011693			US-PATENT-CLASS-137-614.11			US-PATENT-CLASS-313-505
N87-24689*	c 37	NASA-CASE-MFS-28110-1			US-PATENT-CLASS-137-614.18			US-PATENT-CLASS-313-506
		US-PATENT-APPL-SN-852466			US-PATENT-CLASS-251-129.15			US-PATENT-CLASS-313-509
		US-PATENT-CLASS-239-433			US-PATENT-CLASS-251-175			US-PATENT-4,689,522
		US-PATENT-CLASS-239-596	N87-25582*	c 37	NASA-CASE-MSC-20910-1	N87-28832*	c 33	NASA-CASE-LEW-14108-1
		US-PATENT-CLASS-239-600			US-PATENT-APPL-SN-783888			US-PATENT-APPL-SN-732321
		US-PATENT-4,666,086			US-PATENT-CLASS-244-161			US-PATENT-CLASS-313-237
N87-24874*	c 52	NASA-CASE-MFS-26011-1-SB			US-PATENT-CLASS-292-DIG.49			US-PATENT-CLASS-313-278
		US-PATENT-APPL-SN-655605			US-PATENT-CLASS-292-201	N87-28833*	c 33	NASA-CASE-ARC-11613-1
		US-PATENT-CLASS-351-206			US-PATENT-CLASS-292-64			US-PATENT-APPL-SN-739792
		US-PATENT-CLASS-351-208			US-PATENT-4,682,745			US-PATENT-CLASS-244-134-D
		US-PATENT-CLASS-354-62			US-PATENT-4,682,745			US-PATENT-CLASS-318-116
		US-PATENT-4,669,836	N87-25585* #	c 37	NASA-CASE-LEW-14196-2			US-PATENT-4,690,353
N87-25334*	c 09	NASA-CASE-LAR-13522-1-SB			US-PATENT-APPL-SN-054983	N87-28867*	c 34	NASA-CASE-MSC-20946-1
		US-PATENT-APPL-SN-890575	N87-25601*	c 39	NASA-CASE-MFS-28118-1			US-PATENT-APPL-SN-875799
		US-PATENT-CLASS-73-147			US-PATENT-APPL-SN-886121			US-PATENT-CASE-165-1
		US-PATENT-CLASS-73-856			US-PATENT-CLASS-73-809			US-PATENT-CASE-165-104.25
		US-PATENT-4,682,494			US-PATENT-CLASS-73-810			US-PATENT-CASE-165-104.26
N87-25344*	c 14	NASA-CASE-ARC-11646-1			US-PATENT-4,676,110			US-PATENT-CASE-165-13
		US-PATENT-APPL-SN-924398	N87-25803* #	c 62	NASA-CASE-NPO-17058-1-CU			US-PATENT-CASE-165-32
		US-PATENT-CLASS-434-34			US-PATENT-APPL-SN-060201			US-PATENT-CASE-165-41
		US-PATENT-4,678,438	N87-25843*	c 74	NASA-CASE-MFS-29207-1			US-PATENT-4,687,048
N87-25348*	c 17	NASA-CASE-MSC-20821-1			US-PATENT-APPL-SN-713449	N87-28884*	c 35	NASA-CASE-LAR-13512-1
		US-PATENT-APPL-SN-775990			US-PATENT-APPL-SN-783890			US-PATENT-APPL-SN-901113
		US-PATENT-CLASS-358-105			US-PATENT-CLASS-219-124.34			US-PATENT-CLASS-285-137.1
		US-PATENT-CLASS-358-133			US-PATENT-CLASS-219-130.01			US-PATENT-CLASS-285-901
		US-PATENT-CLASS-358-138			US-PATENT-CLASS-219-74			US-PATENT-CLASS-73-147
		US-PATENT-4,682,225			US-PATENT-4,633,060			US-PATENT-CLASS-73-756
N87-25455*	c 26	NASA-CASE-LAR-13474-1-SB			US-PATENT-4,682,006			US-PATENT-4,698,422
		US-PATENT-APPL-SN-840900	N87-25862*	c 76	NASA-CASE-MFS-28060-1	N87-29118*	c 54	NASA-CASE-LAR-13393-1
		US-PATENT-CLASS-148-6.3			US-PATENT-APPL-SN-706565			US-PATENT-APPL-SN-760799
		US-PATENT-CLASS-204-192.15			US-PATENT-CLASS-356-128			US-PATENT-CLASS-182-223
		US-PATENT-CLASS-204-192.23			US-PATENT-CLASS-356-129			US-PATENT-CLASS-182-63
		US-PATENT-CLASS-428-607			US-PATENT-4,681,437			US-PATENT-CLASS-182-82
		US-PATENT-CLASS-428-632	N87-25868* #	c 76	NASA-CASE-NPO-16808-1-CU			US-PATENT-4,685,535
		US-PATENT-CLASS-428-651			US-PATENT-APPL-SN-027981	N87-29360*	c 76	NASA-CASE-LAR-13476-1-CU
		US-PATENT-CLASS-428-660	N87-27713*	c 18	NASA-CASE-LAR-13489-1			US-PATENT-APPL-SN-933961
		US-PATENT-4,681,818			US-PATENT-APPL-SN-890445			US-PATENT-CLASS-423-338
N87-25469*	c 27	NASA-CASE-ARC-11548-1			US-PATENT-CLASS-285-27			US-PATENT-CLASS-423-339
		US-PATENT-APPL-SN-806572			US-PATENT-CLASS-285-31			US-PATENT-4,696,808
		US-PATENT-CLASS-428-413			US-PATENT-CLASS-285-373	N87-29372*	c 82	NASA-CASE-LAR-13306-1
		US-PATENT-CLASS-428-417			US-PATENT-CLASS-285-421			US-PATENT-APPL-SN-846430
		US-PATENT-CLASS-528-108			US-PATENT-CLASS-285-86			US-PATENT-CLASS-340-407
		US-PATENT-CLASS-528-168			US-PATENT-CLASS-403-341			US-PATENT-CLASS-434-114
		US-PATENT-4,668,589			US-PATENT-4,684,156			US-PATENT-4,687,444
N87-25474* #	c 27	NASA-CASE-LAR-13732-1	N87-27742* #	c 24	NASA-CASE-LAR-13150-1	N87-29582* #	c 16	NAS 1.71: LAR-13486-1
		US-PATENT-APPL-SN-035430			US-PATENT-APPL-SN-729767			NASA-CASE-LAR-13486-1
N87-25489* #	c 29	NASA-CASE-NPO-17022-1-CU			US-PATENT-CLASS-29-156.5-R			US-PATENT-APPL-SN-076955
		US-PATENT-APPL-SN-066450			US-PATENT-CLASS-92-208			

N87-29586* #	c 18	NAS 1.71:LAR-13738-1 NASA-CASE-LAR-13738-1 US-PATENT-APPL-SN-073539	US-PATENT-CLASS-156-624 US-PATENT-CLASS-422-251 US-PATENT-CLASS-422-260	N88-23941* #	c 33	NASA-CASE-LEW-14520-1 US-PATENT-APPL-SN-130058 NASA-CASE-MSC-20181-1 US-PATENT-APPL-SN-392093 US-PATENT-CLASS-174-52-PE US-PATENT-CLASS-174-52-R US-PATENT-CLASS-174-52-S US-PATENT-CLASS-357-72 US-PATENT-CLASS-357-74 US-PATENT-CLASS-357-81 US-PATENT-CLASS-525-425 US-PATENT-4,750,031
N87-29650* #	c 26	NAS 1.71:LAR-13632-1 NASA-CASE-LAR-13632-1 US-PATENT-APPL-SN-079316	US-PATENT-4,711,697 NASA-CASE-NPO-16607-1-CU US-PATENT-APPL-SN-901114 US-PATENT-CLASS-357-30 US-PATENT-CLASS-437-128 US-PATENT-CLASS-437-131 US-PATENT-CLASS-437-3 US-PATENT-CLASS-437-7 US-PATENT-CLASS-437-8 US-PATENT-CLASS-437-969 US-PATENT-4,711,857	N88-14836* #	c 76	NASA-CASE-LAR-13202-1 US-PATENT-APPL-SN-879758 US-PATENT-CLASS-315-200-R US-PATENT-CLASS-315-227-R US-PATENT-CLASS-315-241-R US-PATENT-CLASS-315-254 US-PATENT-CLASS-315-255 US-PATENT-CLASS-315-276 US-PATENT-CLASS-315-277 US-PATENT-4,723,096
N87-29672* #	c 27	NAS 1.71:MSC-21082-1 NASA-CASE-MSC-21082-1 US-PATENT-APPL-SN-079320	NAS 1.71:ARC-11641-1 NASA-CASE-ARC-11641-1 US-PATENT-APPL-SN-862925 US-PATENT-CLASS-244-117-A US-PATENT-CLASS-244-158-A US-PATENT-CLASS-428-44 US-PATENT-CLASS-428-74 US-PATENT-CLASS-428-76 US-PATENT-CLASS-428-920 US-PATENT-4,713,275	N88-18628* #	c 24	NAS 1.71:LAR-13447-1 NASA-CASE-LAR-13447-1 US-PATENT-APPL-SN-855879 US-PATENT-CLASS-525-397 US-PATENT-CLASS-525-905 US-PATENT-4,711,932
N87-29737* #	c 33	NAS 1.71:MFS-29149-1 NASA-CASE-MFS-29149-1 US-PATENT-APPL-SN-073541	NAS 1.71:LAR-13447-1 NASA-CASE-LAR-13447-1 US-PATENT-APPL-SN-855879 US-PATENT-CLASS-525-397 US-PATENT-CLASS-525-905 US-PATENT-4,711,932	N88-18725* #	c 27	NASA-CASE-LAR-13436-1-CU US-PATENT-APPL-SN-003676 US-PATENT-CLASS-73-147 US-PATENT-CLASS-73-178-R US-PATENT-4,727,751
N88-14071* #	c 02	NASA-CASE-LAR-13286-1 US-PATENT-APPL-SN-686959 US-PATENT-CLASS-114-67R US-PATENT-CLASS-138-38 US-PATENT-CLASS-244-130 US-PATENT-CLASS-244-199 US-PATENT-CLASS-244-200 US-PATENT-CLASS-296-1S US-PATENT-4,706,910	NAS 1.71:MSC-21082-1 NASA-CASE-MSC-21082-1 US-PATENT-APPL-SN-079320	N88-23759* #	c 02	NASA-CASE-LAR-13436-1-CU US-PATENT-APPL-SN-003676 US-PATENT-CLASS-73-147 US-PATENT-CLASS-73-178-R US-PATENT-4,727,751
N88-14083* #	c 03	NASA-CASE-LAR-13470-1 US-PATENT-APPL-SN-855983 US-PATENT-CLASS-361-218 US-PATENT-CLASS-361-222 US-PATENT-4,698,723	NAS 1.71:MSC-21082-1 NASA-CASE-MSC-21082-1 US-PATENT-APPL-SN-079320	N88-23765* #	c 05	NASA-CASE-LAR-13511-1 US-PATENT-APPL-SN-013801 US-PATENT-CLASS-244-119 US-PATENT-CLASS-244-120 US-PATENT-CLASS-244-130 US-PATENT-CLASS-244-15 US-PATENT-4,735,381
N88-14179* #	c 26	NASA-CASE-LEW-14104-2 US-PATENT-APPL-SN-661481 US-PATENT-APPL-SN-823713 US-PATENT-CLASS-148-16.6 US-PATENT-CLASS-204-192.31 US-PATENT-CLASS-427-38 US-PATENT-4,704,168	NAS 1.71:MSC-21082-1 NASA-CASE-MSC-21082-1 US-PATENT-APPL-SN-079320	N88-23808* #	c 08	NASA-CASE-GSC-12970-1 US-PATENT-APPL-SN-795805 US-PATENT-CLASS-244-165 US-PATENT-4,732,353
N88-14223* #	c 31	NASA-CASE-NPO-16734-1-CU US-PATENT-APPL-SN-855982 US-PATENT-CLASS-62-467 US-PATENT-CLASS-62-48 US-PATENT-CLASS-62-514R US-PATENT-4,697,425	NAS 1.71:MSC-21082-1 NASA-CASE-MSC-21082-1 US-PATENT-APPL-SN-079320	N88-23809* #	c 08	NASA-CASE-LAR-13630-1 US-PATENT-APPL-SN-008895 US-PATENT-CLASS-244-17.19 US-PATENT-CLASS-244-91 US-PATENT-4,708,305
N88-14270* #	c 33	NASA-CASE-NPO-16764-1-CU US-PATENT-APPL-SN-904513 US-PATENT-CLASS-439-271 US-PATENT-CLASS-439-578 US-PATENT-4,698,028	NAS 1.71:MSC-21082-1 NASA-CASE-MSC-21082-1 US-PATENT-APPL-SN-079320	N88-23827* #	c 18	NASA-CASE-MSC-21056-1 US-PATENT-APPL-SN-934397 US-PATENT-CLASS-16-292 US-PATENT-CLASS-16-297 US-PATENT-CLASS-16-326 US-PATENT-CLASS-16-332 US-PATENT-CLASS-16-345 US-PATENT-CLASS-16-347 US-PATENT-CLASS-16-349 US-PATENT-4,736,490
N88-14271* #	c 33	NASA-CASE-GSC-12782-1 US-PATENT-APPL-SN-399074 US-PATENT-CLASS-357-231 US-PATENT-CLASS-357-24 US-PATENT-CLASS-357-30 US-PATENT-CLASS-357-30 US-PATENT-CLASS-357-56 US-PATENT-CLASS-357-61 US-PATENT-CLASS-357-65 US-PATENT-4,709,252	NAS 1.71:MSC-21082-1 NASA-CASE-MSC-21082-1 US-PATENT-APPL-SN-079320	N88-23828* #	c 18	NASA-CASE-LAR-13411-1-SB US-PATENT-APPL-SN-913432 US-PATENT-CLASS-180-8.6 US-PATENT-CLASS-414-735 US-PATENT-CLASS-414-750 US-PATENT-CLASS-901-1 US-PATENT-CLASS-901-33 US-PATENT-4,738,583
N88-14350* #	c 36	NASA-CASE-ARC-11634-1 US-PATENT-APPL-SN-846427 US-PATENT-CLASS-350-163 US-PATENT-CLASS-350-174 US-PATENT-CLASS-350-572 US-PATENT-CLASS-350-573 US-PATENT-CLASS-356-28.5 US-PATENT-4,697,922	NAS 1.71:MSC-21082-1 NASA-CASE-MSC-21082-1 US-PATENT-APPL-SN-079320	N88-23845* #	c 25	NASA-CASE-MFS-28142-1 US-PATENT-APPL-SN-904128 US-PATENT-CLASS-204-180.1 US-PATENT-CLASS-204-299-R US-PATENT-4,752,372
N88-14359* #	c 37	NASA-CASE-LAR-13662-1 US-PATENT-APPL-SN-790597 US-PATENT-APPL-SN-904812 US-PATENT-CLASS-228-107 US-PATENT-CLASS-228-109 US-PATENT-CLASS-228-2.5 US-PATENT-4,708,280	NAS 1.71:MSC-21082-1 NASA-CASE-MSC-21082-1 US-PATENT-APPL-SN-079320	N88-23846* #	c 25	NASA-CASE-NPO-15609-2 US-PATENT-APPL-SN-511363 US-PATENT-CLASS-159-3 US-PATENT-CLASS-159-48.2 US-PATENT-CLASS-159-900 US-PATENT-CLASS-203-90 US-PATENT-CLASS-203-91 US-PATENT-CLASS-203-98 US-PATENT-4,666,561
N88-14360* #	c 37	NASA-CASE-MFS-28001-2 US-PATENT-APPL-SN-025039 US-PATENT-APPL-SN-739788 US-PATENT-CLASS-269-43 US-PATENT-CLASS-269-71 US-PATENT-CLASS-269-73 US-PATENT-4,708,330	NAS 1.71:MSC-21082-1 NASA-CASE-MSC-21082-1 US-PATENT-APPL-SN-079320	N88-23894* #	c 27	NASA-CASE-GSC-13008-1 US-PATENT-APPL-SN-867987 US-PATENT-CLASS-264-DIG.64 US-PATENT-CLASS-264-50 US-PATENT-CLASS-425-4-R US-PATENT-4,731,211
N88-14361* #	c 37	NASA-CASE-LAR-13453-1 US-PATENT-APPL-SN-010950 US-PATENT-CLASS-33-147D US-PATENT-CLASS-73-834 US-PATENT-4,706,387	NAS 1.71:MSC-21082-1 NASA-CASE-MSC-21082-1 US-PATENT-APPL-SN-079320	N88-23917* #	c 31	NAS 1.71:NPO-17334-1-CU NASA-CASE-NPO-17334-1-CU US-PATENT-APPL-SN-149821 NAS 1.71:MSC-18808-1 NASA-CASE-MSC-18808-1 NAS 1.71:LEW-14520-1
N88-14362* #	c 37	NASA-CASE-MFS-29177-1 US-PATENT-APPL-SN-010942 US-PATENT-CLASS-219-124.34 US-PATENT-CLASS-219-130.01 US-PATENT-CLASS-219-136 US-PATENT-4,698,484	NAS 1.71:MSC-21082-1 NASA-CASE-MSC-21082-1 US-PATENT-APPL-SN-079320	N88-23923* #	c 32	NAS 1.71:MSC-18808-1 NASA-CASE-MSC-18808-1 NAS 1.71:LEW-14520-1
N88-14492* #	c 44	NASA-CASE-ARC-11622-1 US-PATENT-APPL-SN-823712 US-PATENT-CLASS-126-425 US-PATENT-CLASS-250-203R US-PATENT-4,710,618	NAS 1.71:MSC-21082-1 NASA-CASE-MSC-21082-1 US-PATENT-APPL-SN-079320	N88-23936* #	c 33	NAS 1.71:LEW-14520-1
N88-14835* #	c 76	NASA-CASE-MFS-26008-1-CU US-PATENT-APPL-SN-800194 US-PATENT-CLASS-156-621 US-PATENT-CLASS-156-622	NAS 1.71:MSC-21082-1 NASA-CASE-MSC-21082-1 US-PATENT-APPL-SN-079320	N88-23946* #	c 34	NAS 1.71:NPO-17291-1-CU NASA-CASE-NPO-17291-1-CU NASA-CASE-MSC-20841-2 US-PATENT-APPL-SN-032679 US-PATENT-APPL-SN-755288 US-PATENT-CLASS-126-423 US-PATENT-CLASS-165-1 US-PATENT-CLASS-165-104.14 US-PATENT-CLASS-165-13 US-PATENT-CLASS-165-41 US-PATENT-4,664,177 US-PATENT-4,750,543
				N88-23958* #	c 34	NAS 1.71:MFS-28287-1 NASA-CASE-MFS-28287-1 US-PATENT-APPL-SN-122740 NAS 1.71:LAR-13508-1 NASA-CASE-LAR-13508-1 US-PATENT-APPL-SN-146939 NAS 1.71:LAR-13519-1 NASA-CASE-LAR-13519-1 US-PATENT-APPL-SN-146938 NASA-CASE-MSC-20467-1 US-PATENT-APPL-SN-874319 US-PATENT-CLASS-73-587 US-PATENT-CLASS-73-801 US-PATENT-4,738,137
				N88-23962* #	c 35	NASA-CASE-LAR-13458-1 US-PATENT-APPL-SN-013802 US-PATENT-CLASS-73-794 US-PATENT-CLASS-73-810 US-PATENT-4,718,281
				N88-23963* #	c 35	NAS 1.71:MSC-21171-1 NASA-CASE-MSC-21171-1 US-PATENT-APPL-SN-135120 NAS 1.71:MFS-28273-1 NASA-CASE-MFS-28273-1 US-PATENT-APPL-SN-149830 NASA-CASE-LEW-14212-1 US-PATENT-APPL-SN-875798 US-PATENT-CLASS-415-136 US-PATENT-CLASS-415-170-R US-PATENT-4,728,257
				N88-23966* #	c 35	NASA-CASE-MFS-28185-1 US-PATENT-APPL-SN-056930 US-PATENT-CLASS-294-106 US-PATENT-CLASS-294-113 US-PATENT-CLASS-294-119.2 US-PATENT-CLASS-294-16 US-PATENT-4,723,800
				N88-23967* #	c 35	NASA-CASE-MFS-29252-1 US-PATENT-APPL-SN-044181 US-PATENT-CLASS-219-137.42 US-PATENT-CLASS-219-75 US-PATENT-4,749,839
				N88-23973* #	c 37	NASA-CASE-LAR-13435-1 US-PATENT-APPL-SN-890683 US-PATENT-CLASS-123-193-P US-PATENT-CLASS-92-176 US-PATENT-CLASS-92-212 US-PATENT-CLASS-92-214 US-PATENT-CLASS-92-222 US-PATENT-CLASS-92-224 US-PATENT-4,736,676
				N88-23974* #	c 37	NASA-CASE-LAR-12801-1 US-PATENT-APPL-SN-309291 US-PATENT-CLASS-188-373 US-PATENT-CLASS-248-548 US-PATENT-CLASS-248-608 US-PATENT-CLASS-297-216 US-PATENT-4,720,139
				N88-23978* #	c 37	NAS 1.71:LAR-13724-1 NASA-CASE-LAR-13724-1 US-PATENT-APPL-SN-125678 NASA-CASE-MFS-26009-1-SB
				N88-23979* #	c 37	
				N88-23980* #	c 37	
				N88-23981* #	c 37	
				N88-23982* #	c 37	
				N88-23983* #	c 38	
				N88-24163* #	c 54	

				US-PATENT-APPL-SN-805011				NASA-CASE-MFS-28248-1				US-PATENT-CLASS-260-386
				US-PATENT-CLASS-108-3				US-PATENT-APPL-SN-176545				US-PATENT-CLASS-260-389
				US-PATENT-CLASS-108-7		N88-24818* #	c 31	NAS 1.71:NPO-17278-1-CU				US-PATENT-CLASS-260-395
				US-PATENT-CLASS-312-196				NASA-CASE-NPO-17278-1-CU				US-PATENT-CLASS-649-241
				US-PATENT-CLASS-312-208				US-PATENT-APPL-SN-172100				US-PATENT-4,758,380
				US-PATENT-CLASS-312-300		N88-24846* #	c 32	NAS 1.71:NPO-17325-1-CU		N88-26541* #	c 32	NAS 1.71:NPO-17184-1-CU
				US-PATENT-CLASS-312-7.2				NASA-CASE-NPO-17325-1-CU				NASA-CASE-NPO-17184-1-CU
				US-PATENT-4,725,106				US-PATENT-APPL-SN-184235				US-PATENT-APPL-SN-195225
N88-24169* #	c 60			NASA-CASE-NPO-16462-1-CU		N88-24862* #	c 33	NASA-CASE-NPO-16402-2		N88-26568* #	c 32	NASA-CASE-MSC-20912-1
				US-PATENT-APPL-SN-815106				US-PATENT-APPL-SN-013803				US-PATENT-APPL-SN-831193
				US-PATENT-CLASS-364-728				US-PATENT-APPL-SN-727931				US-PATENT-CLASS-342-125
				US-PATENT-CLASS-364-757				US-PATENT-CLASS-307-106				US-PATENT-CLASS-342-127
				US-PATENT-CLASS-382-42				US-PATENT-CLASS-315-172				US-PATENT-CLASS-342-43
				US-PATENT-4,750,144				US-PATENT-CLASS-315-173				US-PATENT-CLASS-342-51
N88-24241* #	c 71			NASA-CASE-NPO-16675-1-CU				US-PATENT-CLASS-328-67				US-PATENT-4,757,315
				US-PATENT-APPL-SN-627537		N88-24863* #	c 33	US-PATENT-4,698,518		N88-26596* #	c 33	NASA-CASE-NPO-17157-1-CU
				US-PATENT-APPL-SN-789266				NAS 1.71:NPO-16882-1-CU				US-PATENT-APPL-SN-116810
				US-PATENT-CLASS-181-0.5				NASA-CASE-NPO-16882-1-CU				US-PATENT-CLASS-331-162
				US-PATENT-CLASS-367-191				US-PATENT-APPL-SN-154711				US-PATENT-CLASS-331-3
				US-PATENT-CLASS-73-505		N88-24864* #	c 33	NAS 1.71:NPO-17134-1-CU				US-PATENT-CLASS-331-94.1
				US-PATENT-4,573,356				NASA-CASE-NPO-17134-1-CU				US-PATENT-4,757,278
				US-PATENT-4,736,815				US-PATENT-APPL-SN-172105		N88-27220* #	c 17	NAS 1.71:NPO-17280-1-CU
N88-24253* #	c 72			NASA-CASE-MFS-28122-1		N88-24910* #	c 34	NAS 1.71:LAR-13952-1-SB				NASA-CASE-NPO-17280-1-CU
				US-PATENT-APPL-SN-021100				NASA-CASE-LAR-13952-1-SB				US-PATENT-APPL-SN-195226
				US-PATENT-CLASS-250-251				US-PATENT-APPL-SN-203178		N88-28914* #	c 05	NASA-CASE-ARC-11636-1
				US-PATENT-CLASS-250-423-R		N88-24927* #	c 35	NASA-CASE-MSC-20549-2				US-PATENT-APPL-SN-933963
				US-PATENT-CLASS-250-427				US-PATENT-APPL-SN-045743				US-PATENT-CLASS-244-12.3
				US-PATENT-CLASS-315-111.41				US-PATENT-APPL-SN-790596				US-PATENT-CLASS-244-12.4
				US-PATENT-CLASS-315-111.71				US-PATENT-CLASS-254-93-H				US-PATENT-CLASS-244-207
				US-PATENT-CLASS-315-111.81				US-PATENT-CLASS-254-93-R				US-PATENT-CLASS-244-45-A
				US-PATENT-4,742,232				US-PATENT-CLASS-269-147				US-PATENT-CLASS-244-55
N88-24543* #	c 76			NASA-CASE-NPO-16681-1-CU				US-PATENT-CLASS-269-246				US-PATENT-4,767,083
				US-PATENT-APPL-SN-764812				US-PATENT-CLASS-72-750		N88-28938* #	c 09	NAS 1.71:MFS-28281-1
				US-PATENT-CLASS-204-192.15				US-PATENT-4,736,927				NASA-CASE-MFS-28281-1
				US-PATENT-CLASS-204-192.24		N88-24941* #	c 35	NAS 1.71:MSC-21094-1				US-PATENT-APPL-SN-205898
				US-PATENT-4,726,890				NASA-CASE-MSC-21094-1		N88-28939* #	c 09	NASA-CASE-LEW-14374-1
N88-24544* #	c 76			NASA-CASE-MFS-28137-1				US-PATENT-APPL-SN-156393				US-PATENT-APPL-SN-060200
				US-PATENT-APPL-SN-925189		N88-24943* #	c 35	NAS 1.71:NPO-17024-1-CU				US-PATENT-CLASS-219-383
				US-PATENT-CLASS-156-DIG.70				NASA-CASE-NPO-17024-1-CU				US-PATENT-CLASS-363-97
				US-PATENT-CLASS-156-DIG.72				US-PATENT-APPL-SN-159613				US-PATENT-CLASS-60-203.1
				US-PATENT-CLASS-156-DIG.82		N88-24944* #	c 35	NAS 1.71:NPO-17390-1-CU				US-PATENT-4,766,724
				US-PATENT-CLASS-156-607				NASA-CASE-NPO-17390-1-CU		N88-28946* #	c 17	NAS 1.71:NPO-17310-1-CU
				US-PATENT-CLASS-156-621				US-PATENT-APPL-SN-205899				NASA-CASE-NPO-17310-1-CU
				US-PATENT-CLASS-156-624		N88-24958* #	c 36	NASA-CASE-MSC-20867-1				US-PATENT-APPL-SN-200874
				US-PATENT-CLASS-422-246				US-PATENT-APPL-SN-045984		N88-28958* #	c 18	NASA-CASE-MSC-21117-1
				US-PATENT-4,738,831				US-PATENT-CLASS-356-1				US-PATENT-APPL-SN-929875
N88-24545* #	c 76			NASA-CASE-MFS-28144-1				US-PATENT-CLASS-356-376				US-PATENT-CLASS-52-646
				US-PATENT-APPL-SN-924399				US-PATENT-CLASS-356-4				US-PATENT-CLASS-52-648
				US-PATENT-CLASS-156-DIG.70				US-PATENT-CLASS-358-107				US-PATENT-4,765,114
				US-PATENT-CLASS-156-DIG.72				US-PATENT-CLASS-364-561		N88-29002* #	c 25	NASA-CASE-LAR-13528-1
				US-PATENT-CLASS-156-DIG.82				US-PATENT-4,736,247				US-PATENT-APPL-SN-933962
				US-PATENT-CLASS-156-DIG.84		N88-24969* #	c 37	NAS 1.71:MSC-21354-1				US-PATENT-CLASS-236-15-E
				US-PATENT-CLASS-156-DIG.89				NASA-CASE-MSC-21354-1				US-PATENT-CLASS-364-500
				US-PATENT-CLASS-156-DIG.92				US-PATENT-APPL-SN-154712				US-PATENT-CLASS-364-557
				US-PATENT-CLASS-156-620.76		N88-24972* #	c 37	NAS 1.71:MFS-29260-1				US-PATENT-CLASS-364-571
				US-PATENT-4,740,264				NASA-CASE-MFS-29260-1				US-PATENT-CLASS-374-36
N88-24621* #	c 04			NAS 1.71:LAR-13854-1-CU				US-PATENT-APPL-SN-156059				US-PATENT-CLASS-431-13
				NASA-CASE-LAR-13854-1-CU		N88-24973* #	c 37	NAS 1.71:NPO-17354-1-CU				US-PATENT-CLASS-431-76
				US-PATENT-APPL-SN-192562				NASA-CASE-NPO-17354-1-CU				US-PATENT-4,761,744
N88-24628* #	c 05			NAS 1.71:LAR-13983-1				US-PATENT-APPL-SN-184236		N88-29012* #	c 26	NAS 1.71:LAR-13817-1
				NASA-CASE-LAR-13983-1				NAS 1.71:LAR-13705-1				NASA-CASE-LAR-13817-1
				US-PATENT-APPL-SN-192563				NASA-CASE-LAR-13705-1				US-PATENT-APPL-SN-210486
N88-24660* #	c 16			NAS 1.71:MSC-21330-1		N88-25301* #	c 74	US-PATENT-APPL-SN-203177		N88-29040* #	c 27	NASA-CASE-ARC-11649-1-SB
				NASA-CASE-MSC-21330-1				NAS 1.71:NPO-17139-1-CU				US-PATENT-APPL-SN-890577
				US-PATENT-APPL-SN-182000				NASA-CASE-NPO-17139-1-CU				US-PATENT-CLASS-501-88
N88-24662* #	c 17			NAS 1.71:MSC-21170-1				US-PATENT-APPL-SN-154718				US-PATENT-CLASS-501-91
				NASA-CASE-MSC-21170-1		N88-25302* #	c 74	NAS 1.71:LAR-13387-1				US-PATENT-CLASS-501-92
				US-PATENT-APPL-SN-182266				NASA-CASE-LAR-13387-1				US-PATENT-CLASS-501-93
N88-24671* #	c 18			NAS 1.71:MSC-21356-1				US-PATENT-APPL-SN-154716				US-PATENT-CLASS-528-10
				NASA-CASE-MSC-21356-1		N88-25304* #	c 74	NAS 1.71:NPO-17207-1-CU				US-PATENT-CLASS-528-30
				US-PATENT-APPL-SN-165956				NASA-CASE-NPO-17207-1-CU				US-PATENT-CLASS-528-4
N88-24684* #	c 20			NAS 1.71:MSC-21299-1				US-PATENT-APPL-SN-190185				US-PATENT-4,767,728
				NASA-CASE-MSC-21299-1		N88-25305* #	c 74	NAS 1.71:NPO-17144-1-CU		N88-29048* #	c 29	NAS 1.71:LAR-13607-1-CU
				US-PATENT-APPL-SN-176587				NASA-CASE-NPO-17144-1-CU				NASA-CASE-LAR-13607-1-CU
N88-24685* #	c 20			NAS 1.71:LAR-13773-1				US-PATENT-APPL-SN-187716				US-PATENT-APPL-SN-210445
				NASA-CASE-LAR-13773-1		N88-25355* #	c 76	NAS 1.71:LAR-13678-1		N88-29051* #	c 31	NAS 1.71:LAR-13638-1
				US-PATENT-APPL-SN-165946				NASA-CASE-LAR-13678-1				NASA-CASE-LAR-13638-1
N88-24692* #	c 23			NASA-CASE-ARC-11428-3				US-PATENT-APPL-SN-176547				US-PATENT-APPL-SN-223124
				US-PATENT-APPL-SN-599126		N88-25356* #	c 76	NAS 1.71:MFS-28206-1-SB		N88-29052* #	c 31	NASA-CASE-MSC-18172-3
				US-PATENT-APPL-SN-760374				NASA-CASE-MFS-28206-1-SB				US-PATENT-APPL-SN-119334
				US-PATENT-APPL-SN-924467				US-PATENT-APPL-SN-172101				US-PATENT-APPL-SN-755960
				US-PATENT-CLASS-558-80		N88-25357* #	c 76	NAS 1.71:MFS-28182-1				US-PATENT-APPL-SN-898449
				US-PATENT-CLASS-564-13				NASA-CASE-MFS-28182-1				US-PATENT-CLASS-210-500.25
				US-PATENT-4,550,177				US-PATENT-APPL-SN-161681				US-PATENT-CLASS-210-500.35
				US-PATENT-4,634,759		N88-25358* #	c 76	NAS 1.71:NPO-17259-1-CU				US-PATENT-CLASS-210-639
				US-PATENT-4,748,263				NASA-CASE-NPO-17259-1-CU				US-PATENT-CLASS-210-653
N88-24732* #	c 25			NASA-CASE-NPO-16907-1-CU				US-PATENT-APPL-SN-184234				US-PATENT-CLASS-427-245
				US-PATENT-APPL-SN-930217		N88-26398* #	c 18	NASA-CASE-MSC-20985-1				US-PATENT-4,762,619
				US-PATENT-CLASS-204-157.22				US-PATENT-APPL-SN-904134		N88-29076* #	c 32	NASA-CASE-NPO-17196-1-CU
				US-PATENT-CLASS-250-423-P				US-PATENT-CLASS-104-172.1				US-PATENT-APPL-SN-084770
				US-PATENT-CLASS-250-427				US-PATENT-CLASS-104-35				US-PATENT-CLASS-328-155
				US-PATENT-4,704,197				US-PATENT-CLASS-104-49				US-PATENT-CLASS-331-17
N88-24814* #	c 31			NAS 1.71:NPO-16985-1-CU				US-PATENT-CLASS-244-159				US-PATENT-CLASS-331-25
				NASA-CASE-NPO-16985-1-CU				US-PATENT-4,757,767				US-PATENT-4,771,250
				US-PATENT-APPL-SN-195222		N88-26404* #	c 23	NASA-CASE-LEW-14345-1		N88-29095* #	c 33	NAS 1.71:NPO-17233-1-CU
N88-24817* #	c 31			NAS 1.71:MFS-28248-1				US-PATENT-APPL-SN-924474				NASA-CASE-NPO-17233-1-CU

N88-29132*	c 34	US-PATENT-APPL-SN-231025 NASA-CASE-MSC-20840-1 US-PATENT-APPL-SN-943346 US-PATENT-CLASS-165-170 US-PATENT-CLASS-165-81 US-PATENT-4,762,173
N88-29133*	c 34	NASA-CASE-GSC-13019-1 US-PATENT-APPL-SN-942158 US-PATENT-CLASS-122-366 US-PATENT-CLASS-138-38 US-PATENT-CLASS-165-104.26 US-PATENT-CLASS-165-905 US-PATENT-4,765,396
N88-29145* #	c 35	NAS 1.71:LAR-13710-1 NASA-CASE-LAR-13710-1 US-PATENT-APPL-SN-210487
N88-29149*	c 35	NASA-CASE-LAR-13776-1 US-PATENT-APPL-SN-054980 US-PATENT-APPL-SN-846429 US-PATENT-CLASS-244-134-F US-PATENT-CLASS-324-61-R US-PATENT-CLASS-340-580 US-PATENT-4,766,369
N88-29150*	c 35	NASA-CASE-LAR-13826-1 US-PATENT-APPL-SN-102705 US-PATENT-APPL-SN-684186 US-PATENT-APPL-SN-890982 US-PATENT-CLASS-73-290-R US-PATENT-CLASS-73-304-R US-PATENT-4,765,187
N88-29151*	c 35	NASA-CASE-NPO-17068-1-CU US-PATENT-APPL-SN-076956 US-PATENT-CLASS-60-527 US-PATENT-4,765,139
N88-29180*	c 37	NASA-CASE-MSC-21207-1 US-PATENT-APPL-SN-032818 US-PATENT-CLASS-403-171 US-PATENT-CLASS-403-217 US-PATENT-CLASS-52-646 US-PATENT-CLASS-52-648 US-PATENT-4,763,459
N88-29181*	c 37	NASA-CASE-MSC-21132-1 US-PATENT-APPL-SN-118992 US-PATENT-CLASS-188-218-XL US-PATENT-CLASS-188-251-A US-PATENT-4,763,762
N88-29310*	c 60	NASA-CASE-NPO-16116-2 US-PATENT-APPL-SN-004282 US-PATENT-APPL-SN-587749 US-PATENT-CLASS-364-200 US-PATENT-4,766,533
N88-29602* #	c 76	NAS 1.71:MFS-28282-1 NASA-CASE-MFS-28282-1 US-PATENT-APPL-SN-217533
N88-29789* #	c 05	NAS 1.71:LAR-13777-1 NASA-CASE-LAR-13777-1 US-PATENT-APPL-SN-210480
N88-29888* #	c 24	NAS 1.71:LEW-14698-1 NASA-CASE-LEW-14698-1 US-PATENT-APPL-SN-219016
N88-29984* #	c 27	NAS 1.71:LEW-14203-1 NASA-CASE-LEW-14203-1 US-PATENT-APPL-SN-231026
N88-30001* #	c 32	NAS 1.71:NPO-16987-1-CU NASA-CASE-NPO-16987-1-CU US-PATENT-APPL-SN-203376
N88-30105* #	c 35	NAS 1.71:LAR-13740-1 NASA-CASE-LAR-13740-1 US-PATENT-APPL-SN-205900
N88-30108*	c 35	NASA-CASE-LAR-13797-1 US-PATENT-APPL-SN-074792 US-PATENT-APPL-SN-831372 US-PATENT-CLASS-156-233 US-PATENT-CLASS-156-247 US-PATENT-CLASS-156-272.4 US-PATENT-CLASS-156-274.8 US-PATENT-CLASS-156-275.5 US-PATENT-CLASS-156-307.7 US-PATENT-4,767,484
N88-30130* #	c 37	NAS 1.71:LAR-13898-1 NASA-CASE-LAR-13898-1 US-PATENT-APPL-SN-225427
N88-30131*	c 37	NASA-CASE-MSC-20900-1 US-PATENT-APPL-SN-079317 US-PATENT-CLASS-219-121.54 US-PATENT-CLASS-219-121.56 US-PATENT-CLASS-219-121.57 US-PATENT-CLASS-219-124.02 US-PATENT-CLASS-219-130.4 US-PATENT-4,766,286
N88-30160* #	c 39	NAS 1.71:LAR-13889-1 NASA-CASE-LAR-13889-1 US-PATENT-APPL-SN-210277
N89-11724* #	c 03	NAS 1.71:MSC-21332-1 NASA-CASE-MSC-21332-1 US-PATENT-APPL-SN-242253
N89-11738*	c 05	NASA-CASE-LAR-12852-1 US-PATENT-APPL-SN-028832 US-PATENT-CLASS-244-75-R US-PATENT-CLASS-244-78 US-PATENT-4,773,620
N89-11814* #	c 23	NAS 1.71:LAR-13988-1 NASA-CASE-LAR-13988-1 US-PATENT-APPL-SN-250661
N89-11961*	c 32	NASA-CASE-MSC-20873-1-SB US-PATENT-APPL-SN-060196 US-PATENT-CLASS-342-374 US-PATENT-CLASS-342-375 US-PATENT-CLASS-343-777 US-PATENT-CLASS-343-778 US-PATENT-CLASS-343-779 US-PATENT-4,772,893
N89-12048*	c 35	NASA-CASE-LEW-14297-1 US-PATENT-APPL-SN-917125 US-PATENT-CLASS-126-443 US-PATENT-CLASS-126-901 US-PATENT-CLASS-165-41 US-PATENT-CLASS-165-904 US-PATENT-4,770,232
N89-12206* #	c 54	NAS 1.71:MSC-21366-1 NASA-CASE-MSC-21366-1 US-PATENT-APPL-SN-213880
N89-12551*	c 02	NASA-CASE-LAR-13554-1 US-PATENT-APPL-SN-929862 US-PATENT-CLASS-116-DIG.43 US-PATENT-CLASS-116-265 US-PATENT-CLASS-73-147 US-PATENT-4,774,835
N89-12621*	c 18	NASA-CASE-MSC-21096-1 US-PATENT-APPL-SN-929865 US-PATENT-CLASS-182-103 US-PATENT-CLASS-212-225 US-PATENT-CLASS-212-257 US-PATENT-CLASS-414-689 US-PATENT-CLASS-414-718 US-PATENT-CLASS-414-735 US-PATENT-4,772,175
N89-12667*	c 23	NASA-CASE-LAR-13444-2-CU US-PATENT-APPL-SN-000692 US-PATENT-CLASS-564-315 US-PATENT-CLASS-564-323 US-PATENT-CLASS-564-330 US-PATENT-CLASS-564-342 US-PATENT-CLASS-564-344 US-PATENT-CLASS-564-396 US-PATENT-CLASS-564-430 US-PATENT-4,774,359
N89-12741*	c 27	NASA-CASE-LAR-13506-1 US-PATENT-APPL-SN-060182 US-PATENT-CLASS-156-297 US-PATENT-CLASS-156-299 US-PATENT-CLASS-428-44 US-PATENT-CLASS-428-47 US-PATENT-CLASS-428-58 US-PATENT-CLASS-428-71 US-PATENT-CLASS-428-76 US-PATENT-4,774,118
N89-12785*	c 31	NASA-CASE-NPO-17085-1-CU US-PATENT-APPL-SN-087282 US-PATENT-CLASS-165-61 US-PATENT-CLASS-165-96 US-PATENT-CLASS-62-514-R US-PATENT-4,771,823
N89-12786*	c 31	NASA-CASE-LAR-13438-1 US-PATENT-APPL-SN-022298 US-PATENT-CLASS-428-182 US-PATENT-CLASS-52-814 US-PATENT-CLASS-52-821 US-PATENT-4,769,968
N89-12841*	c 35	NASA-CASE-LAR-13569-1 US-PATENT-APPL-SN-010943 US-PATENT-CLASS-73-147 US-PATENT-CLASS-73-180 US-PATENT-4,770,032
N89-12842* #	c 35	NAS 1.71:MSC-21372-1 NASA-CASE-MSC-21372-1 US-PATENT-APPL-SN-246590
N89-12843* #	c 35	NAS 1.71:MSC-21059-1 NASA-CASE-MSC-21059-1 US-PATENT-APPL-SN-217725
N89-12856* #	c 36	NAS 1.71:NPO-17282-1-CU NASA-CASE-NPO-17282-1-CU US-PATENT-APPL-SN-235150
N89-12865* #	c 37	NAS 1.71:MSC-21365-1 NASA-CASE-MSC-21365-1 US-PATENT-APPL-SN-221388
N89-12866* #	c 37	NAS 1.71:MSC-21095-1 NASA-CASE-MSC-21095-1 US-PATENT-APPL-SN-248010
N89-12867* #	c 37	NAS 1.71:LAR-13719-1 NASA-CASE-LAR-13719-1
N89-12868* #	c 37	US-PATENT-APPL-SN-239260 NAS 1.71:MFS-29291-1 NASA-CASE-MFS-29291-1 US-PATENT-APPL-SN-250196
N89-13131* #	c 51	NAS 1.71:MSC-21294-1 NASA-CASE-MSC-21294-1 US-PATENT-APPL-SN-213558
N89-13236*	c 71	NASA-CASE-NPO-16896-1-CU US-PATENT-APPL-SN-087283 US-PATENT-CLASS-73-505 US-PATENT-4,773,266
N89-13253* #	c 74	NAS 1.71:MFS-28183-1 NASA-CASE-MFS-28183-1 US-PATENT-APPL-SN-244361
N89-13496* #	c 23	NAS 1.71:LAR-13992-1-CU NASA-CASE-LAR-13992-1-CU US-PATENT-APPL-SN-248009
N89-13620* #	c 27	NAS 1.71:MSC-20782-1 NASA-CASE-MSC-20782-1 US-PATENT-APPL-SN-213392
N89-13728* #	c 34	NAS 1.71:NPO-17203-1-CU NASA-CASE-NPO-17203-1-CU US-PATENT-APPL-SN-250195
N89-13764* #	c 35	NAS 1.71:NPO-17436-1-CU NASA-CASE-NPO-17436-1-CU US-PATENT-APPL-SN-237035
N89-13785*	c 37	NASA-CASE-NPO-16786-1-CU US-PATENT-APPL-SN-921577 US-PATENT-CLASS-194-902 US-PATENT-CLASS-269-267 US-PATENT-CLASS-294-88 US-PATENT-4,770,455
N89-13786*	c 37	NASA-CASE-KSC-11368-1 US-PATENT-APPL-SN-052940 US-PATENT-CLASS-285-107 US-PATENT-CLASS-285-108 US-PATENT-CLASS-285-109 US-PATENT-CLASS-285-133.1 US-PATENT-CLASS-285-351 US-PATENT-CLASS-285-39 US-PATENT-CLASS-285-97 US-PATENT-4,772,050
N89-13787* #	c 37	NAS 1.71:NPO-17453-1-CU NASA-CASE-NPO-17453-1-CU US-PATENT-APPL-SN-248501
N89-13889* #	c 54	NAS 1.71:MSC-21364-1 NASA-CASE-MSC-21364-1 US-PATENT-APPL-SN-221472
N89-14077*	c 74	NASA-CASE-NPO-17140-1-CU US-PATENT-APPL-SN-125021 US-PATENT-CLASS-250-216 US-PATENT-CLASS-350-354 US-PATENT-4,772,785
N89-14078*	c 74	NASA-CASE-NPO-16750-1-CU US-PATENT-APPL-SN-927972 US-PATENT-CLASS-350-162.13 US-PATENT-CLASS-350-331-R US-PATENT-CLASS-350-337 US-PATENT-CLASS-350-342 US-PATENT-CLASS-382-31 US-PATENT-4,772,101
N89-14119* #	c 76	NAS 1.71:LAR-13963-1 NASA-CASE-LAR-13963-1 US-PATENT-APPL-SN-232735
N89-14120* #	c 76	NAS 1.71:NPO-17399-1-CU NASA-CASE-NPO-17399-1-CU US-PATENT-APPL-SN-248019
N89-14224*	c 02	NASA-CASE-LAR-13215-1 US-PATENT-APPL-SN-904132 US-PATENT-CLASS-244-35-R US-PATENT-CLASS-416-223-R US-PATENT-4,776,531
N89-14232* #	c 05	NAS 1.71:LAR-14031-1 NASA-CASE-LAR-14031-1 US-PATENT-APPL-SN-252081
N89-14233* #	c 05	NAS 1.71:LAR-13875-1 NASA-CASE-LAR-13875-1 US-PATENT-APPL-SN-250468
N89-14258* #	c 24	NAS 1.71:LAR-13225-1 NASA-CASE-LAR-13225-1 US-PATENT-APPL-SN-248018
N89-14259* #	c 24	NAS 1.71:LEW-14472-1 NASA-CASE-LEW-14472-1 US-PATENT-APPL-SN-251499
N89-14303*	c 26	NASA-CASE-LEW-14134-2 US-PATENT-APPL-SN-108331 US-PATENT-CLASS-420-54 US-PATENT-CLASS-420-62 US-PATENT-CLASS-420-79 US-PATENT-CLASS-420-80 US-PATENT-CLASS-420-81 US-PATENT-4,780,276
N89-14337*	c 27	NASA-CASE-LAR-13601-1-CU US-PATENT-APPL-SN-028831 US-PATENT-CLASS-528-125 US-PATENT-CLASS-528-128

N89-14348* #	c 31	US-PATENT-4,788,271 NAS 1.71:LEW-14295-1 NASA-CASE-LEW-14295-1 US-PATENT-APPL-SN-244377
N89-14351*	c 31	NASA-CASE-NPO-17143-1-CU US-PATENT-APPL-SN-105847 US-PATENT-CLASS-62-467 US-PATENT-CLASS-62-514-JT US-PATENT-4,779,428
N89-14374*	c 32	NASA-CASE-GSC-12892-1 US-PATENT-APPL-SN-655606 US-PATENT-CLASS-455-115 US-PATENT-CLASS-455-117 US-PATENT-CLASS-455-67 US-PATENT-CLASS-455-98 US-PATENT-4,777,656
N89-14384*	c 33	NASA-CASE-ARC-11536-1 US-PATENT-APPL-SN-725714 US-PATENT-CLASS-342-195 US-PATENT-CLASS-356-28.5 US-PATENT-CLASS-364-900 US-PATENT-4,779,222
N89-14385*	c 33	NASA-CASE-LAR-13552-1-CU US-PATENT-APPL-SN-933941 US-PATENT-CLASS-324-77-E US-PATENT-CLASS-324-77-R US-PATENT-CLASS-324-78-D US-PATENT-CLASS-324-78-F US-PATENT-CLASS-356-28.5 US-PATENT-CLASS-364-484 US-PATENT-CLASS-377-39 US-PATENT-4,786,168
N89-14392*	c 34	NASA-CASE-MFS-28217-1 US-PATENT-APPL-SN-067844 US-PATENT-CLASS-122-366 US-PATENT-CLASS-165-104.14 US-PATENT-CLASS-165-104.26 US-PATENT-4,770,238
N89-14407*	c 35	NASA-CASE-LAR-13300-1-CU US-PATENT-APPL-SN-829042 US-PATENT-CLASS-310-338 US-PATENT-CLASS-367-908 US-PATENT-CLASS-73-290-V US-PATENT-4,770,038
N89-14408* #	c 35	NAS 1.71:LAR-13775-1 NASA-CASE-LAR-13775-1 US-PATENT-APPL-SN-248020
N89-14422*	c 35	NASA-CASE-NPO-17086-1-CU US-PATENT-APPL-SN-087359 US-PATENT-CLASS-73-505 US-PATENT-4,777,823
N89-14423*	c 35	NASA-CASE-LAR-13853-1 US-PATENT-APPL-SN-143436 US-PATENT-CLASS-73-147 US-PATENT-CLASS-73-861.65 US-PATENT-4,783,994
N89-14428* #	c 36	NAS 1.71:LAR-13771-1 NASA-CASE-LAR-13771-1 US-PATENT-APPL-SN-221387
N89-14666* #	c 51	NAS 1.71:MSC-21293-1 NASA-CASE-MSC-21293-1 US-PATENT-APPL-SN-213559
N89-15379*	c 35	NASA-CASE-MSC-20906-2 US-PATENT-APPL-SN-021569 US-PATENT-CLASS-244-164 US-PATENT-CLASS-244-165 US-PATENT-CLASS-74-572 US-PATENT-4,776,541
N89-16042*	c 27	NASA-CASE-ARC-11533-2 US-PATENT-APPL-SN-852461 US-PATENT-CLASS-528-220 US-PATENT-CLASS-528-228 US-PATENT-CLASS-528-321 US-PATENT-CLASS-528-322 US-PATENT-CLASS-528-353 US-PATENT-CLASS-528-72 US-PATENT-CLASS-528-73 US-PATENT-4,775,740
N89-16256*	c 52	NASA-CASE-ARC-11426-2 US-PATENT-APPL-SN-827185 US-PATENT-CLASS-351-203 US-PATENT-CLASS-351-237 US-PATENT-4,778,268
N89-23466* #	c 07	NAS 1.71:LAR-14049-1 NASA-CASE-LAR-14049-1 US-PATENT-APPL-SN-270189
N89-23623* #	c 24	NAS 1.71:LEW-14734-1 NASA-CASE-LEW-14734-1 US-PATENT-APPL-SN-279624
N89-23692* #	c 27	NAS 1.71:LAR-14101-1 NASA-CASE-LAR-14101-1 US-PATENT-APPL-SN-266045
N89-23738* #	c 31	NAS 1.71:MFS-29491-1 NASA-CASE-MFS-29491-1 US-PATENT-APPL-SN-279677
N89-23739* #	c 31	NAS 1.71:MFS-29489-1
N89-23880* #	c 37	NASA-CASE-MFS-29489-1 US-PATENT-APPL-SN-279625 NAS 1.71:LAR-13696-1 NASA-CASE-LAR-13696-1 US-PATENT-APPL-SN-267146
N89-24084* #	c 62	NAS 1.71:MSC-21348-1 NASA-CASE-MSC-21348-1 US-PATENT-APPL-SN-283106
N89-24153* #	c 74	NAS 1.71:NPO-17562-1-CU NASA-CASE-NPO-17562-1-CU US-PATENT-APPL-SN-277598
N89-25242*	c 09	NASA-CASE-MFS-25962-1 US-PATENT-APPL-SN-633180 US-PATENT-CLASS-239-14.1 US-PATENT-CLASS-239-2.1 US-PATENT-4,781,326
N89-25263* #	c 18	NAS 1.71:MSC-21380-1 NASA-CASE-MSC-21380-1 US-PATENT-APPL-SN-292131
N89-25266*	c 18	NASA-CASE-ARC-11505-2 US-PATENT-APPL-SN-159072 US-PATENT-CLASS-244-159 US-PATENT-CLASS-244-161 US-PATENT-CLASS-285-302 US-PATENT-4,807,834
N89-25279*	c 20	NASA-CASE-MSC-20476-2 US-PATENT-APPL-SN-046341 US-PATENT-CLASS-239-265.17 US-PATENT-CLASS-60-202 US-PATENT-CLASS-60-264 US-PATENT-4,815,279
N89-25334* #	c 27	NAS 1.71:LAR-13925-1 NASA-CASE-LAR-13925-1 US-PATENT-APPL-SN-301925
N89-25360* #	c 32	NAS 1.71:MSC-21334-1 NASA-CASE-MSC-21334-1 US-PATENT-APPL-SN-292130
N89-25363*	c 32	NASA-CASE-LAR-13798-1 US-PATENT-APPL-SN-118995 US-PATENT-CLASS-343-DIG.2 US-PATENT-CLASS-343-880 US-PATENT-CLASS-343-915 US-PATENT-4,811,033
N89-25557* #	c 51	NAS 1.71:MSC-21361-1 NASA-CASE-MSC-21361-1 US-PATENT-APPL-SN-278137
N89-25689*	c 74	NASA-CASE-MFS-29348-1 US-PATENT-APPL-SN-156518 US-PATENT-CLASS-350-96.21 US-PATENT-CLASS-350-96.25 US-PATENT-4,798,433
N89-26202*	c 35	NASA-CASE-MFS-28242-1 US-PATENT-APPL-SN-149822 US-PATENT-CLASS-358-347 US-PATENT-CLASS-358-361 US-PATENT-4,810,094
N89-26400*	c 60	NASA-CASE-NPO-16461-1-CU US-PATENT-APPL-SN-815103 US-PATENT-CLASS-364-131 US-PATENT-CLASS-382-41 US-PATENT-CLASS-382-42 US-PATENT-CLASS-382-49 US-PATENT-4,790,026
N89-28546* #	c 14	NAS 1.71:MFS-28376-1 NASA-CASE-MFS-28376-1 US-PATENT-APPL-SN-361479
N89-28547* #	c 14	NAS 1.71:LAR-14149-1-SB NASA-CASE-LAR-14149-1-SB US-PATENT-APPL-SN-357757
N89-28549* #	c 14	NAS 1.71:LEW-14848-1 NASA-CASE-LEW-14848-1 US-PATENT-APPL-SN-382885
N89-28552* #	c 18	NAS 1.71:MSC-21386-1 NASA-CASE-MSC-21386-1 US-PATENT-APPL-SN-292123
N89-28553*	c 18	NASA-CASE-MSC-21211-1 US-PATENT-APPL-SN-105841 US-PATENT-CLASS-244-159 US-PATENT-CLASS-244-161 US-PATENT-CLASS-285-226 US-PATENT-CLASS-403-51 US-PATENT-4,809,936
N89-28554*	c 18	NASA-CASE-MSC-21117-2 US-PATENT-APPL-SN-184233 US-PATENT-APPL-SN-929875 US-PATENT-CLASS-248-DIG-1 US-PATENT-CLASS-403-30 US-PATENT-CLASS-403-4 US-PATENT-CLASS-52-573 US-PATENT-CLASS-52-648 US-PATENT-4,805,368
N89-28556* #	c 18	NAS 1.71:MFS-28327-1 NASA-CASE-MFS-28327-1 US-PATENT-APPL-SN-361200
N89-28586* #	c 24	NAS 1.71:LAR-13985-1 NASA-CASE-LAR-13985-1
N89-28603* #	c 25	US-PATENT-APPL-SN-386172 NAS 1.71:MFS-26049-1-NP NASA-CASE-MFS-26049-1-NP US-PATENT-APPL-SN-376487
N89-28621*	c 26	NASA-CASE-LAR-13924-1-CU US-PATENT-APPL-SN-172102 US-PATENT-CLASS-148-159 US-PATENT-CLASS-148-416 US-PATENT-CLASS-148-417 US-PATENT-CLASS-420-529 US-PATENT-CLASS-420-533 US-PATENT-4,820,488
N89-28651* #	c 27	NAS 1.71:LEW-14679-1 NASA-CASE-LEW-14679-1 US-PATENT-APPL-SN-381240
N89-28672*	c 32	NASA-CASE-LAR-13747-1-CU US-PATENT-APPL-SN-197191 US-PATENT-CLASS-342-1 US-PATENT-CLASS-342-165 US-PATENT-CLASS-342-5 US-PATENT-4,809,003
N89-28676*	c 32	NASA-CASE-NPO-17249-1-CU US-PATENT-APPL-SN-125666 US-PATENT-CLASS-358-88 US-PATENT-CLASS-358-91 US-PATENT-CLASS-358-92 US-PATENT-4,819,064
N89-28684* #	c 32	NAS 1.71:NPO-17628-1-CU NASA-CASE-NPO-17628-1-CU US-PATENT-APPL-SN-350813
N89-28713*	c 33	NASA-CASE-NPO-17108-1-CU US-PATENT-APPL-SN-032819 US-PATENT-CLASS-364-724.01 US-PATENT-CLASS-364-724.05 US-PATENT-CLASS-364-735 US-PATENT-CLASS-364-754 US-PATENT-4,823,299
N89-28793* #	c 35	NAS 1.71:MFS-28370-1 NASA-CASE-MFS-28370-1 US-PATENT-APPL-SN-386175
N89-28794* #	c 35	NAS 1.71:NPO-16989-1-CU NASA-CASE-NPO-16989-1-CU US-PATENT-APPL-SN-358027
N89-28795* #	c 35	NAS 1.71:NPO-17596-1-CU NASA-CASE-NPO-17596-1-CU US-PATENT-APPL-SN-361531
N89-28796* #	c 35	NAS 1.71:NPO-17526-1-CU NASA-CASE-NPO-17526-1-CU US-PATENT-APPL-SN-369403
N89-28806* #	c 35	NAS 1.71:LEW-14124-1 NASA-CASE-LEW-14124-1 US-PATENT-APPL-SN-396263
N89-28816* #	c 36	NAS 1.71:LAR-13772-1 NASA-CASE-LAR-13772-1 US-PATENT-APPL-SN-359460
N89-28817* #	c 36	NAS 1.71:LAR-14203-1 NASA-CASE-LAR-14203-1 US-PATENT-APPL-SN-359459
N89-28829* #	c 37	NAS 1.71:MSC-21408-1 NASA-CASE-MSC-21408-1 US-PATENT-APPL-SN-304154
N89-28830* #	c 37	NAS 1.71:LEW-14695-1 NASA-CASE-LEW-14695-1 US-PATENT-APPL-SN-292146
N89-28831*	c 37	NASA-CASE-MFS-28253-1 US-PATENT-APPL-SN-165943 US-PATENT-CLASS-33-536 US-PATENT-4,809,441
N89-28841* #	c 37	NAS 1.71:MFS-28345-1 NASA-CASE-MFS-28345-1 US-PATENT-APPL-SN-364743
N89-28842* #	c 37	NAS 1.71:MFS-28345-2 NASA-CASE-MFS-28345-2 US-PATENT-APPL-SN-358028
N89-28846* #	c 37	NAS 1.71:NPO-17785-1-CU NASA-CASE-NPO-17785-1-CU US-PATENT-APPL-SN-353411
N89-28967* #	c 45	NAS 1.71:NST-00007-1 NASA-CASE-NST-00007-1 US-PATENT-APPL-SN-357938
N89-29027* #	c 54	NAS 1.71:MSC-21629-1 NASA-CASE-MSC-21629-1 US-PATENT-APPL-SN-378548
N89-29169*	c 72	NASA-CASE-NPO-16789-1-CU US-PATENT-APPL-SN-154713 US-PATENT-CLASS-250-252 US-PATENT-CLASS-250-397 US-PATENT-4,818,868
N89-29191* #	c 74	NAS 1.71:NPO-17703-1-CU NASA-CASE-NPO-17703-1-CU US-PATENT-APPL-SN-359801
N89-29538*	c 27	NASA-CASE-LEW-14392-2 US-PATENT-APPL-SN-038560 US-PATENT-APPL-SN-886149 US-PATENT-CLASS-428-288 US-PATENT-CLASS-428-367



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N89-29539\* c 27 ..... NASA-CASE-MS-21169-1  
US-PATENT-APPL-SN-044183  
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US-PATENT-CLASS-264-257  
US-PATENT-CLASS-264-347  
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US-PATENT-CLASS-264-40.5  
US-PATENT-CLASS-264-40.6  
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N89-29577\* # c 31 ..... NAS 1.71:NPO-17630-1-CU  
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N89-29578\* c 31 ..... NASA-CASE-GSC-13112-1  
US-PATENT-APPL-SN-205771  
US-PATENT-CLASS-206-0.7  
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N89-29679\* # c 33 ..... NAS 1.71:NPO-17393-1-CU  
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N89-29681\* c 33 ..... NASA-CASE-NPO-16888-1-CU  
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US-PATENT-CLASS-324-127  
US-PATENT-CLASS-330-8  
US-PATENT-4,823,074  
N89-29750\* # c 37 ..... NAS 1.71:NPO-17275-1-CU  
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US-PATENT-APPL-SN-292047  
N89-29953\* c 54 ..... NASA-CASE-KSC-11322-1  
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US-PATENT-CLASS-2-201  
US-PATENT-CLASS-24-68B  
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N89-29955\* # c 60 ..... NAS 1.71:NPO-17525-1-CU  
NASA-CASE-NPO-17525-1-CU  
US-PATENT-APPL-SN-279630  
N89-29976\* # c 62 ..... NAS 1.71:NPO-17197-1-CU  
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N89-30044\* # c 74 ..... NAS 1.71:NPO-17543-1-CU  
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US-PATENT-APPL-SN-283443  
N89-30076\* # c 76 ..... NAS 1.71:NPO-17534-1-CU  
NASA-CASE-NPO-17534-1-CU  
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## **LICENSES FOR COMMERCIAL USE: INQUIRIES AND APPLICATIONS FOR LICENSE**

NASA inventions, abstracted in *NASA PAB*, are available for nonexclusive or exclusive licensing in accordance with the NASA Patent Licensing Regulations. It is significant that all licenses for NASA inventions shall be by express written instruments and that no license will be granted or implied in a NASA invention except as provided in the NASA Patent Licensing Regulations.

Inquiries concerning the NASA Patent Licensing Program or the availability of licenses for the commercial use of NASA-owned inventions covered by U.S. patents or pending applications for patent should be forwarded to the NASA Patent Counsel of the NASA installation having cognizance of the specific invention, or the Associate General Counsel for Intellectual Property, code GP, National Aeronautics and Space Administration, Washington, D.C. 20546. Inquiries should refer to the NASA Case Number, the Title of the Invention, and the U.S. Patent Number or the U.S. Application Serial Number assigned to the invention as shown in *NASA PAB*.

The NASA Patent Counsel having cognizance of the invention is determined by the first three letters or prefix of the NASA Case Number assigned to the invention. The addresses of NASA Patent Counsels are listed alongside the NASA Case Number prefix letters in the following table.

### **STANDING ORDER SUBSCRIPTIONS**

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**NASA Case  
Number  
Prefix Letters**

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XLE-xxxxx

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# PATENT LICENSING REGULATIONS

## NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

### 14 CFR Part 1245

#### Licensing of NASA Inventions

**AGENCY:** National Aeronautics and Space Administration

**ACTION:** Interim regulation with comments requested.

**SUMMARY:** The National Aeronautics and Space Administration (NASA) is revising its patent licensing regulations to conform with Pub. L. 96-517. This interim regulation provides policies and procedures applicable to the licensing of federally owned inventions in the custody of the National Aeronautics and Space Administration, and implements Pub. L. 96-517. The object of this subpart is to use the patent system to promote the utilization of inventions arising from NASA supported research and development.

**EFFECTIVE DATE:** July 1, 1981. Comments must be received in writing by December 2, 1981. Unless a notice is published in the **Federal Register** after the comment period indicating changes to be made, this interim regulation shall become a final regulation.

**ADDRESS:** Mr. John G. Mannix, Director of Patent Licensing, GP-4, NASA, Washington, D. C. 20546

#### FOR FURTHER INFORMATION CONTACT:

Mr. John G. Mannix, (202) 755-3954.

#### SUPPLEMENTARY INFORMATION:

### PART 1245—PATENTS AND OTHER INTELLECTUAL PROPERTY RIGHTS

Subpart 2 of Part 1245 is revised to read as follows:

\* \* \* \* \*

#### Subpart 2—Licensing of NASA Inventions

Sec.

1245.200 Scope of subpart.

1245.201 Policy and objective.

1245.202 Definitions.

1245.203 Authority to grant licenses.

#### Restrictions and Conditions

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#### Types of Licenses

1245.205 Nonexclusive licenses.

1245.206 Exclusive and partially exclusive licenses.

#### Procedures

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1245.208 Processing applications.

1245.209 Notice to Attorney General.

1245.210 Modification and termination of licenses.

1245.211 Appeals.

1245.212 Protection and administration of inventions.

1245.213 Transfer of custody.

1245.214 Confidentiality of information.

**Authority:** 35 U.S.C. Section 207 and 208.94 Stat 3023 and 3024.

\* \* \* \* \*

#### Subpart 2—Licensing of NASA Inventions

##### § 1245.200 Scope of subpart.

This subpart prescribes the terms, conditions and procedures upon which a NASA invention may be licensed. It does not affect licenses which (a) were in effect prior to July 1, 1981; (b) may exist at the time of the Government's acquisition of title to the invention, including those resulting from the allocation of rights to inventions made under Government research and development contracts; (c) are the result of an authorized exchange of rights in the settlement of patent disputes; or (d) are otherwise authorized by law or treaty.

##### § 1245.201 Policy and objective.

It is the policy and objective of this subpart to use the patent system to promote the utilization of inventions arising from NASA supported research and development.

##### § 1245.202 Definitions

(a) "Federally owned invention" means an invention, plant, or design which is covered by a patent, or patent application in the United States, or a patent, patent application, plant variety protection, or other form of protection, in a foreign country, title to which has been assigned to or otherwise vested in the United States Government.

(b) "Federal agency" means an executive department, military department, Government corporation, or independent establishment, except the Tennessee Valley Authority, which has custody of a Federally owned invention.

(c) "NASA Invention" means a Federally owned invention with respect to which NASA maintains custody and administration, in whole or in part, of the right, title or interest in such invention on behalf of the United States Government.

(d) "Small business firm" means a small business concern as defined at section 2 of Pub. L. 85-536 (15 U.S.C. 632) and implementing regulations of the Administrator of the Small Business Administration. For the purpose of these regulations, the size standard for small business concerns involved in Government procurement, contained in 13 CFR 121.3-8, and in subcontracting, contained in 13 CFR 121.3-12, will be used.

(e) "Practical application" means to manufacture in the case of a composition or product, to practice in the case of a process or method, or to operate in the case of a machine or system; and, in each case, under such condition, as to establish that the invention is being utilized and that its benefits are to the extent permitted by law or Government regulations available to the public on reasonable terms.

(f) "United States" means the United States of America, its territories and possessions, the District of Columbia, and the Commonwealth of Puerto Rico.

##### § 1245.203 Authority to grant licenses.

NASA inventions shall be made available for licensing as deemed appropriate in the public interest. NASA may grant nonexclusive, partially exclusive, or exclusive licenses thereto under this subpart on inventions in its custody.

#### Restrictions and Conditions

##### § 1245.204 All licenses granted under this subpart.

(a) *Restrictions.* (1) A license may be granted only if the applicant has supplied NASA with a satisfactory plan for development or marketing of the invention, or both, and with information about the applicant's capability to fulfill the plan.

(2) A license granting rights to use or sell under a NASA invention in the United States shall normally be granted only to a licensee who agrees that any products embodying the invention or produced through the use of the invention will be manufactured substantially in the United States.

(b) *Conditions.* Licenses shall contain such terms and conditions as NASA determines are appropriate for the protection of the interests of the Federal Government and the public and are not in conflict with law or this subpart. The following terms and conditions apply to any license:

(1) The duration of the license shall be for a period specified in the license agreement, unless sooner terminated in accordance with this subpart.

(2) The license may be granted for all or less than all fields of use of the invention or in specified geographical areas, or both.

(3) The license may extend to subsidiaries of the licensee or other parties if provided for in the license but shall be nonassignable without approval of NASA, except to the successor of that part of the licensee's business to which the invention pertains.

(4) The license may provide the licensee the right to grant sublicenses under the license, subject to the approval of NASA. Each sublicense shall make reference to the license, including the rights retained by the Government, and a copy of such sublicense shall be furnished to NASA.

(5) The license shall require the licensee to carry out the plan for development or marketing of the invention, or both, to bring the invention to practical application within a period specified in the license, and to continue to make the benefits of the invention reasonably accessible to the public.

## PATENT LICENSING REGULATIONS

(6) The license shall require the licensee to report periodically on the utilization or efforts at obtaining utilization that are being made by the licensee, with particular reference to the plan submitted.

(7) All licenses shall normally require royalties or other consideration.

(8) Where an agreement is obtained pursuant to § 1245.204(a)(2) that any products embodying the invention or produced through use of the invention will be manufactured substantially in the United States, the license shall recite such agreement.

(9) The license shall provide for the right of NASA to terminate the license, in whole or in part, if:

(i) NASA determines that the licensee is not executing the plan submitted with its request for a license and the licensee cannot otherwise demonstrate to the satisfaction of NASA that it has taken or can be expected to take within a reasonable time effective steps to achieve practical application of the invention;

(ii) NASA determines that such action is necessary to meet requirements for public use specified by Federal regulations issued after the date of the license and such requirements are not reasonably satisfied by the licensee;

(iii) The licensee has willfully made a false statement of or willfully omitted a material fact in the license application or in any report required by the license agreement; or

(iv) The licensee commits a substantial breach of a covenant or agreement contained in the license.

(10) The license may be modified or terminated, consistent with this subpart, upon mutual agreement of NASA and the licensee.

(11) Nothing relating to the grant of a license, nor the grant itself, shall be construed to confer upon any person any immunity from or defenses under the antitrust laws or from a charge of patent misuse, and the acquisition and use of rights pursuant to this subpart shall not be immunized from the operation of state or Federal law by reason of the source of the grant.

### Types of Licenses

#### § 1245.205 Nonexclusive licenses.

(a) *Availability of licenses.* Nonexclusive licenses may be granted under NASA inventions without publication of availability or notice of a prospective license.

(b) *Conditions.* In addition to the provisions of § 1245.204, the nonexclusive license may also provide that, after termination of a period specified in the license agreement, NASA may restrict the license to the fields of use or geographic areas, or both, in which the licensee has brought the invention to practical application and continues to make the benefits of the invention reasonably accessible to the public. However, such restriction shall be made only in order to grant an exclusive or partially exclusive license in accordance with this subpart.

#### § 1245.206 Exclusive and partially exclusive licenses.

(a) Domestic licenses.

(1) *Availability of licenses.* Exclusive or partially exclusive licenses may be granted on NASA inventions: (i) 3 months after notice of the invention's availability has been announced in the **Federal Register**; or (ii) without such notice where NASA determines that expeditious granting of such a license will best serve the interests of the Federal Government and the public; and (iii) in either situation, specified in (a)(1)(i) or (ii) of this section only if:

(A) Notice of a prospective license, identifying the invention and the prospective licensee, has been published in the **Federal Register**, providing opportunity for filing written objections within a 60-day period;

(B) After expiration of the period in § 1245.206(a)(1)(iii)(A) and consideration of any written objections received during the period, NASA has determined that:

(1) The interests of the Federal Government and the public will best be served by the proposed license, in view of the applicant's intentions, plans, and ability to bring the invention to practical application or otherwise promote the invention's utilization by the public;

(2) The desired practical application has not been achieved, or is not likely expeditiously to be achieved, under any nonexclusive license which has been granted, or which may be granted, on the invention;

(3) Exclusive or partially exclusive licensing is a reasonable and necessary incentive to call forth the investment of risk capital and expenditures to bring the invention to practical application or otherwise promote the invention's utilization by the public; and

(4) The proposed terms and scope of exclusivity are not greater than reasonably necessary to provide the incentive for bringing the invention to practical application or otherwise promote the invention's utilization by the public;

(C) NASA has not determined that the grant of such license will tend substantially to lessen competition or result in undue concentration in any section of the country in any line of commerce to which the technology to be licensed relates, or to create or maintain other situations inconsistent with the antitrust laws; and

(D) NASA has given first preference to any small business firms submitting plans that are determined by the agency to be within the capabilities of the firms and as equally likely, if executed, to bring the invention to practical application as any plans submitted by applicants that are not small business firms.

(2) *Conditions.* In addition to the provisions of § 1245.204, the following terms and conditions apply to domestic exclusive and partially exclusive licenses:

(i) The license shall be subject to the irrevocable, royalty-free right of the Government of the United States to practice and have practiced the invention or behalf of the United States and on behalf of any foreign government or international organization pursuant to any existing or future treaty or agreement with the United States.

(ii) The license shall reserve to NASA the right to require the licensee to grant sublicenses to responsible applicants, on reasonable terms, when necessary to fulfill health or safety needs.

(iii) The license shall be subject to any licenses in force at the time of the grant of the exclusive or partially exclusive license.

(iv) The license may grant the licensee the right of enforcement of the licensed patent pursuant to the provisions of Chapter 29 of Title 35, United States Code, or other statutes, as determined appropriate in the public interest.

(b) Foreign licenses.

(1) *Availability of licenses.* Exclusive or partially exclusive licenses may be granted on a NASA invention covered by a foreign patent, patent application, or other form of protection, provided that:

(i) Notice of a prospective license, identifying the invention and prospective licensee, has been published in the **Federal Register**, providing opportunity for filing written objections within a 60-day period and following consideration of such objections;

(ii) NASA has considered whether the interests of the Federal Government or United States industry in foreign commerce will be enhanced; and

(iii) NASA has not determined that the grant of such license will tend substantially to lessen competition or result in undue concentration in any section of the United States in any line of commerce to which the technology to be licensed relates, or to create or maintain other situations inconsistent with antitrust laws.

(2) *Conditions.* In addition to the provisions of § 1245.204, the following terms and conditions apply to foreign exclusive and partially exclusive licenses:

(i) The license shall be subject to the irrevocable, royalty-free right of the Government of the United States to practice and have practiced the invention on behalf of the United States and on behalf of any foreign government or international organization pursuant to any existing or future treaty or agreement with the United States.

(ii) The license shall be subject to any licenses in force at the time of the grant of the exclusive or partially exclusive license.

(iii) The license may grant the licensee the right to take any suitable and necessary actions to protect the licensed property, on behalf of the Federal Government.

(c) *Record of determinations.* NASA shall maintain a record of determinations to grant exclusive or partially exclusive licenses.

### Procedures

#### § 1245.207 Application for a license.

An application for a license should be addressed to the Patent Counsel at the NASA installation having responsibility for the invention and shall normally include:

(a) Identification of the invention for which the license is desired, including the patent application serial number or patent number, title, and date, if known;

(b) Identification of the type of license for which the application is submitted;

(c) Name and address of the person, company, or organization applying for the license and the citizenship or place of incorporation of the applicant;

(d) Name, address, and telephone number of representative of applicant to whom correspondence should be sent;

## PATENT LICENSING REGULATIONS

(e) Nature and type of applicant's business, identifying products or services which the applicant has successfully commercialized, and approximate number of applicant's employees;

(f) Source of information concerning the availability of a license on the invention;

(g) A statement indicating whether applicant is a small business firm as defined in § 1245.202(c);

(h) A detailed description of applicant's plan for development or marketing of the invention, or both, which should include:

(1) A statement of the time, nature and amount of anticipated investment of capital and other resources which applicant believes will be required to bring the invention to practical application;

(2) A statement as to applicant's capability and intention to fulfill the plan, including information regarding manufacturing, marketing, financial, and technical resources;

(3) A statement of the fields of use for which applicant intends to practice the invention; and

(4) A statement of the geographic areas in which applicant intends to manufacture any products embodying the invention and geographic areas where applicant intends to use or sell the invention, or both;

(i) Identification of licenses previously granted to applicant under Federally owned inventions;

(j) A statement containing applicant's best knowledge of the extent to which the invention is being practiced by private industry or Government, or both, or is otherwise available commercially; and

(k) Any other information which applicant believes will support a determination to grant the license to applicant.

### § 1245.208 Processing applications.

(a) Applications for licenses will be initially reviewed by the Patent Counsel of the NASA installation having responsibility for the invention. The Patent Counsel shall make a preliminary recommendation to the Director of Licensing, NASA Headquarters, whether to: (1) grant the license as requested, (2) grant the license with modification after negotiation with the licensee, or (3) deny the license. The Director of Licensing shall review the preliminary recommendation of the Patent Counsel and make a final recommendation to the NASA Assistant General Counsel for Patent Matters. Such review and final recommendation may include, and be based on, any additional information obtained from applicant and other sources that the Patent Counsel and the Director of Licensing deem relevant to the license requested. The determination to grant or deny the license shall be made by the Assistant General Counsel for Patent Matters based on the final recommendation of the Director of Licensing.

(b) When notice of a prospective exclusive or partially exclusive license is published in the **Federal Register** in accordance with § 1245.206(a)(1)(iii)(A) or § 1245.206(b)(1)(i), any written objections received in response thereto will be considered by the Director of Licensing in making the final recommendation to the Assistant General Counsel for Patent Matters.

(c) If the requested license, including any negotiated modifications, is denied by the Assistant General Counsel for Patent Matters, the applicant may request reconsideration by filing a written request for reconsideration within 30 days after receiving notice of denial. This 30-day period may be extended for good cause.

(d) In addition to, or in lieu of requesting reconsideration, the applicant may also appeal the denial of the license in accordance with § 1245.211.

### § 1245.209 Notice to Attorney General.

A copy of the notice provided for in §§ 1245.206(a)(1)(iii)(A), and 1245.206(b)(1)(i) will be sent to the Attorney General.

### § 1245.210 Modification and termination of licenses.

Before modifying or terminating a license, other than by mutual agreement, NASA shall furnish the licensee and any sublicensee of record a written notice of intention to modify or terminate the license, and the licensee and any sublicensee shall be allowed 30 days after such notice to remedy any breach of the license or show cause why the license should not be modified or terminated.

### § 1245.211 Appeals.

(a) The following parties may appeal to the NASA Administrator or designee any decision or determination concerning the grant, denial, interpretation, modification, or termination of a license:

(1) A person whose application for a license has been denied;

(2) A licensee whose license has been modified or terminated, in whole or in part; or

(3) A person who timely filed a written objection in response to the notice required by §§ 1245.206(a)(1)(iii)(A) or 1245.206(b)(1)(i) and who can demonstrate to the satisfaction of NASA that such person may be damaged by the Agency action.

(b) Written notice of appeal must be filed within 30 days (or such other time as may be authorized for good cause shown) after receiving notice of the adverse decision or determination; including, an adverse decision following the request for reconsideration under § 1245.208(c). The notice of appeal, along with all supporting documentation should be addressed to the Administrator, National Aeronautics and Space Administration, Washington, DC 20546. Should the appeal raise a genuine dispute over material facts, fact-finding will be conducted by the NASA Inventions and Contributions Board. The person filing the appeal shall be afforded an opportunity to be heard and to offer evidence in support of the appeal. The Chairperson of the Inventions and Contributions Board shall prepare written findings of fact and transmit them to the Administrator or designee. The decision on the appeal shall be made by the NASA Administrator or designee. There is no further right of administrative appeal from the decision of the Administrator or designee.

### § 1245.212 Protection and administration of inventions.

NASA may take any suitable and necessary steps to protect and administer rights to NASA inventions, either directly or through contract.

### § 1245.213 Transfer of custody.

NASA having custody of certain Federally owned inventions may transfer custody and administration in whole or in part, to another Federal agency, of the right, title, or interest in any such invention.

### § 1245.214 Confidentiality of information.

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**James M. Beggs,**

*Administrator.*

October 15, 1981.

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